UNIVERSITY OF TAMPERE

FACULTY OF COMMUNICATION SCIENCES

Hybrid Social Play
Final Report

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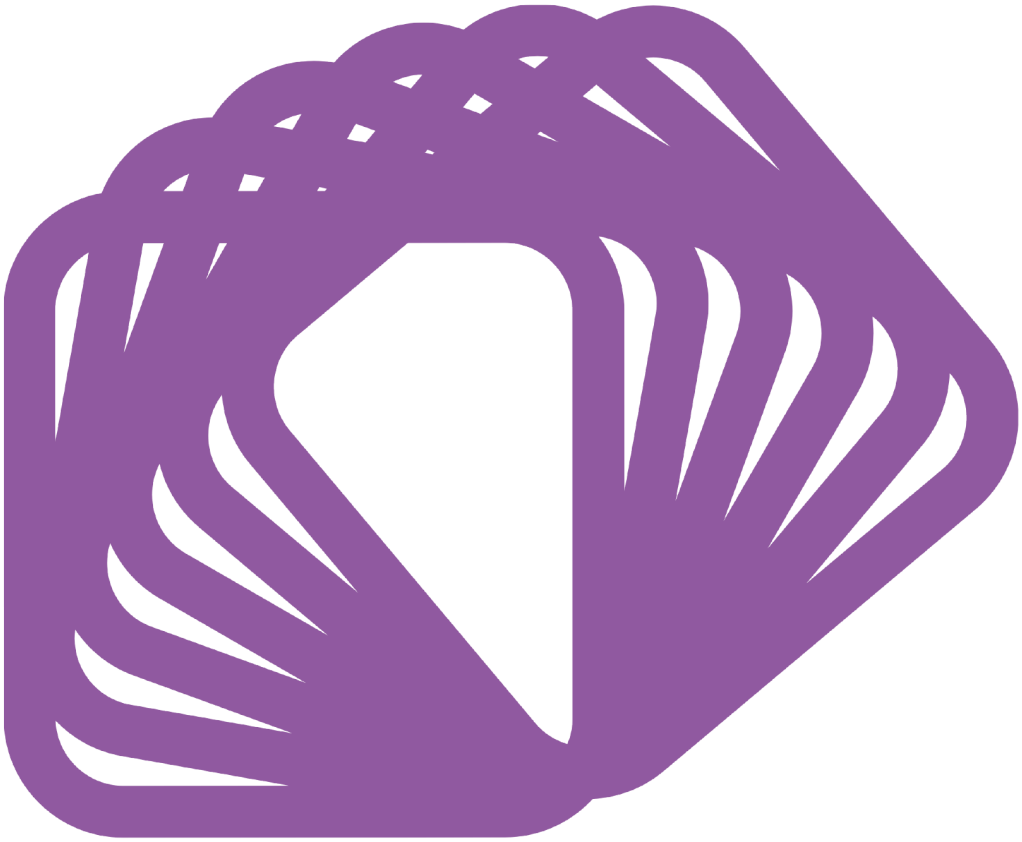

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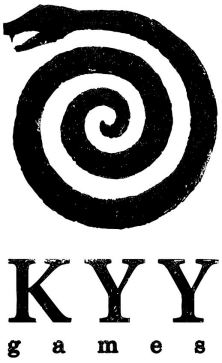

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Foreword

Hybrid Social Play was conceived as a new kind of a research project: the spearhead research groups, funded by the Academy of Finland, were invited to submit ideas about collaborative research projects, which would link leading scientific research with industry interests and collaboration.

With the positive Tekes funding decision made at the end of 2015, the project was planned for a two-year period: 1.1.2016–31.12.2017. The research was planned and implemented by the Academy of Finland funded “Ludification”-consortium, consisting of three game research teams at the universities of Tampere, Jyväskylä, and Turku (Pori unit).

The goals of the *Hybrid Social Play* -project were to produce knowledge that could be used to innovate, design, develop and evaluate new games and services that would be social, hybrid (combining the physical and the digital aspects) and playful. It was our aim that at the end of the research period, we would have produced both better understanding about the phenomena related to hybrid play, and social play in hybrid contexts, and also helped to create design and evaluation tools that would then be applied in practice, in collaboration with industry partners coming from different sectors of games and media production. This kind of a collaboration network is highly important for the sustainability of novel approaches. New ideas are experimented with here and there, but seldom develop into successful products if only one actor is involved. Instead, an ecosystem of complementary actors provides better chances for breakthroughs, and we hope that this project serves as a beginning for such a broader approach to hybrid play in Finland.

Looking back at the two years of busy activities, we can only be happy about the rich combinations of scientific articles, tools, practical game and product concepts, workshops and many other activities that were carried out during the run of the project.

We want to express our thanks to all researchers, industry partner representatives, as well as other collaborators who all made important contributions that made *Hybrid Social Play* not only a success, but also a fun and inspiring project to work with!

Frans Mäyrä, Raine Koskimaa, and Jaakko Suominen

Introduction

Hybrid playful products, combining both the digital and the physical aspects, relate to contextual and networked technologies and are developing into increasingly important roles in games, media, and the entertainment industry. *Hybrid Social Play* answers this new development by identifying the best practices and principles for hybrid social playability and developing tools and game concepts for future social physical-digital products and services.

In collaboration with academic research and industry know-how, *Hybrid Social Play* approached these themes with three key research questions:

1. What are the key digital and physical aspects that define successful social playability in physical, digital, and hybrid use contexts?

2. What are the principles and best practices for the design and evaluation of hybrid entertainment products?

3. How successful hybrid social playability can be implemented within emerging, near future forms of games and media?

To study these questions a multidisciplinary joint-research group from Tampere, Jyväskylä, and Turku universities was formed. The industry perspective was present through our funding partners Veikkaus (Finnish National Lottery), Alma Media, Tactic Games, Moido Games, and Kyy Games. The role and expertise of the industry representatives was paramount in this research project.

In addition to typical research methods such as surveys, interviews, analyses, and observations, analysis and design workshops were organized where the researchers and industry experts came together to discuss, analyse, and design hybrid social game and toy concepts. This crystallization of research and industry expertise through workshops was the core strength of the research project that allowed us to tackle the aforementioned research questions.

By combining traditional and novel research methods we present new perspectives on social hybrid play and provide answers to the research questions at the end of the report.

The research project had three distinct research tracks:

1. State-of-the-art research, mapping out design spaces and their unique strengths in board games, mobile games, and money (e.g. scratch card) games, toys, and the main features of the underlying game cultures.
2. Iterative and collaborative evaluation and design workshops where models derived from theory and data are turned into easy-to-use design tools and methods.
3. Workshops for concept creation for future social hybrid games and services in four identified key themes.

To chart the new area around the concept of hybridity, the work was divided into four distinct themes:

1. **Board games.** Augmented, physical-digital board games and principles of social playability that successfully combines physical interaction and mediated, digital social gameplay.
2. **Transmedia.** Transmedial play that includes the use of physical print media in combination with augmented digital and social functionalities.
3. **Money gaming.** Physical-digital money gaming, particularly focusing on the new forms of social scratch card and lottery gameplay utilizing augmented print materials and digital service functionalities.
4. **Toys.** Toy-based play that makes use of successful links and the long history between physical toys, rule-based game interaction and the media.

Based on these themes we organized six workshops (two on analysis and four on design) to study the different opportunities and novel approaches for hybrid social play.

This research project highlights that a lot of work is being done in hybrid play products, but it is scattered and fragmentary, using different technologies, approaches and ideas to build interesting new experiences. While we have taken important steps forward in understanding the current landscape, it is constantly evolving and future research will be needed to both keep up with the quickly moving industry and to provide guidance about the best practices in moving forward.

This report follows the following structure with seven sections:

First, we present an overview of the workshops organized during the project. We also describe the hybrid game and toy concepts created during the later workshops that were focused on design.

Second, we go over some methods and tools used during the project that were either developed or adapted for the purposes of the project.

Third, we detail some of the research visits conducted by the researchers of the project – and describe the lessons learned during those visits in more detail.

Fourth, we list the academic research conducted as a part of the project. Each section contains the Key Takeaways learned from that study and includes the more complete reference information in case you want to look at the study in more detail.

Fifth, we present the key findings from the project in relation to the three major research questions presented earlier in the introduction.

Sixth, we present reviews conducted as a part of this project by students trying out hybrid products.

Last, we list references for more research that is relevant for understanding the phenomena of hybrid social games and toys.

Whether you are an academic researcher, an industry practitioner, or an enthusiastic user, we hope that this report will give you new insights and inspiration about hybrid social play.

Sincerely,

- Hybrid Social Play research team

Workshops and Game Concepts

One of the key methods to approach hybrid social play was to organize workshops around the central themes of the project, starting from analysis workshops and then moving on to design workshops later in the project. All workshops had mixed groups of academics and industry professionals working side-by-side to benefit from both of their expertise.

This chapter describes the workshops organized in more detail and presents some Key Takeaways from each seminar. In total, there was one starting seminar, two analysis workshops, and four design workshops. While the analysis workshops focused on two themes at once, the design workshops were exclusively focused on a single theme.

Analysis Workshops

Two half-day workshops were reserved for understanding and analysing hybrid works that either already existed or were possible with the current technologies and services.

Both workshops covered two separate themes. First, one workshop focused on transmedia and board games was organized in August 2016. Second, another workshop focused on money games and toys was organized in January 2017.

Both of the workshops were accompanied by steering board meetings to make sure the project was on the right track.

Design Workshops

After the analysis workshops, four design workshops were organized, one for each theme in the project. These were full-day workshops with presentations and background information in the morning, design work for the most of the day, and concept presentations at the end of the workshop.

There were usually four groups working on parallel designs with the same starting instructions but working on independent designs. The workshops produced four to six game concepts each.

The first workshop focused on money games and it was organized in April 2017. It was followed by a transmedia workshop in May, a toy workshop in October and finally by a board game workshop in November. The feedback from the design workshops was very good. The participants enjoyed working in mixed teams with experts from other industries. The workshops raised awareness about hybrid products and services and they were an excellent vessel to distribute tacit knowledge between the participants. Though there are easy to point out tangible findings that are reported in this document, there is also a hidden layer of tacit information that was experienced only by the participants.

Hybrid and Social

The design workshops produced 18 different hybrid game and toy concepts in total. These concepts were presented in the workshops and documented in design canvases that were tailored to the theme of each design workshop.

The game and toy concepts present variety in the level of hybridity and sociability. The hybrid element was usually technological, but sometimes also material, especially with toys. The social elements were related to mixing both collaboration and competition in the same concept, the use of hidden information through technology, or the role of ambient sociability.

Sociability in general was divided into three distinct levels: presence, communication, and interaction. Presence means awareness about other players. It can be regarded as passive sociability. The next level is communication through the game (or toy) that can take many forms from avatar gestures to voice chat features. Lastly, the interaction layer means that the players can affect each other’s game play via in-game mechanics. Collaborative or competitive actions, such as healing or attacking, would be obvious examples.

Hybrid Social Play Starting Seminar

3rd May 2016, University of Tampere. Report by Ville Kankainen & Jonne Arjoranta.

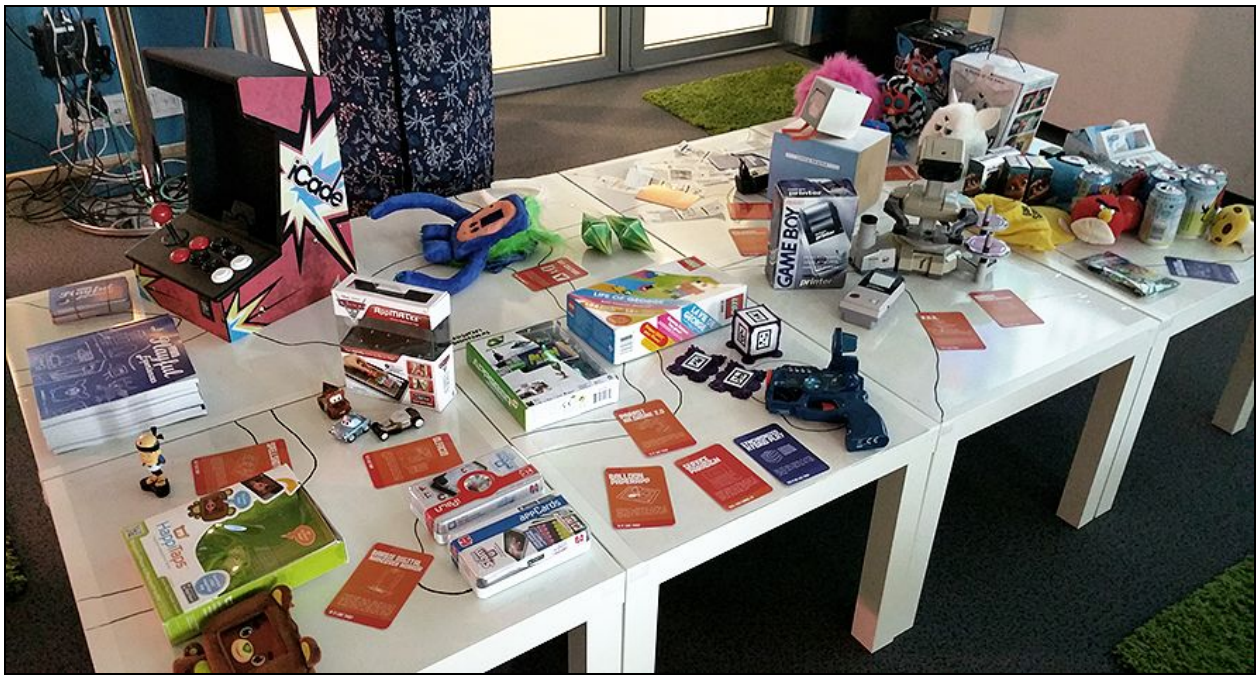


Figure. Various hybrid playful products on display at the starting seminar.

The starting seminar for the project was held at the University of Tampere, in the Oasis play-space. The event brought all the consortium members together to present recent results and current work on hybrid play.

The event started with a presentation on the final results of the earlier *Hybrid Playful Experiences* (Hybridex) project conducted by the University of Tampere Game Research Lab. These results acted as a basis and a starting point for the research conducted in the Hybrid Social Play project and were also a way to introduce the design space of playful hybrid products and services. For the rest of the day the researchers working in the project presented ongoing studies. The presentation topics were:

- Strategies of Social Screen Play(ers) across the Ecosystem of Play (Heljakka & Suominen)
- Money games and fantasy sports (Kinnunen & Sotamaa)
- A cognitive theory of hybrid games (Arjoranta)
- Promises of Social Interaction in Hybrid Games (Kankainen & Nummenmaa)
- Transmediality (Koskimaa)
- Evolution of Hybrid board games (Kankainen)

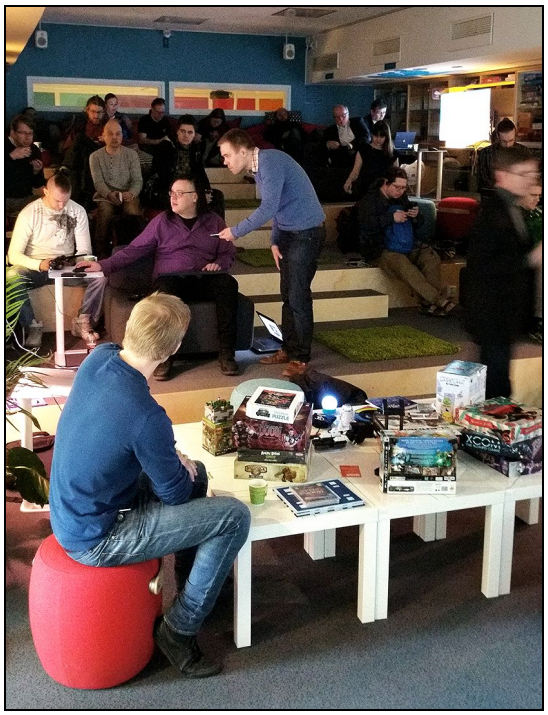


Figure. Audience and more hybrid playful products.

Figure. Hybridex project's final report (Tyni et al., 2016).

The seminar attendees commented on the talks by writing in a Google document anonymously. There were twelve separate comments in the document, with one provoking a short sub-discussion. The commentators reflected, for example, whether everything would become "alive" with ever cheaper technology that is easy to embed in various products, and how to develop for such an ecosystem. They also discussed whether playfulness is a more general trend or related to some dedicated spaces, customer or user segments.

There was also speculation about what is meant by hybridity, and whether it is an era-related term. "Adaptronic games" were recognized as an earlier term that was used in the previous decade to describe games that were affected by real-world events. Perhaps discussions of hybridity will use some other terminology in the future.

The short discussion examined whether it is even relevant to define hybridity precisely or use a more open-ended definition and include all kinds of phenomena under the umbrella of hybridity.

The seminar was closed with an open discussion on the topics covered and on the nature of hybrid social play.

Key Takeaways

- There is a clear drive for novel hybrid products and there are many avenues to explore.
- It is not clear what direction hybridity will develop in and the participants had very different ideas about the future of hybrid products.
- There are antecedents to what are now considered hybrid products. They were previously discussed using different terminology.

Hybridex project's final report. Hybrid Playful Experiences: Playing between Material and Digital (Tyni et al., 2016) http://tampub.uta.fi/handle/10024/98900

Analysis Workshop I: Hybrid Board Games and Transmedia

19th September 2017, University of Tampere. Report by Ville Kankainen & Jonne Arjoranta.

Figures. Various activities at the workshop.

The first analysis workshop focused on hybrid and transmedia board games. It was a half-day workshop that started with a short introduction into the topics and methods by the researchers.

During the first hour of the workshop, the participants tested out and analyzed various hybrid and transmedia board games. This was done in two groups that tested different sets of games. The games were curated to present various ways of implementing digital elements to board games. Further, one of the analyzed games was a transmedia game without an integrated digital element. The first group tested *Battlestar Galactica*, *World of Yo-Ho* and *Bycatch*. The second group played *XCOM: The Board Game*, *Alchemist* and *Anki: Overdrive*. Both groups then joined together to test *One Night Ultimate Werewolf*.

The games were analyzed during the test session with an analysis form specifically designed for this purpose (see page 45). After the test sessions, the groups analyzed the experiences based on the notes individual members had added on their forms, and created design guidelines which were then applied to existing board games. The workshop was closed with a presentation of the created game concepts and a discussion that was recorded for later analysis.

The discussion, guidelines and analysis forms were used as a basis for the initial hybrid game design guidelines.

Key Takeaways

- 10 initial design guidelines for hybrid board games (see the complete list on pages 51-54)
- Hybrid games should offer a multisensory experience
- Hybridity should not add to the complexity of the game
- It is important to minimize possible technological problems

Analysis Workshop II: Hybrid Money Games and Toys

16th January 2017, University of Tampere. Report by Janne Paavilainen & Katriina Heljakka.

Figures. Workshop participants tinkering with thoughts and toys.

The second analysis workshop focused on hybrid money games and hybrid toys. The workshop started with a presentation of three levels of sociability:

1. Presence - awareness about other players
2. Communications - ability to send and receive messages
3. Interaction - possibility to affect the gameplay of others via in-game mechanics

From this premise, the focus moved to different examples of how time, place, and the system used can afford sociability. Distributed screens, arcade halls, LAN-parties and synchronous and asynchronous multiplayer games were presented as example cases. Thirdly, the number of players is another social dimension with examples from single player, two-player, multiplayer, massively multiplayer, and massively single-player games. It was emphasized that even single player games can be social and that successful sociability does not have to be complex. The ambient sociability of massively single-player games can be enough to make the game feel social. Fourthly, the different play modes such as player vs. player, player(s) vs. game, player(s) vs player(s), team vs. team, unilateral and multilateral competition were discussed, as well. Lastly, there is the dimension of participant roles such as players, spectators, commentators, referees, coaches, and other team hierarchies. Examining sociability through these five dimensions gives numerous opportunities for different kinds of social playful design.

This analysis workshop was based on evaluating near future scenarios where four different hybrid money game concepts were examined and discussed. The following scenarios were presented:

1. Collectible scratch-card tickets that can be scanned at the slot machine for additional gameplay features
2. Augmented reality scratch-card ticket
3. Live sports betting featuring hockey player point-of-view and real-time player statistics
4. A location-based social mobile game for customer engagement

These scenarios were discussed in three groups of mixed experts from the consortium. While discussing the

concepts, the scenarios were evaluated by scoring them based on their accessibility, interest, experience, sociability, and feasibility.

The scenarios were considered interesting and location-based mobile gaming was seen as especially intriguing, but there are technical hurdles like the inaccuracy of the GPS signal that need to be considered. VR technology is often exciting, but such vivid experiences might undermine the role of money in the game. Fast-paced betting games might also turn into ad-hoc gambling instead of being expert games. The Pokémon GO lure mechanic is a great social feature, but social money games with teams and alliances are challenging for win distributions and skill-based games might be socially awkward due to social peer-pressure related to the other players' expectations. Ultimately, the discussion boiled down to the distinction between the "core" and the "glazing" of a money game. It is commonly considered that the core needs to be well defined first and then it can be sugar coated with aesthetics and social features. On the other hand, glazing contemporary entertainment games with features from money games (betting and cashing out) is already reality for the current generation with skin-betting in games like Counter-Strike: Global Offence and others.

In the workshops, the participants were also encouraged to think about and discuss what 'toyishness' means by using the Comicubes ideation and prototyping tool (i.e. blank cardboard cubes). Moreover, the participants were introduced to the Wow-Flow-(Double-Wow)-Glow –continuum (Heljakka, 2013, 2016), which describes the players' experiences related to toys with a high play value in chronological order. Based on the ideas presented by the groups, a framework of the toy experience was developed by Heljakka, based on four dimensions:

1. Physical dimensions
2. Fictive dimensions
3. Functional dimensions
4. Affective dimensions

The physical dimension encompasses the materiality and tactility of the toy. It is a haptic experience, perhaps customizable, and very personal. The fictive dimension gives an identity to the toy, there is a story and a meaning behind it - from license or fandom, for example. There is a transmedial storyworld that is also supported by the other dimensions of the toy. The functional dimension covers the mechanical affordances that can be understood and manipulated as one wishes. Toys are flexible in their nature and not rigid like games. They

foster creative, imaginative play, and social interaction. Lastly, there is the affective dimension that generates the emotional and multimodal pleasure and experience. Toys generate fun and joy, they are entertaining and something one can bond with.

Philosophical dimensions of the toy

There is ’a positive uselessness’ that relates to toys, the Uselessness-usefulness of toy play. A core aspect of toys is not to produce anything in play. It is meant to be an object, which relates to the idea of uselessness (on the other hand, there are ‘toys with a purpose’, e.g. educational toys).

Toyification communicates the idea of an entity (either physical, digital or hybrid) being intentionally reinforced with toyish elements or dimensions; an object, a structure, an application, a character, a technology or a system, acquiring a toyish appearance, form or function. In parallel to the gamification of everyday life, it is possible to trace simultaneously occurring patterns of toyification taking place in different realms of culture.

Key Takeaways

- New technologies provide interesting opportunities for money games, but there are still technical hurdles to overcome.
- Captivating aesthetics can be seen as gimmicks that downplay the affective power of betting.
- The core of the money game is important and the glazing must support the core.
- Rematerialisation is a cultural phenomena - where is the tactile hands-on play experience of Payazzo?
- Toyification (e.g. the reinforcing of material dimensions and three-dimensionality, functionality regarding creative play patterns or fictional dimensions) could assist in the prolonging of the money game/scratch card game.

Design Workshop I: Hybrid Money Games

21st April 2017, Veikkaus, Vantaa. Report by Janne Paavilainen.

The first design workshop focused on hybrid social money games. Four groups with mixed domain expertise designed six different game concepts in total that were either traditional lottery or tabletop games, or location-based mobile games. In addition to hybrid elements and sociability, there were two other guidelines for the workshop.

1. The target group for the new game concept is the younger generation of eligible players
2. There must be clear added value in the hybrid design

Before starting the design work, representatives from Veikkaus presented their experiences and ideas from their earlier game products and concepts. After the presentations, there was a short ice-breaker group discussion task about memorable game experiences and earlier experiences with hybrid products or services.

The design work started after the ice-breaker discussions. Each group designed one to two game concepts during the workshop. Hybrid elements varied between the concepts, utilizing both AR and VR technologies, but also more traditional approaches were present, such as a scratch-card game that affords access to an additional digital game. Hybrid design allows continuation from a digital platform to a physical platform, or vice versa. When using a traditional game as a base, the hybrid element must provide clear additional experiential value for the player. Often with new technology the threshold to play might be higher (especially for older players) and using classic, well known games as a base can help to lower that threshold.

The digital domain provides vast opportunities to expand and customize the game concept based on player preferences and the surrounding culture. For example, game content based on the seasons (Midsummer festivals, Christmas etc.) can be used to provide variety and collectible items for the players. The players' ability to create their own characters can foster towards ownership and better retention.

Location-based money games were considered very interesting but moving in the real world should have actual meaning in the game.

The game concepts approached sociability in different ways, as well. While some games provided competition and collaboration elements, others were more focused on casual, ambient sociability. The awareness of the other players' presence through high score lists and player profiles can be a fun social twist that is sufficient. This approach also supports fast-paced, spontaneous gambling. Sometimes extensive and deep social features can be too much for the player, especially if sociability is required to proceed in the game. A switch between play platforms can also change the role of sociability. A scratch card can be a single player experience, but the additional digital game can be a multiplayer experience. Whatever the level of sociability is, it should be easy to approach - and easy to disregard if the player wishes to.

The game concepts are presented in the following chapter with additional illustrations to clarify the design aspects.

Key Takeaways

- Location-based gaming is a promising domain for future money games, but the concept of movement in the real world must have a meaning
- Sociability is a strong motivation to play, but social features do not have to be deep to be interesting and enjoyable - casual, ambient sociability can be easy fun
- Characters and narratives make the game world more interesting to the player and even abstract games can benefit from such features
- Collecting is a powerful mechanic to keep players playing again and again, and it is related to the ability to manage and show one's collections to others
- There has been a long-standing trend of money games taking design features from traditional entertainment (video) games and vice versa

Hybrid Money Game Concepts

In ***Celestial Adventure*** the player fixes an international space station step by step in a VR-environment. The game mechanic is based on a simple climb-the-ladder mechanic where the station is fixed one module at a time. The game is a solo game, but the player is able to see other players and their space stations, and whether they get fixed or destroyed. The focus in this game concept is on a captivating VR experience with ambient sociability mixed with into basic scratch-card lottery game mechanics. The game combines traditional money game mechanics with the latest technology that provides a novel layer for enhanced immersion.

- **Hybrid element:** a VR-environment that provides immersive game experiences in space
- **Sociability:** Ambient sociability, the awareness of the presence of other players by seeing them and their performance in the game world

In ***Ice Rafts*** the player guides a penguin into safety in Antarctica. The game works on a traditional cardboard lottery ticket, but leads the player to continue the game in a digital environment through a strong storytelling element. The cardboard lottery ticket is for a single player, but the digital lottery ticket enables a two-player match against each other. In the digital lottery ticket, the players can affect each other's advancement by stealing a win, or blocking the other player's way. In this concept, there is a continuation from a traditional platform to a digital one. It can foster cross-generational play where a senior plays the first part and passes it on to a younger one who might be more tech-savvy.

- **Hybrid element:** a scratch card game that affords additional play in a digital domain with additional features
- **Sociability:** Sharing the scratch card experience with another person while the digital version opens a two-player game featuring (the illusion of) meaningful gameplay interaction

Top of the Table is an electronic tabletop casino game, where the players aim to help penguins to safety from the middle of ice rafts. The table can be a fully digital screen with additional hologram features. The game resembles a traditional jackpot game but the attraction is based on unique characters, story elements, and a dashing visual representation. It combines elements from traditional casino table games with features from (digital) board games. The game contains good and bad random events, to which one of the characters is always immune. Hence, the players need to cooperate to proceed towards a common goal, the jackpot. In addition, there can be a personal jackpot as well to foster competition along with collaboration.

- **Hybrid element: a** digital tabletop game with physical game elements and special effects (holograms)
- **Sociability:** Strong shared game experience with collaboration and competition

Tampers combines a digital lottery ticket with a pervasive game experience. The ticket can be scratched either on the display of a mobile device or moving in the real world through an augmented grid. The grid reveals traditional symbols from slot machines, and these symbols can be seen augmented through the camera of the mobile device. By taking part in the augmented part of the game, the player participates in a nationwide ranking and can gather kilometers by walking through grids. The more the player moves, the more they can open new characters, which the player can collect and also challenge friends to do the same. The game features seasonal content and can be branded to certain cultural phenomenons like *Tuntematon sotilas* and *MM-95*.

- **Hybrid element:** a digital lottery ticket and moving in the physical world, AR-mode that reveals symbols in the real world
- **Sociability:** The presence of other players, and the emergent sociability that happens when players meet in the real world

Figure. *Top of the Table* is a character based hybrid table casino game with competitive and collaborative features and special effects.

Loveboat is a nationwide augmented battleships game. It is a combination of a traditional board game and a location-aware game, in which wins are gathered by sinking ships on the board. There are two types of wins: jackpot-wins that grow while the game proceeds and smaller daily wins. The amount of the latter depends on how much the game has been played on the previous day. The player participates in the game by buying ammunition, with which she tries to hit ships of different sizes. If the player hits a ship the size of five holes, the prize will be one fifth of the value of the whole ship. When it is a miss, the game gives hints about which direction to aim at. With the AR-element, hits will be shown as pillars of smoke in the horizon. In addition, players can give hints to their friends about where there is something to shoot at. The game can also be participated in by buying a lottery ticket from a store, with which the player can shoot randomly on the map.

- **Hybrid element:** a traditional lottery ticket or a digital location-aware mobile game with an AR-element
- **Sociability:** Playing together and communicating, presence of other players on the map

KPS-Battle is a nationwide rock-paper-scissors competition. It is a tournament-form location-aware two-player mobile game. The winner gets to continue playing and the loser drops out. In the beginning of the game, the competition pairs are raffled based on their location. The best of three rounds continues to the next round. The players have the possibility of getting to know their opponent through player profiles. Open analytics data lets the players view their opponents' play history or examine the general statistics of all players. When the player proceeds to a certain point, she automatically participates in an additional raffle. The game is fast-paced and the grand finale of the daily tournament is streamed online.

- **Hybrid element:** Location-aware gameplay for searching opponents nearby in the beginning of the game
- **Sociability:** Examining the profiles of the opponents, a national social event

Figure. *KPS-Battle* is a fast-paced location-based mobile one-on-one rock-paper-scissors gambling game.

Design Workshop II: Transmedia

31st May 2017, Alma Media, Tampere. Report by Linda Lahdenperä.

The second design workshop focused on hybrid transmedia games. The participants designed four alternate reality games. Alternate reality games use various media, like email, phones and social media, to tell an interactive story. Two of the games were urban planning themed and two focused on urban legends and old crimes. While planning, the teams needed to take into account the following restrictions given to them:

1. The game appeals to both young and old media users
2. The game utilizes at least three media formats, one of which is print media
3. The game directs print media users to online content and vice versa
4. The game utilizes user-created content
5. The game takes advertisers and partners into consideration
6. The game utilizes the broad local knowledge of local reporters

The teams came up with game concepts in which the goals and restrictions were taken into consideration well. The game concepts are presented in the table below. Three out of four game concepts had a strong story; one long story that lasts for months and two game concepts with a long story arc consisting of stand-alone parts. The fourth game focused more on mobilizing the users than on storytelling. Company sponsors and the collection of user data were integrated into the stories well. All of the game concepts also efficiently utilized Tampere as a location.

The following goals can be identified in the game concepts: committing the readers to print media, increasing the use of the media company's different services, positive exposure for the company's brand in local communities and in international media (winning international media awards), selling the game concepts abroad, attracting advertisers, activating readers and having a positive societal impact. Thus, the company could be seen as taking an active role in its local community and affecting city planning decisions with proactive journalism.

Title	Game concept	Hybrid	Social	Special
Tampere Turmoil	To correct a historical mistake in city planning. Time travelers from the future are recruiting players into rivaling teams, but in the end the teams need to reach a compromise. Players find out the goal of the game only when they have already started playing.	The transitions between different media and urban exploration as well as live events all around Tampere. The climax is a festival in the park where the dispute started. Physical artifacts from the fictional world of the story (a wallet and a newspaper from the future) also play an important role.	The players are recruited into groups that represent different sides of the argument. They play against each other at first but in the end the groups need to find a consensus.	Community values are the theme of the game, as well as ethical goals. The game has a strong story and it lasts for about 6 months.
Ghost data	To use deductive skills to solve a haunted house mystery dating from the civil war. Players follow clues in order to find out who is haunting an old building and why.	Transitions between media, urban exploration, visiting a cafe and finding a clue in a paper napkin and live events.	A group tour in a haunted house, the collaboration between people who are on the tour and people who are streaming it live in their homes. Otherwise played alone and in competition with others.	Hiding clues in Wikipedia user edit history. The game lasts for only about a week but the game concept can be adapted and reused by companies located in buildings that are said to be haunted.
Crime Reporter Rimpiläinen	To solve old crimes in order to help crime reporter Rimpiläinen.	Transitions between media, meeting a fictional person (Rimpiläinen) in a restaurant and urban exploration.	Playing alone and competing for prices.	Long story arc and stand alone parts.
Tram	The players shoot videos and take selfies (with their own devices) in front of different companies that are along the route of the new tram. The more people the players get in their videos, the more the participating companies will donate to charity.	Ads in print media, the player made videos and photos shared on social media and urban exploration.	Recruiting friends, shooting videos and taking selfies with friends and competing for points.	Not plot driven, user created content in a big role

Table 1. Hybrid transmedia game concepts.

Physical aspects are emphasised in the game concepts more than digital aspects. A key finding is that the game concepts can be realized with the company's existing resources instead of developing new technology. User-created content did not have a strong role in the game concepts, but social elements encouraged community participation and activism as well as creating communal events and competition. Furthermore, the social elements were not only a part of the game concepts but the planning process, as well. Several attendees said they enjoyed the planning and they wanted it to be a recurring activity in the workplace. Even if the game concepts may not be realized, planning and brainstorming can function as a team spirit and creativity enhancing activity as well as bring forth tacit knowledge in the company.

Key Takeaways

- The game concepts emphasize physical aspects more than digital aspects.
- The game concepts can be realized with the company's existing resources instead of developing new technology.
- A game with a long story arc can be divided into shorter stand-alone parts so it is rewarding for both new and old players.
- Even if the game concepts may not be realized, planning and brainstorming can function as a team spirit and creativity enhancing activity as well as bring forth tacit knowledge in the company.

Hybrid Transmedia Game Concepts

In ***Tampere Turmoil*** the player needs to stop a mistake in city planning, which leads to destruction in the future. The game starts when the "50 years ago" column of Aamulehti **print newspaper** has an article about 50 years from now, which tells about the decay of Tampere. Interested players search details and web pages mentioned in the text from the **Internet**. Time travellers have arrived from the future to stop the mistake from happening. They establish **social media** pages for themselves and recruit players on their teams. The player is guided through different **newspaper ads and campaigns** from one media to another. They run into **a postman** at night and get a whole Aamulehti **newspaper from the future**. The player **calls a reporter**, and tries to convince him to do something differently, so that the future would change. One of the time travellers has lost their wallet, and is trying to find it through **newspaper ads and social media**. Finding the wallet helps the player proceed in the game. The game ends in a big festival, where the **players are gathered together**.

Figure. *Tampere Turmoil* is a hybrid transmedia alternate reality game.

Ghost Data starts when the **newspaper** has an article about a haunting in a house where there is **a guided tour** the next day. The players can enter the tour or follow it through a **livestream**. During the tour, a company called Ghost Data is doing ghost scanning. After the tour the players can go to the **web page** of Ghost Data to examine the results of the scan, but in order to access the data, a password is needed. The players on the tour have gotten a different hint about the password than the players watching the stream, and they have to **cooperate to combine their information** to learn the correct password. According to the data, the house is haunted by a poltergeist. One day after accessing the data the players receive **a letter**, which threatens them to stop investigating the haunting case. The letter has the logo of a local **coffee shop**. The waitress seems to know nothing about the case but recommends a discounted cinnamon roll, which comes with a **napkin with hints**. Players are guided to **Wikipedia**, where they can find the story behind the haunting.

In ***Crime Reporter Rimpiläinen*** the players are helping a fictional character, crime reporter Rimpiläinen, to solve old crimes. With the **newspaper,** there comes **a sticker** with a mysterious logo and an invitation to play. Later, the player can find **an article in the newspaper** with the same logo discussing a 50-year-old crime case. The article contains **a web address of a video**, in which Rimpiläinen asks the player to investigate from **the newspaper archives** who Nils Idman was, and to visit the crime scene. There the player can find a **phone number**. An answering machine from the number says that there is **a hint in a specific day's newspaper**. It is a rebus, and the answer must be filled to **an online form** with the address of the player. The next day the **postman delivers a paper with coordinates**, with which the player finds the whereabouts of **Rimpiläinen**. He guides the player to **a geocache**, which contains a key to **a safety box**. The safety box contains a prize related to the game.

The ***Tram*** game starts from the **Aamulehti newspaper,** in which the players are told to go to a specific place near the tramway and a local company, and take a video there. The goal is to get **as many people as possible** into the video. The more people in the video, the more money a local sponsor will give to charity. The game involves **an app** in which the players can gather points. Once enough videos are uploaded to **social media**, new missions will open up for the players. The players **visit new places** and learn more about Tampere. The player who gathers the most points wins.

Design Workshop III: Hybrid Toys

12th October 2017, Tactic Games, Pori. Report by Katriina Heljakka.

The aim of the workshop was to design and prototype a hybrid toy concept which invites to social play. The CEO of Tactic Games, Markku Heljakka, asked the groups to think about how hybridity can be effectively utilized in the development of a commercial plaything. The central questions were: Is it a must to downplay the element of hybridity in the product so that it is easier for the user/player to embrace it as a part of play? And: What does hybridity in a plaything mean in terms of ease of use?

Before the actual group work began, toy researcher Katriina Heljakka presented an overview of hybrid toys, which briefly included: The history of toys in play; the dimensions of hybridity (Heljakka, 2012 – see the table below), the Internet of Toys (IoToys); what to consider when designing a toy, and, the Dimensions of the toy experience framework, previously presented in the Toyification workshop report).

Dimension	Description
Conceptual hybridity	Hybridity of designed, (ludic-paedic) affordances of playthings.
Technological hybridity	Hybridity of user-interfaces or / platforms for play e.g. gamification, digitalization or de-materialization of physical playthings.
Artefactual hybridity	Hybridity of raw materials in playthings (e.g. wood with plastics, metals etc.)
Thematic hybridity	Hybridity of narrative content (e.g. backstories, license characters) of playthings.
Functional hybridity	Hybridity in use of a plaything (transitions between physical and digital play patterns), play environments or re-materialization of digital play.

Table 2. Dimensions of hybridity (Heljakka, 2012).

Four groups participated in the workshops, two of which worked on new character toy concepts based on the Lumo Stars theme and the other two groups worked on hybrid wooden toys. In the full-day workshops each group performed an ice-breaker assignment, which gave the possibility for the groups to find directions for the actual workshop task. The groups built a construction of the Comicubes cardboard cubes, which helped them to form ideas about hybridity and sociability in relation to their work-in-progress toy concept.

The design guidelines for the workshop were drawn from the conceptual *Dimensions of the toy experience framework*, as developed by Heljakka based on the Toyification workshop in early 2017. According to this framework, the toy experience consists of four core aspects: physicality, fictiveness, functionality and the affective dimension.

Key Takeaways

- Questions to ask when designing and developing new (character) toys:
    - How can one play with the toy alone (solitary play)?
    - How is the toy viewed by different age-groups (the child takes the toy to his/her grandparents)?
    - How does the toy function without a connection to the Internet? (mechanical features, such as poseability)?
    - How does the toy speak to its player on an universal level, without language involved (e.g. its soundscape)?
    - Does the toy have an educational feature (what does the toy teach)?
    - Is the toy customizable (is the player able to cultivate the toy according to his/her wishes either materially or in terms of content?
- ”There is no one way to design for hybridity, but physical and digital experiences may be combined in many different ways”, was said in the Hybridex project report . During the workshop described above, the multidimensional aspects of hybridity in relation to toys became more graspable for the participants.

Examples of ideas that emerged during the workshop:

- Character toys may also be developed of wood if they are made into a construction set.
- (Classic) materials may be combined in many ways, e.g. plush with wood.
- Traditional material such as wood may be enhanced with lights, electronics and magnets.
- Bringing light into toys represents something new
- Collectability and considering the toy experience as having many phases was considered useful.
- A restricted amount of material may be used to create something that has potentially limitless manifestations by a connection to online environments.
- A hybrid product should be simple in order to create an interesting experience!
- A toy (such as wooden construction blocks) can be used to guide the story of the plaything.

Hybrid Toy Concepts

In ***Pumbi*** wooden character parts have their own codes. When combined, they create a unique color code. This code determines the color that glows in the toy's eyes. The clicking sound of the magnets in the parts invites to assembling play. The reactions of the toy invite to social play. The app invites to sharing and communicating. The physical parts of the toy are the wooden parts that are connected to each other via magnets. The eyes of the Lumo-characters are in a special position. The story-driven characteristics of the toy are created according to the LUMO-product family; the Nordic environment as the story environment, animal characters and their (funny) combinations, educational contents: educating about nature, animals and colors. The functional characteristics of the toy are 1) the unique physical toy combinations made from the parts 2) when the toy is set up on the battery pedestal its eyes glow in unique colors 3) The app recognizes a unique digital mascot. The experiential characteristics of the toy: the experiences of creativity, self expression and accomplishment that arise from building and combining. Central to the toy experience are also humor and the pleasure that arises from quality materials.

Figure. *Pumbi* is a customizable character toy that activates when it is completed. The eyes act as projectors that can reveal exciting secrets from its home planet.

Bloop are interactive and story-driven wooden blocks with electronics that react with each other and shine in different colors. Children can bring their own toys and create a new story together. Building together, sharing elements from augmented reality and video clips and pictures of the buildings are parts of social play. The product encourages sharing and rating contents. The invitation to play is based on the mysterious combination of the material and the digital: there's no way of knowing what comes out of the building before the player has created her own version of it. Every block package includes hints about what you can create from the blocks. The story-driven characteristics of the game are related to different story worlds and their surprising combinations. The functional properties of the toy are building, story-driveness through augmented reality and video sharing, playfulness through the electronics in the blocks, and collectability. One of the experiential characteristics of play is the surprising world build from simple elements. The toy meets different user groups when the child plays with their grandparents or a playmate brings their own building blocks. The play and videos can also be enjoyed as a viewer.

Kalikka is a building block series for 3–6-year-olds. An app adds a virtual dimension to the buildings and offers an enriched experience. After constructing, the building can be scanned, and something new can be found. The app recognizes the shape of the building and adds a new visual look to it, a medieval castle, for example. The app transforms the building into fictive worlds and gives an opportunity to add characters, actions, and stories. The app can 'disassemble' the building into instructions that can be shared to other users. The app also offers a level of augmented reality, where destroying the building can be seen as fireworks, for example. The wooden toy offers many kinds of challenges; motoric, spatial, around which educational goals can be built. The sociability comes from multiple people building together and sharing their own buildings online. Two or more people can combine their blocks as a part of the other's ensemble. The app can present weekly challenges in the form of a building task that can be shared. The product can also be seen as a game and an art piece. More challenging sets of blocks can be offered to children in school, and the set can also work as a party game for adults.

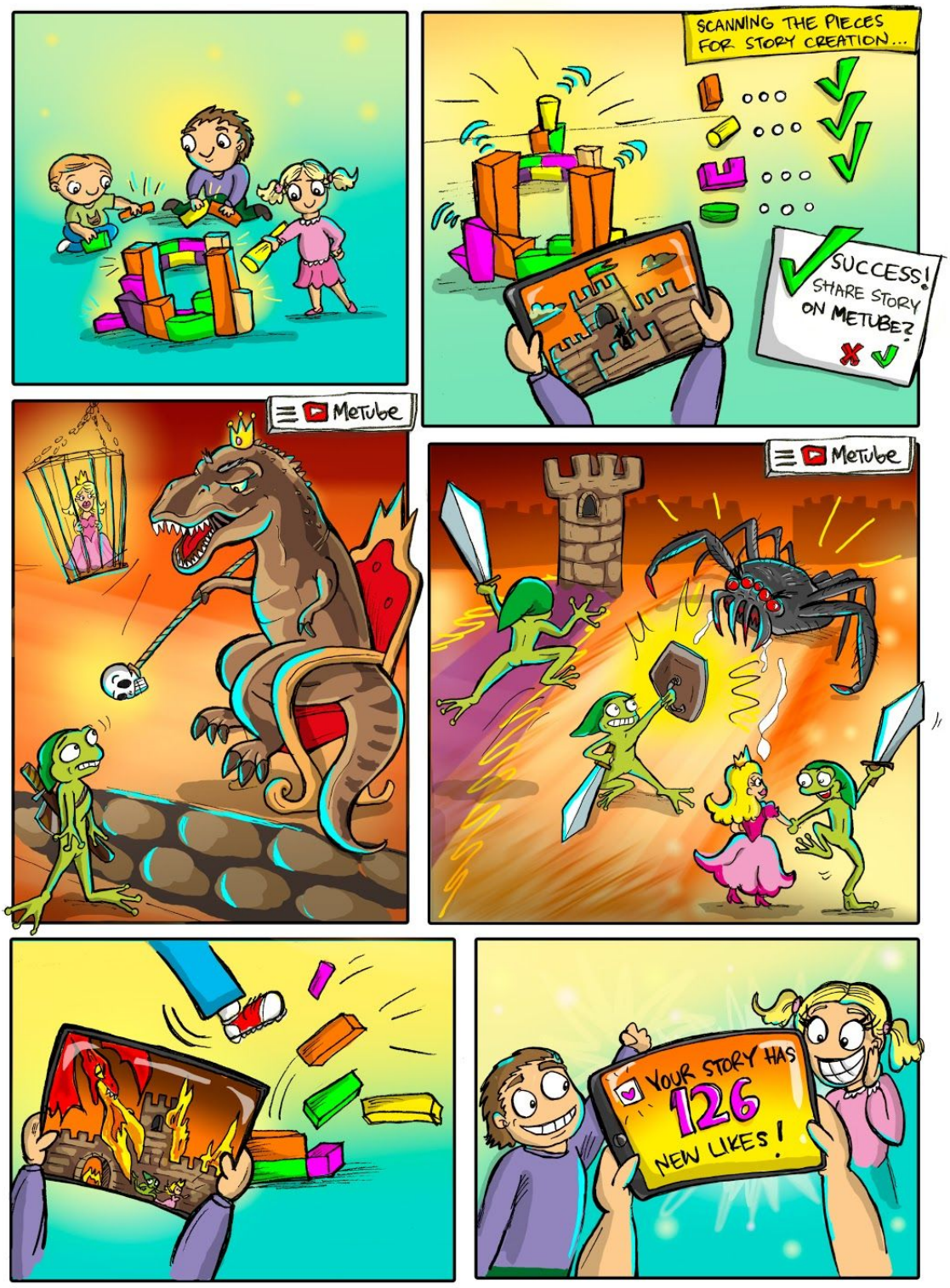


Figure. A hybrid of concepts Bloop and Kalikka. Children build a castle from intelligent wooden blocks that activate and create a procedural story based on the building blocks that can be watched online. The castle itself and the story cliffhanger can be watched in augmented reality.

Lumo Stardust Friends is for 5-6 year-olds. Lumo plushie friends meet in a nest both in the real physical world and in the imagined dream world. This encounter brings about something bigger than the sum of its parts; the Lumo product family is supplemented with 'spirit'-friends. The spirit characters are soft and round. Central for the concept is the encounter of Lumo-friends, creating travel stories and sharing them digitally. Stardust helps the time traveling characters to experience virtual adventures, during which they can acquire virtual outfits, for instance. The child can play alone with multiple toys. The sociability comes from sharing pictures and following a digital timeline and a map together. Modifying the toys and sharing their stories creates a frame for imaginative play. The app related to the toys enables travels. The nest works as a means of carrying the toys. Digital, augmented elements open for example from the birthmarks of the plushies. The app recognizes which character is in question. The toy has experiential characteristics: the plushie can comfort, strengthen the feeling of togetherness, invite to take care of itself, and support cultural knowledge. As an addition, there are Friends-characters, for which home nests are sold.

Design Workshop IV: Hybrid Board Games

12th November 2017, Tactic Games, Pori. Report by Ville Kankainen & Janne Paavilainen.

Participants' design guidelines based on the ice-breaker discussions:

1. Joy
2. Adventure
3. Touch
4. Balance between physical vs. digitally added value
5. Digital excitement
6. Mutual game experience
7. Enhanced digital visual experience
8. Technologically supported asymmetry of information
9. Hidden objects
10. Clumsy / Flexible
11. VR player instructs others
12. Item guides hybrid experience
13. Utilizing accelerometers in board games
14. Enhanced interaction and sociability with cell phone
15. Digital tokens create interactivity

Design Guidelines for Hybrid Games as presented in the workshop:

1. Added value
2. Automation
3. Aesthetics
4. Recovery
5. Availability
6. Universality
7. Scalability
8. Customizability
9. Sociability
10. Shareability
11. Tutorials
12. House rules
13. Ease of use

The last workshop focused on designing hybrid board game concepts. In the beginning of the workshop, there were presentations from both Tactic Games and the research team. The Tactic Games' presentation focused on their earlier experiences with products that have digital add-ons. A scorekeeping app for the Mölkky outdoor game was one successful example. In the previous workshop, it was discussed that hybrid board games have not been especially successful yet in general and that consumers might be even discouraged if the board game box art hints that there are additional apps, even if they are not mandatory for play.

The ice-breaker task consisted of watching the trailer videos of three hybrid games (*World of Yo-Ho, Beasts of Balance & Mask of Anubis*) and discussing them in groups. The selected examples represent different approaches to hybrid social play. Based on the discussions, the participants were encouraged to write down one design guideline each and share it with the other groups. A total of 15 design guidelines were written down and they are presented on the left. Some of the guidelines are highly abstract while others are more concrete. Each team had all these guidelines at their disposal to inspire the design work.

After the discussions, the research team presented the current hybrid game design guidelines based on the earlier findings. These 13 guidelines were explained in detail and they were also written in the design canvas used in the workshop.

The basis of the design work was two classic board games, *Afrikan tähti* ("*Star of Africa*") and *Kimble*. The groups were to design a hybrid version of either game. Three teams worked on the former while one team focused on the latter. Three teams were able to develop a game concept while one team succumbed to the "feature creep". The hybrid element caused too many ideas and there was no clear consistency in the concept, but the team was able to find valuable lessons from the process and there were many ideas that could be taken further. The three other teams were able to build solid game concepts that were demonstrated at the end of the workshop.

Each concept approached social hybrid play from different perspectives. The only thing in common was that the player's personal cell phone was used for play purposes. Hidden asymmetric information, the use of analytics and large data sets, and player-created content were major themes. In general, it was important that hybrid elements are designed right from the start as it is harder to implement a hybrid element as an add-on to a non-hybrid game. Ease of use and the possibility to play without a hybrid element were also considered to be important.

From the social perspective, the hybrid element (cell phone) allows for the utilization of hidden information in many ways. This can create exciting social tension and excitement among the players. Also, the aforementioned player-created content creates a new layer of off-game sociability. The use of strong narratives and unique characters was considered to be increasingly important. Through stories and interesting characters, the added value of digital elements can be humanized rather than trying to sell the product as a technology demonstrator.

Key Takeaways

- It is easier to design a hybrid game from the beginning rather than trying to add hybrid elements to a non-hybrid game.
- The hybrid element allows for the utilization of hidden asymmetric information that builds social tension and excitement among the players.
- Digital elements open new doors to use analytics and data sets in the game.
- Digital elements also support player-created content that could be shared with other players globally.
- Strong narratives and unique characters bring a human touch to hybrid social play that is easier to approach than technological gimmicks.

Hybrid Board Game Concepts

The ***Elektro-Kimble*** game concept builds on the traditional Kimble. The game is played on a smart board with smart game pieces that communicate with a smart device app. The game pieces can be licensed characters with themes like Moomins or Mickey Mouse, and this thematization can cover both the physical game pieces and the digital app. Each player has her own app which shows animations of the bypasses and the captures in which their game pieces took part during the game. The game board also collects information about game actions, such as movement and dice rolls done with the Pop-O-Matic. After the game, the app reveals statistics, such as who captured the most pieces and how many moves the winner took. It is also possible to have an online Kimble Game Center that collects data from the apps globally, and can, for example, present the statistics about who has rolled the most fives in the world. The possibilities for the productization of such data are limitless.

Asian Star Travels is a game where the players try to travel from Moscow to Tokyo. The game utilizes AR technology and the players get turns to see the AR elements visible only through a personal device. The players have a mutual goal, but there can be an impostor on the team who tries to sabotage the trip as the players move from city to city and complete different tasks - some of which are player specific. The players must reach Tokyo before the time runs out while plotting an optimum route. The AR-mode reveals hidden information from the game and gives hints about the possible impostor. Social interaction, the building of trust, and the ability to bluff are important elements of this game. The atmosphere takes elements from Agatha Christie crime stories and the Orient Express. Ease of use, detailed narratives, stunning AR visual (cities, sights) and updates on the digital content were highlighted in this game concept.

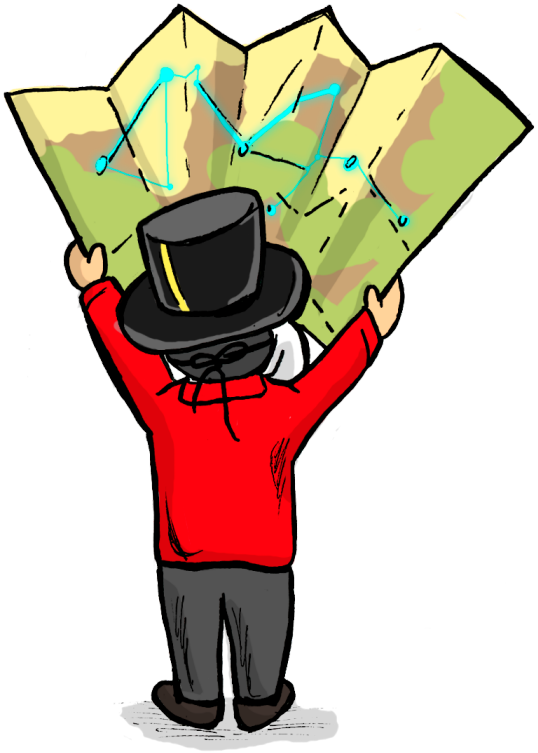
Figure. Elektro-Kimble has digitally enhanced features that enrich the game experience.

K-POP Rescue's tagline is "new gig, new conflict". The players are managers for the Asian Stars pop-band but the band's members are missing all over Asia. The players must find the members before the gig starts. The players move on a map with various means and have weird encounters and meet the diva-like band members who will not tag along until their personal preferences and quirks are met. Each location on the game board has a code that is scanned with the player's personal device. Based on the code, the game engine picks an appropriate story element that makes the game progress. Sometimes players encounter short mini-games that resemble the few second gameplay as in *Super Smash Bros*.

The game takes elements from soap operas and Korean pop culture. All kinds of craziness happens when one member is actually a hologram on a USB-stick while another does not want to come unless his favorite underpants are found first. The surprising narrative elements that can be almost infinite in a digital domain are the cornerstone of this game. The game also takes advantage of user-created content, so the game evolves while it is waiting on the shelf for the next play session.

Golden Eggs is about finding the emperor's lost treasure with the help of various types of dragons. Different dragon types have different special abilities that help the player in her quest. The hybrid element is a companion app which is used to scan a QR-code or a microchip in a physical dragon egg game piece in order to reveal what type of dragon will hatch from it. The hatching is depicted with an animation and a timer that will tell how long it takes for the egg to hatch. The app is also used to resolve conflicts between players, for example when stealing dragon eggs from each other. The materiality of the game is enhanced by a three-dimensional game board that is built on the start of each game session.

Methods, Models, and Tools



During the Hybrid Social Play project, various methods, models, and tools were created and utilized for and from the analysis and design workshops.

All the design workshops featured customized *design canvases* that were used to document game concepts. These canvases were designed by the researchers based on the experiences with the workshop themes. The canvases can be used and modified freely to your own purposes.

Based on the workshops and research we have developed design guidelines for hybrid games. These guidelines are generic, fitting many different kinds of domains and contexts. In addition, we also provide theme-specific guidelines that focus on board games, transmedia, toys, and money games.

Some existing tools were also used, such as Playful Experiences (PLEX) -cards in the design workshops and the established playability heuristics in the hybrid game case studies. These tools are also presented here as we have found them to be useful in design and evaluation work.

All the methods, models, and tools presented here should be used as starting points that are developed further in the selected design space. Rather than rules of law, they act as an inspiration to both practitioners and researchers alike.

Hybrid Board Game Analysis Form

HYBRID BOARD GAME WORKSHOP

Name: **Group:**

	Game 1	Game 2	Game 3	Game 4
SOCIAL INTERACTION				
IN THE GAME SOCIAL INTERACTION WAS GENERATED BY...				
Routines				
Handling game pieces, cards, dice				
Things outside the game				
Aiming towards common goals				
Upholding the rules				
Theme of the game				
Roles that support one another				
Limited resources				
Team forming				
Game mechanic demanded it				
FORMS OF SOCIAL INTERACTION PERCEIVED IN THE GAME				
Reflectening the game situation				
Talking about the strategy				
Teaching				
Game initiated social interaction outside the gaming situation				
Spectating play				

Other notes on social interaction

HYBRIDITY

BALANCE				
Hybrid element was thematically integrated into the game				
Digital elements were in balance with other elements				
FLOW				
Sped up the play				
Slowed down the play				
Helped in learning the game				
Hindered in learning the game				
Decreased the amount of social interaction				
Increased the amount of social interaction				
Created new kind of social interaction				
Clarified the game				
Made the game more confusing				
Decreased the amount of mistakes during the game				
Increased the amount of mistakes during the game				
DIGITAL ELEMENT				
Oversaw the game				
Helped playing the game				

Other notes on hybridity

Design Canvases

Hybrid Social Play - Board Game Design Canvas - 2.11.2017 Game Research Lab

Group members:

The Name of the Game Concept

Asian Stars ( )
Kimble ( ) Requires Hybrid Element ( )

The Idea and Overview of the Game Concept

How Material and Digital Meet / What Kind of Hybrid Elements are Used in the Game

The Most Important Game Mechanics and Goals of the Game

How Hybrid Elements Support Sociality
(presence, communication, interaction)

How is the Possible Remote Player or Spectator Taken into Account?

What N-EX-Experiences are Pursued Through Hybridity

What is Automated in the Game? Why?

Narrative Example of the Game Flow

Presentation Check-list

( ) Length 5-10 mins
( ) One Minute Pitch
( ) How hybridity supports sociality?
( ) Guidelines
( ) Significance of the role of the spectator
( ) Game board / cards etc.
( ) Bodily presentation of the concept

Hybrid Board Game Guidelines

( ) Added Value
( ) Automatization
( ) Aesthetics
( ) Recovery
( ) Easyaffectiveness
( ) Universality
( ) Scalability
( ) Muchaffectiveness
( ) Sociability
( ) Shareability
( ) Tutorials
( ) House Rules

Group Guidelines

Hybrid Social Play - Alternate Reality Game Design Canvas - 315.2017 Game Research Lab

Group members:

Theme of the Game

( ) City planning
( ) Old crime / Urban legend
( ) Something else, what?

The Goal of the Game, and How Is It Measured

The Narrative of the Game in Two Sentences

The Length of the Game

Real-time or Static

How Players are Persuaded to Join the Game?

Corporate Sponsors / Advertisers Role and Persuasion

How Much Can Players Affect the Game Flow?

Player Interaction

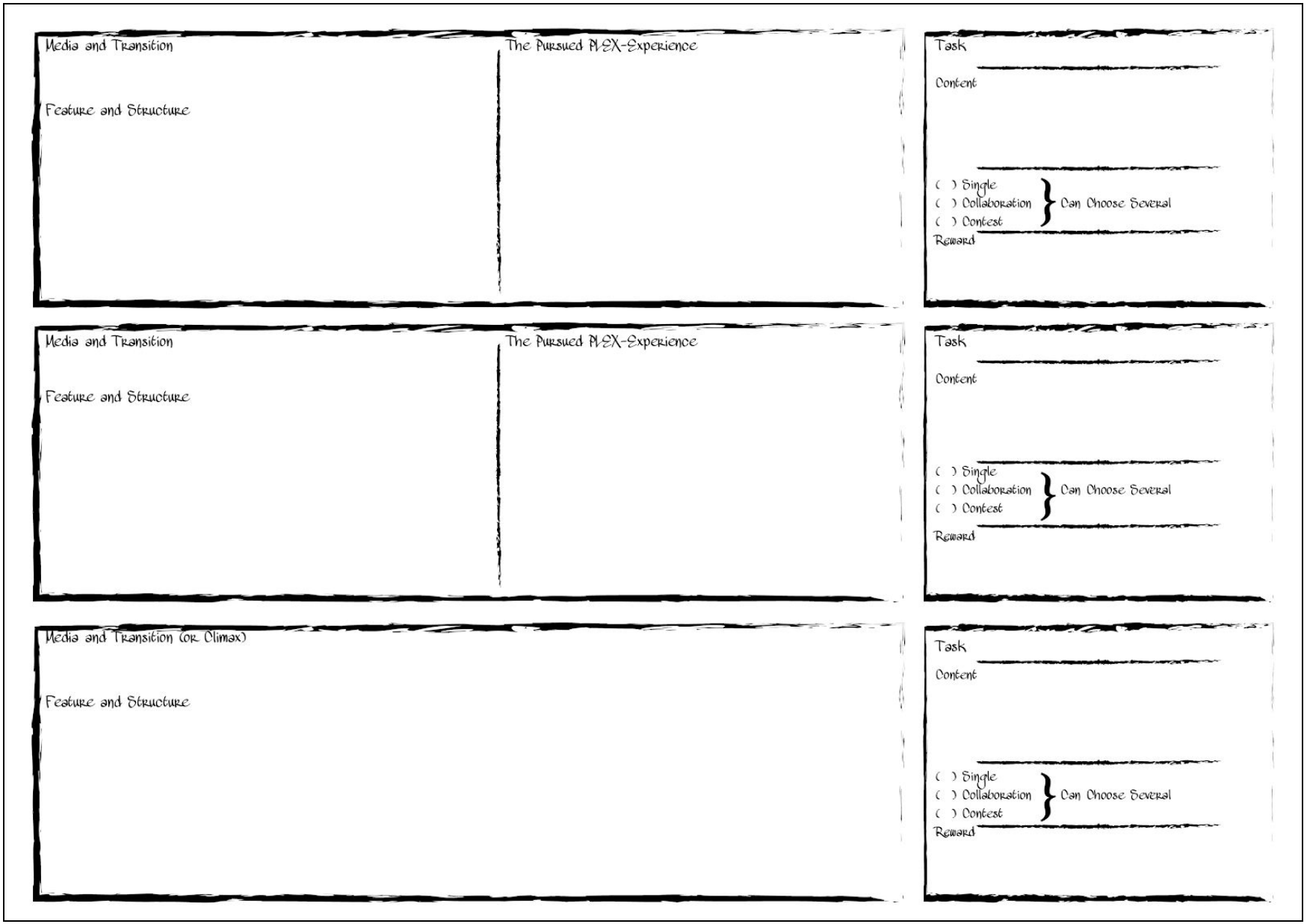
With the Ingame Characters

Between Other Players

Physical Media and Objects

Public Created Content

Digital Media


Media and Transition
The Pursued PLEX-Experience
Feature and Structure
Task
Content
( ) Single
( ) Collaboration
( ) Contest
Can Choose Several
Reward
Media and Transition
The Pursued PLEX-Experience
Feature and Structure
Task
Content
( ) Single
( ) Collaboration
( ) Contest
Can Choose Several
Reward
Media and Transition (or Climax)
Feature and Structure
Task
Content
( ) Single
( ) Collaboration
( ) Contest
Can Choose Several
Reward

Hybrid Social Play - Money Game Design Canvas - 21.4.2017 Game Research Lab

Group members:

Name of the Game Concept

( ) Tabletop Game
( ) GEO Game

Description of the Game Concept in Two Sentences:

Overview of the hybridity - How Material and Digital Meet?

Game Platform and Environment

Money Usage in the Game

Wow and Double-Wow -experience:

Detailed Description of the Game Mechanics

Narrative Example of a Game Event from the Player Point of View

Presentation Check-list

- Length of the Presentation c. 5-10 mins

1. One Minute Pitch ( )
2. Hybridity ( )
3. Sociality ( )
4. Wow and Double-wow -experience ( )
5. Money Usage ( )
6. Narrative Example ( )
7. Visualization with Materials ( )

Notes:

- Game concept should have a hybrid element where material and digital meet

- Game concept should be social in some way

- Remember providing added value and ease-of-use!

Significance of Different Dimensions of Sociality in the Game:

- Present
- Communication
- Interaction

Hybrid Social Play - Toy Design Canvas - 12.10.2017 Game Research Lab

Group members:

The Name of the Toy Concept

Wooden Toy ( )
Character Toy ( )

The Idea and Overview of the Toy Concept

Target Group

How Material and Digital Meet in the Concept

Significance of Social Dimensions in the Toy
(presence, communication, interaction)

How the Player is Persuaded to Play

How the Toy Interacts with Other Digital Devices

The Physical Characteristics of the Toy
- How is it like?

The Narrative Characteristics of the Toy
- What is it based on?

Presentation Check-list

( ) Length 5-10 mins
( ) One Minute Pitch
( ) How is the toy physically?
( ) What kind of narrative is it based on?
( ) What does toy do functionally and how it does it?
( ) What kind of experiences does it provide for the user?
( ) The visualization / mock-up of the toy

The Functional Characteristics of the Toy
- What does it do and how?

The Experiental Features of the Toy
- What does it provide for the user?

Guidelines for Hybrid Board Games

Based on the research and workshop findings, we present a set of 17 design guidelines for hybrid board games. These guidelines can also be applied in evaluation. The nature of these guidelines is not "be-all-end-all" but to act as a starting point when working with hybrid board games. These design guidelines are generic so that they can be utilized in a variety of other contexts and platforms. The following table presents the guidelines with details and examples. We have provided both positive and negative examples.

#	Guideline	Description	Examples
1	Ease of Use	Regardless of the technology in use, games need to be easily approachable, adoptable and playable. New technology can alienate users – so the first impression is paramount. A familiar brand can help a new player to get over the threshold created by unfamiliar technology. The hybrid element can even lower the game set-up time and, as such, make it more easy to use. Maybe it could also save the game situation, if the game is not finished on the first play session? The digital element also should not interrupt the gameplay - can it be used while waiting for your turn? Digital board game adaptations are easy to take with you and to play anywhere.	*Pokémon GO* introduces novel technology to the players of Pokémon games. *Beasts of Balance* uses a familiar and intuitive mechanism of tower building, which is fun even without the digital element. The *Dized* app will help the players with the game setup.
2	Added Value	The role of digital elements is to enrich the game experience in some way. For example, the digital element is good for adding incomplete information to the board game Three approaches to add value: 1. Exchange a physical component for a digital component. 2. Expand the game with new features. 3. Extend some element with digital features	*Space Alert* uses pre-recorded voice commands to guide the game and enrich the atmosphere. *Alchemists* uses a mobile device for mixing magic potions. This helps with complicated deductions, but also ties into the fantasy as the main magical element is conducted by a digital application.
3	Automation	Arduous and boring tasks can be automated. Bookkeeping can be difficult and boring, but you can let an application take care of it faster and more accurately. The digital element can be used to replace a human game master, letting all the players play together against the game.	*XCOM The Board Game* takes care of bookkeeping automatically through an app. Moving and combat in *Golem Arcana* happens through an app, which reduces the need for calculation and errors. In *Mansions of Madness: 2nd Edition* the digital app replaces a human gamemaster, allowing all players to play against the game.

Table 3a. Design guidelines for hybrid board games.

4	Aesthetics	Utilize all audiovisual possibilities – different game events can have images, video, music or sound effects attached. It is not unusual for the players to listen to music to add to the atmosphere of the game. The possible use of music and soundscapes should be considered in the game design, as well. Further, digital elements are good for adding narrative elements, for example to let players listen to narrative text pieces instead of reading them.	*World of Yo-Ho* contains fancy animations of moving your ship and naval battles. The sound effect repository *Beast of War* provides sound effects for the Space Hulk board game. The tempo of *Space Alert* is controlled by audio instructions. In *Mansions of the Madness: 2nd edition*, the app provides context-based flavor texts for the players.
5	Recovery	The technology used by the game will fail at some point. How to overcome the problem as quickly and painlessly as possible? Wireless networks can be unstable. How does the game handle sudden disconnections? The game should be as fault-tolerant as possible – or somehow exploit these limitations.	In *Alchemists* the game generates a four letter seed for each game which can be used to reload that specific starting configuration. *LEADERS: A Combined Game* can end in a stalemate if there is an error accessing web resources.
6	Availability	Is it necessary to develop new apps or technologies or can you use pre-existing technology? Nearly all mobile phones have a camera with multiple possible apps – you don't need to build a new one if your game needs taking pictures.	In *ByCatch* the players can use any kind of a mobile phone or a digital camera. *Golem Arcana* uses a proprietary stylus that can be used only in the game.
7	Universality	Additional apps should work on as many devices as possible. Backward compatibility is important.	The digital version of *Settlers of Catan* works on Android 2.3.3, while the current version is 8.1.0.
8	Scalability	When designing games, you should take into consideration the possibility of digital expansions from the start. Random events are easy to add, remove or edit if they are handled by an app.	Players of *Descent* are shown hidden information on the game state based on what expansions are in use.
9	Customizability	The possibility to customize their game experience is important for players. The Legacy series board games (e.g. *Pandemic Legacy*), where you can, for example, customize the game board with stickers, have been popular in the recent years. Digital technology can offer new ways to add customizability to board games. The digital element could add the possibility for the players to add new content to the board game.	*Posthuman* lets you create your own characters. *Anki OVERDRIVE* lets you create your own racing tracks.

Table 3b. Design guidelines for hybrid board games.

10	Sociability	Sociability is an integral part of playing – but how could digital content encourage more social interaction? Games that make use of imperfect information are good candidates for having digital social elements. The digital element should introduce new social elements to the gameplay situation - not inhibiting the inherent sociability of board gaming. For example, it should rather gather the players' attention than draw it away from the common play situation. Different types of sociability: Presence – including other players or spectators over the internet. Communication – the possibility of communicating through the game publicly or secretly with other players. Interaction – conflict and cooperation through the game mechanics.	*LEADERS: A Combined Game* allows players to spy on each other via a mobile app. In *World of Yo-Ho* players use their mobile phones to solve animated battles. *Mask of Moai* is based on sociability between a VR headset user and other players. In *Keep Talking and Nobody Explodes* one player defuses a bomb on a computer while others study manuals for defusing instructions. *The Eye of Judgement* allows online multiplayer gaming while using physical cards with the game.
11	Shareability	Sharing your experiences on social media is an important part of present day gameplay. Can single events or scores be shared from the game on social media? Do reactions on social media (likes, comments, shares etc.) affect how the game proceeds?	Currently there are no great examples of this, but for example in *X-COM: The Board Game* where the play is strongly facilitated by the app, it would be rather easy to allow the players to share the end result to social media via the app.
12	Tutorials	Reading the rulebook before getting to play is often an arduous task. A digital tutorial allows players to engage the game right after unboxing it. More and more games also use YouTube-videos to introduce themselves or as tutorials. The use of digital elements can be promoted by videos. Hybrid games are relatively new, so players might not have previous experience of similar games.	*Dized* is a mobile application created to teach the board game rules while you play. The app uses quality animations and gives clear instructions on how to proceed with the game. *XCOM: The Board Game* has a tutorial scenario to teach the players the game rules. Digital adaptations of board games use tutorials to teach the game.
13	House rules	Players like coming up with house rules for games. Digital elements should not restrict modifying the rules too much. Can the modifying of rules be supported by digital elements? Or can elements be made so that they adjust to rule changes?	In *XCOM: The Board Game* players can disable the timer if they so wish. Games with a dice can be easily modified to use different probabilities.

Table 3c. Design guidelines for hybrid board games.

14	Tangibility	Tangible physical objects are easy to grasp and use. Handling physical objects can give players feelings of ownership over what happens in the game, for example as a result of a die roll or picking a card from a player's hand. Physical game pieces also allow players to fiddle with them in between turns, which can keep them more engaged with the game and offers material pleasure. Physical elements also offer aesthetic pleasure to the players.	*Beasts of Balance* uses physical plastic animals as a part of the digital gameplay. Stacking the physical animals is fun in itself - the digital element adds another layer of fun to the game. *XCOM: The Board Game* comes with custom made physical dice for rolling the outcomes of conflicts. *Alchemists* and *XCOM: The Board Game* are both rich with tangible game elements, such as tokens and cards.
15	Obsolescence	A board game should last the test of time. Digital applications often have shorter life spans than physical board games. Adding digital elements should not make the board game unplayable even with the passing of time. Can the game be designed in such a way that it is playable without the digital element?	In *Alchemists* the digital application is not mandatory as one player can keep track of the deductions made in the game with a cardboard board designed for that purpose. However, the said player cannot play the actual game him/herself.
16	Parallel play	The physical and the digital elements can also be asynchronous and independent of each other. Players can, for example, practice play strategies on digital adaptations of board games and bring the learned strategies to play when engaging with the physical version of the game. Players often play both the tablet version and the physical version of the same board game. In some cases the digital adaptations increase the sale of the physical board games.	Various digital versions of *Blood Bowl* are popular among the players of the physical game. The digital version of *Ticket to Ride* increased the sales of the physical version of the game and vice versa.
17	Integration	The digital element should be a well designed part of the game. This often works best if it is designed into the game from the beginning, but even if it is added later it should be a justified part of the overall game. Adding a poorly designed hybrid element often does not bring the desired added value.	The stylus pen in *Golem Arcana* is stylized according to the game theme. *Mask of Moai* utilizes one VR headset and asymmetric information that enhances social interaction between the players.

Table 3d. Design guidelines for hybrid board games.

There are also certain aspects that should be avoided when designing hybrid games, namely:

- Do not automate tasks that are fun.
- Do not let the social elements suffer from the automation.
- Do not add technology just because you can.
- Do not make playing more cumbersome because of technology.
- Do not add complexity for no good reason.
- Do not make players focus solely on devices.

The aforementioned design guidelines and pitfalls are starting points - not goals in themselves. You can and should break these rules when there is a good reason to do so.

Guidelines for Hybrid Transmedia

#	Design Process Guidelines for Alternate Reality Games
1	First decide what the goals are (e.g. increasing civic involvement, increasing print media readership etc.)
2	Set concrete limitations on the design, based on the first point. Come up with a few themes.
3	Make a template to support the design. The template should include concrete aspects of the game (e.g. individual tasks, transfers between media), but designs can deviate from it, if necessary.
4	Come up with the plot (characters, conflict, location, time, genre, conclusion).
5	Choose what media are used and how the transfers between them work (how a plotline starting in one media transitions to another media).
6	When thinking about the media and content it makes sense to use pre-existing resources and knowhow.
7	Think about what missions the players need to complete in order to proceed in the game. Are the missions completed alone, collaboratively or in competition?
8	How long is the game? Is it played in real-time? A long game can also be serialized and consist of short episodes. That way new players can enter at the start of a new episode, but the game is rewarding for the players who have participated in the whole game.
9	When the plan is ready, check that the goals are included in the game content.
10	Think about how to evaluate success and how to collect data on the game's popularity.
12	Evaluate how realistic and feasible the plan is before starting.

Table 4. Guidelines for the design process for alternate reality games employing hybrid transmedia. See also the ARG guidelines[1] by IGDA (2006).

#	Design Notes from Hybrid Books
1	Playful characteristics are not limited to games and toys - hybrid books also have them.
2	Hybrid books seem to work better for children and young adults than for adults.
3	The strongest hybrid books are the ones where the digital and physical content depend on each other.
4	Children's books with digital applications often incorporate the bodily user in the reading act.
5	Children's hybrid books often encourage replay.
6	Hybrid books can be beneficial for improving (trans)media literacy.
7	In the future, the digital and the physical could be combined directly without a mobile device acting as an intermediary. Such as adding flexible displays into a codex.

Table 5. Design notes from hybrid books.

[1] http://www.christydena.com/wp-content/uploads/2007/11/igda-alternaterealitygames-whitepaper-2006.pdf

Guidelines for Hybrid Money Games

The following guidelines emerged from the hybrid money games analysis and design workshops. Rather than excluding non-hybrid guidelines, we included all interesting findings from the workshops into this model.

Immersive Awesomeness Use of new technology to lure players into traditional games. Lower threshold to try familiar games on new platforms. Technologically advanced hybrid games as attractions in casinos.	**Play between Platforms** A scratch-card ticket opens new gameplay opportunities on a digital platform. Using a scratch-card ticket to unlock a special feature in a slot-machine. A tabletop game could feature a mobile app to enhance the game experience.	**Casual & Ambient Sociability** Social features do not need to be "deep" to create interest. Easy to understand mechanics for competitive and collaborative play. The awareness about the presence of other players is already social.
Characters and Stories Characters and stories can make frivolous games more meaningful. Combining games via characters and stories to make consistent game worlds.	**Meaningful Actions** "Games are a series of interesting decisions" -Sid Meier There should be meaning in movement in a location-based mobile gambling game. Encourage players to move and explore via the game mechanics.	**Illusion of Control** Digital gameplay affords multiple ways to design the illusion of control. Players could have the illusion to affect each other's gameplay (blocking, attacks etc.). Hybrid control - some decisions have effect on the gameplay while others do not.
Physical Ownership Hybrid games provide physical ownership and tangible experiences. Physical objects can be given as gifts. Memorabilia from gameplay trinkets and tokens.	**Collectibles** Collecting is a powerful game mechanic to create retention. Fast-paced gambling games provide a good base for a slower, collection based, meta-game. Beautifully crafted scratch-card tickets could be collector's items.	**Branding** Branding is an effective tool to create interest for new products and services. Brand is a powerful tool to lure players into new types of games (e.g. *Pokémon GO)* *Kingdom Hearts* features familiar Disney and Square Enix characters.
Anonymity Digital services should allow anonymity - especially in money games. In social games, players should not be put into awkward social situations without their consent.	**Show the Money!** The transparency of transactions should always be clear for the player. The paytable and the winning conditions should be easy to understand. A hybrid money game could integrate both play money and real money in the same game.	**Core versus Shell** The core logic of the money game should be a priority in design. However, for a new generation of players, the money game element can be implemented as an addition to a popular entertainment game (e.g. skin betting in *Counter-Strike*).

Table 6. Guidelines for hybrid social money games.

Design Dimensions for Hybrid Toys

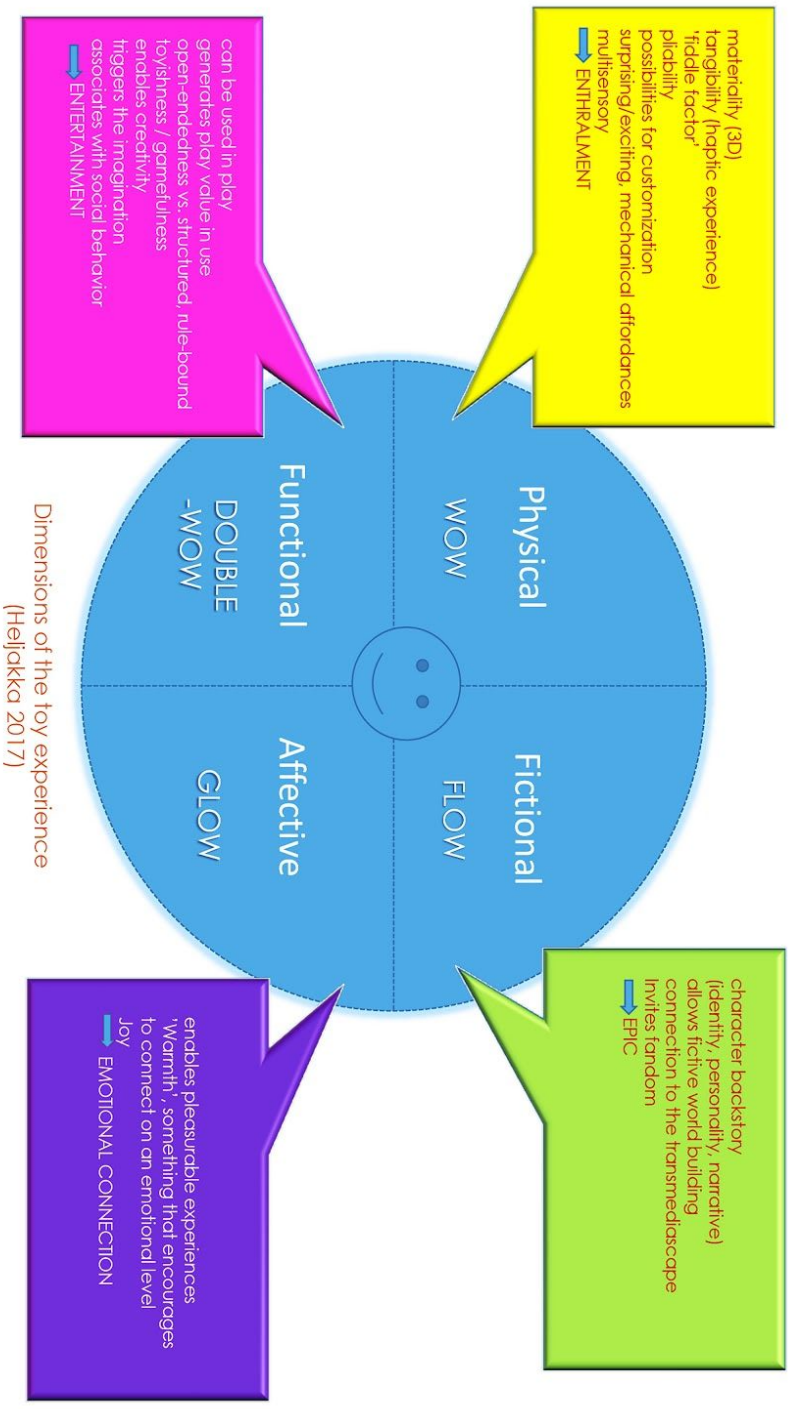


Figure. Dimensions of the toy experience (Heljakka, 2017).

Playful Experiences (PLEX) Cards

PLEX-categories

1. Captivation
2. Challenge
3. Competition
4. Completion
5. Control
6. Cruelty
7. Discovery
8. Eroticism
9. Exploration
10. Expression
11. Fantasy
12. Fellowship
13. Humor
14. Nurture
15. Relaxation
16. Sensation
17. Simulation
18. Submission
19. Subversion
20. Suffering
21. Sympathy
22. Thrill

The Playful Experiences (PLEX) framework is a tool to analyse, design, and evaluate playful products and services. The framework consists of 22 categories of playful experiences that are presented as a deck of 22 cards. The categories can be states of mind (e.g. Thrill), concepts (e.g. Challenge), actions (e.g. Exploration) and they can be also negative experiences (e.g. Suffering). The framework is based on a literature review on pleasures and experiences, and it has been validated through player interviews (Arrasvuori et al., 2010).

The PLEX-categories are interlinked in many different ways. Some of them have a cause-and-effect relationship like Exploration and Discovery - the former usually leads to the latter. There are temporal connections such as Competition and Completion. A negation of the first experience can lead to a second one as refraining from Submission can lead to Subversion. A negative experience can make the positive experience feel stronger, e.g. Suffering leading to Completion in a marathon. Fellowship and Nurture are mutually inclusive while Cruelty and Nurture are mutually exclusive. The experience can vary based on the context and the point-of-view, being the nurturer or the nurtured, for example.

Playfulness has become an important part of design, packaging, and marketing. Consumers are expecting enjoyable (designed) experiences from various products and services. The domain of playfulness is much broader than just games as most activities can be approached with a playful manner. The PLEX-framework offers a tool to systematically approach, understand and discuss playfulness. The framework can also be expanded with additional categories, such as Escapism and Nostalgia, for example. The framework can also be used for expert reviews (Lucero et al., 2013) and there is also a Playful Experiences Questionnaire (PLEXQ) -version that is a survey instrument to study playfulness through four factors: stimulation, pragmatic, momentary, and negative experiences (Boberg et al., 2015).

Key Takeaways

- PLEX covers 22 categories of playful experiences presented as a deck of cards
- The framework is based on a literature review and player interviews
- PLEX can be used in the analysis, design and evaluation of playful experiences
- The framework is also suitable for expert review and as a questionnaire instrument

Figure. The PLEX-cards are available for free at http://www.funkydesignspaces.com/plex/.

Playability Evaluation Heuristics

Heuristics are rule-of-thumb guidelines originally used in user-interface expert evaluation. Based on the heuristics, a group of expert evaluators examine the UI design and write down the issues, their severity (critical, major, minor, cosmetic) and the heuristic that the issue violates. One of the most commonly used heuristic sets is Nielsen's 10 usability heuristics (Nielsen & Molich, 1990). The method is considered to be cost-effective and it can be used with an agile development process iteratively.

Heuristic evaluation can also be used for evaluating the playability of games. The following tables 7-10 provide detailed information on the process with the established heuristics (for detailed descriptions and discussion about the heuristics, see Korhonen, 2016). Basically, the evaluators first study the game individually. Then the results are reviewed in a group phase and the issues are discussed. A master list of playability problems is created and presented to the stakeholders. The established playability heuristics are organized into different modules covering different aspects of games such as game usability, gameplay, mobile, multiplayer, context-aware, free-to-play issues. The module structure allows the evaluator to only use the modules that are needed. The game usability and gameplay modules can be seen as the bases for evaluation and these heuristics can be used for all kinds of games. Heuristic evaluation produces results fast but, as an expert review method, it does not replace the need to playtest games with actual users.

Key Takeaways

- Heuristic evaluation is a cost-effective method for identifying playability problems in any kinds of games.
- The established playability heuristics can be used to inspect hybrid games, as well, especially when accompanied by the design guidelines presented in this report.
- It is important to evaluate the design early and often during the development process.
- Heuristic evaluation does not replace the need to playtest with actual users.

Procedure step	Main tasks	Practical guidelines
#1 Preparation	Choose inspectors, select playability heuristics, reserve space for the evaluation, and prepare the game (and the devices).	3-5 inspectors with evaluation method expertise. Inspectors should be familiar with similar games in the genre.
#2 Individual evaluation	Evaluate game menus and different configuration and settings screens. This resembles productivity software evaluation focusing on UI evaluation.	Particularly observe issues concerning game usability heuristics.
	Play the game and get familiar with the main features and objectives of the game, focus on gameplay evaluation.	Observe gameplay heuristics and additional modules if needed for multiplayer, mobile, context-aware, or free-to-play, for example.
	Compare how well the interface elements support playing the game. Does the interface allow smooth and unobtrusive interaction with the game?	Observe both game usability and gameplay heuristics. Remember to document positive findings as well.
#3 Debrief within inspector team	Combine the playability problem reports and discuss the problems with other inspectors. Prepare a list of corrections for the playability problems. Prioritize problems.	Prioritize playability problems with severity ratings (e.g. cosmetic, minor, major, critical), assign violated heuristics to problems and remove duplicates. Include positive findings.
#4 Report findings	Present findings to the stakeholders.	Discuss different options to correct the problems with the developers. Remember to present positive findings, as well.
#5 Aftermath	Analyze the problems which were not covered by the heuristics and expand the existing heuristics if needed. Debrief the whole procedure with inspectors and prepare for the next evaluation cycle.	Understanding the nature of the problems is essential for preventing the creation of redundant heuristics. Documenting and sharing the findings is important so that the same mistakes are not made in future development projects.

Table 7. The heuristic evaluation procedure (Paavilainen et al., 2018).

Code	Game Usability Heuristics
GU1a	The audio-visual representation supports the game
GU1b	A view to the gameworld supports smooth interaction and the camera behaves correctly
GU2	The screen layout is efficient and visually pleasing
GU3	The device UI and the game UI are used for their own purposes
GU4	Indicators are visible
GU5	The player understands the terminology
GU6	Navigation is consistent, logical, and minimalist
GU7	Game controllers are consistent and follow standard conventions
GU8	Game controls are convenient and flexible
GU9	The game gives feedback on the player's actions
GU10	The player cannot make irreversible errors
GU11	The player does not have to memorize things unnecessarily
GU12	The game contains help

Table 8. Game Usability heuristics (Korhonen, 2016).

Code	Gameplay Heuristics
GP1	The game provides clear goals or supports player-created goals
GP2	The player sees the progress in the game and can compare the results
GP3	The players are rewarded and the rewards are meaningful
GP4	The player is in control
GP5	Challenge, strategy, and pace are in balance
GP6	The first-time experience is encouraging
GP7	The game story, if any, supports the gameplay and is meaningful
GP8	There are no repetitive or boring tasks
GP9	The players can express themselves
GP10	The game supports different playing styles
GP11	The game does not stagnate
GP12	The game is consistent
GP13	The game uses orthogonal unit differentiation
GP14	The player does not lose any hard-won possessions
Code	**Multiplayer Heuristics**
MP1	The game supports communication
MP2	There are reasons to communicate
MP3	The game supports groups and communities
MP4	The game helps the player to find other players and game instances
MP5	The game provides information about the other players
MP6	The design overcomes the lack of players and enables soloing
MP7	The design minimizes deviant behavior
MP8	The design hides the effects of the network

Table 9. Playability and Multiplayer heuristics (Korhonen, 2016).

Code	Mobility Heuristics
MO1	The play sessions can be started quickly
MO2	The game accommodates the surroundings
MO3	Interruptions are handled reasonably
MO4	The graphical design is accommodated to current brightness (Supplements GU1a)
MO5	The player should be aware of some device features while playing (Supplements GU3 and GU4)
MO6	Mobile devices have their own conventions for input (Supplements GU7)
MO7	The tutorial should respond to immediate demand (Supplements GU12)
Code	**Context-Aware Heuristics**
CA1	Perception of the current context
CA2	All players should have an equal chance to play
CA3	Adjustable play sessions
CA4	Communication outside of the gameworld (Supplements MP1)
Code	**Free-to-Play Heuristics**
FP1	Progression is possible without in-app purchases (supplement to GP11)
FP2	In-app purchases and transactions are clearly informed
FP3	In-app purchases provide meaningful value
FP4	In-app purchases can be made inaccessible to minors
FP5	Hard currency can be earned through game play
FP6	Gameplay is fair for both paying and non-paying players (supplement to GP5)

Table 10. Mobility, Context-Aware, and Free-to-Play heuristics (Korhonen, 2016; Paavilainen et al., 2018)

Research Visits

During the two-year research project, many of the project's researchers visited conferences, research centers and archives.

The following chapter lists some of these visits, with Key Takeaways from each visit.

Hybrid Play Workshop in Gothenburg, Sweden, 2016

Ville Kankainen. Researcher, University of Tampere.

Together with Dr. Timo Nummenmaa we visited the universities of Gothenburg and Chalmers, in Gothenburg, Sweden, May 24th 2016. The aim of the visit was to give a presentation on the topics of the project to the students of the University of Gothenburg, to prepare materials for workshops in the project, and to exchange knowledge on hybrid social play with local scholars. The visit was hosted by professors Staffan Björk and Jonas Linderoth. Both have done research on board games and game design, and professor Björk has covered the topic of augmented board games extensively in his research.

The program of the visit consisted of a seminar presentation titled *Hybrid social play from the perspective of toys, board games, transmedia and money games*. In addition, a workshop on designing hybrid social playthings was conducted. During the workshop, we created hybrid game concepts using the Hybridex Deck of Cards. The workshop results indicated that the method is useful for brainstorming new hybrid game concepts. As the participants might only have a vague idea what hybrid playfulness is about, it is useful to have a method that allows presenting the current trends in hybrid playful products as a starting point for the brainstorming. However, using the deck of cards requires that workshop participants have time to familiarize themselves with the contents of the cards before conducting the actual brainstorming.

The discussion following the workshop is also very important in analyzing the concepts and the possibilities they offer for sociality in hybrid products. During the workshop, this was done by answering the following questions: What kind of social interaction was there in the concept? What was the role of the social interaction in the concept? Who were the active participants in the social interaction? Different concepts had different types of sociality including the social interaction between the collectors of the hybrid product, social interaction happening when finding other players, and teaching other players through the product.

The discussion on the previous and current state of research and different perspectives on hybrid playful products also gave valuable insights for the project.

Key Takeaways

- By having a workshop method where the participants are presented with the current hybrid playful concepts, it is possible to brainstorm novel game concepts.
- Workshop methods should be simple and streamlined for the limited time frames.
- The digital elements combined with material products can offer new forms of social interaction.

International Spieltage SPIEL, Essen, Germany, 2016

Ville Kankainen. Researcher, University of Tampere.

Figures. From top to bottom:
1. The general atmosphere of the fair
2. *Mr. Jack* with bust figures
3. *Flotti Karotti* (Ravensburger Spieleverlag GmbH)
4. *Krosmaster Arena* (Ankama)

International Spieltage SPIEL, or Essen Game Fair is the largest board game trade fair in the world. It gathers over 1000 exhibitors from 50 countries (in 2016) to present their products. Many of the new titles of the year are released during the event and it is the main event of the year for many publishers to present their new releases. The goal of the visit was to see how hybridity is present in the event, and what kinds of hybrid products might be coming out on the market. The visit was conducted on Thursday 13.10., the first day of the fair.

Due to the limited time of the visit it was not possible to see everything. Even though I arrived 1.5h after the event was opened people were already pushing carts full of newly bought board games out of the event. For many visitors, private and company representatives, Spiel is the place to make most of one's yearly acquisitions.

A small company called *Dicey* was pre-marketing the *Meet Other Gamers* app which matches board gamers with each other based on age, location and board game preferences. Unfortunately, it was not possible to test the app yet. The other physical digital hybrid game that I encountered in addition to this one was a children's game called *Flotti Karotti*. While playing, an electronic carrot is set in the middle of the table, and it plays music and sometimes gives orders to the players. The carrot also jumps in the air at certain points and the player who grabs it first gets rewarded.

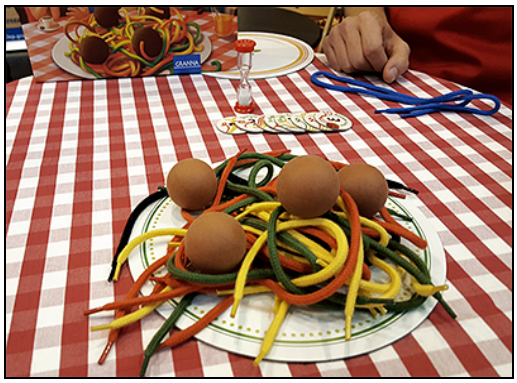


Figure. In the *Spaghetti* (Granna) game tactility has an important role.

Of the known publishers of hybrid board games, at least *Czech Games Edition*, *Fantasy Flight Games*, *Iello*, *Playmore Games* and *Tactic Games* had stands at the fair. However, only Playmore Games was marketing their upcoming *Dized* app, the others did not exhibit any hybrid games or add-ons. Altogether, physical-digital hybridity was not very visible at the fair.

Krosmaster Arena (see Figure) is a board game that has beautiful anime style mini figurines as game pieces. This game has the aspect of mixing toy play with a board game. Many other games also had interesting material aspects in them. *Spaghetti* (see Figure) is a simple dexterity game in which the players need to collect shoe lace spaghetti one piece at a time from a plate without dropping other pieces of spaghetti or plastic meatballs off the plate.

Figure. Author Swen Harder with create your own adventure- / gamebook Reiter der schwarzen Sonne

An interesting curiosity at the fair was the “create your own adventure” book *Reiter der schwarzen Sonne* (Rider of the Black Sun; Manticore Verlag) by Swen Harder. The author was personally marketing the book which has drawn inspiration from similar game books which were especially popular back in the 1980s and -90s. However, his approach was more ambitious than usual in such gamebooks, as the book is, according to the author, the most extensive game book ever written, with over 1350 sections. The book was funded by Kickstarter. Based on the visit, it seems that physical-digital hybridity was not a selling point for the publishers at least in 2016. However, hybridity does appear in various forms in board games, mixing materials and toy play with more traditional board game mechanics. As the physical-digital hybrid board games still seek their form, it is interesting to see if there will be more of them present at future Essen Game Fairs.

Key Takeaways

- Hybridity was present at the fair in several forms. Although technological hybridity was hard to find, thematic and functional dimensions of hybridity (see Design Workshop III: Hybrid Toys) were present in several games encountered.
- Many games had three dimensional game pieces that resembled collectable toy figures.

Macao Gaming Show, China, 2016

Jani Kinnunen. Researcher, University of Tampere.

Figure. Size can enhance immersion.

Macao Gaming Show (MGS) is a large business-to-business event for gambling industry stakeholders. The event had two parts: a) the gaming show where new products were presented to the visitors and b) a summit or a conference, which had talks, presentations and panel discussions about the gambling industry and future trends.

The event was marketed as a gaming show, but it concentrated heavily only on casino gaming. This is understandable because of the location. Macao is the only place in China where casino-type gambling is allowed legally and it has grown to be the biggest gambling concentration in the world, bigger than Las Vegas, for example. Everything concerning casino games, casino game equipment, interior design products, staff wear, catering products or money handling devices were well presented in the show. Much less was available to do with lotteries, scratch cards or anything concerning games or playing outside of casinos. However, online gambling products, or online casino products were also well presented. Games or products related to hybrid social play were not presented, at least not explicitly.

The topic of the summit was the future of gambling. It was notable that hybrid social play was absent from the talks and discussions. Clearly, hybrid play was not current in Macanese or East-Asian contexts when it comes to the future of casino-type gambling. Instead, social casino gaming (or free-to-play simulated gambling games) were seen to be very important at the time. Casino-type gambling is illegal in Mainland China, but social casino gaming is allowed, popular and very profitable. There are over one billion potential social casino gamers in China. Social casino games were also seen as indirect marketing tools for real gambling. Once social casino gamers get used to casino-type games on their mobile devices, some of them are more willing to try real money versions for example in Macao in the future.

Mobile gaming was seen to be an important trend also in the future. However, there were no discussions about

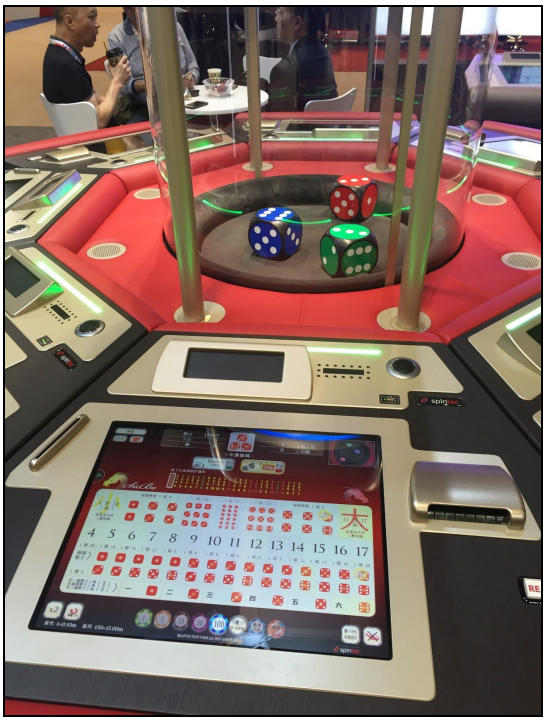


Figure. Mechanical elements and digital user interfaces.

Figure. Mechanical dealer dressed as a cat.

how mobile devices could be implemented to or utilized in casino gaming or how the social interaction of free-to-play gaming could be implemented to real casino games. Similarly, online gambling and offline gambling were seen as separate categories and no vision of how the material and the virtual elements could be combined into new gambling and gaming products was presented. Based on this, it seems that the Hybrid Social Play project has been doing pioneer work in this area.

In the gaming show, there were few games which were interesting from the hybrid play point of view. Two different categories of games which combine material and virtual or digital elements were available. First, games which have mechanical mechanisms and digital user interfaces were well presented in the gaming show. For example, games in which large material dices were mechanically shaken in a transparent dome seemed to be very popular in Macao. The players are gathered around the game and they can see each other's reactions through the transparent dome. Even if the game mechanics are mechanical, the players use digital touch screens to bet and to participate in the game. The players themselves cannot influence the determination process in any way, they can just follow the movement and settlement of the dices. In this respect, these games resemble large slot machines which can be played in the company of other players. Because the determination process is not based on any invisible code but on a mechanism, which can be monitored by one's own eyes, these types of games are perceived to be more reliable than traditional slot machines.

One rather novel example of a game in which the physical and the virtual are combined, was a mechanical dealer robot in a catsuit. This robot had the same role as a live dealer in a virtual casino. Apparently, from the players point of view, a mechanical dealer is more reliable than a virtual dealer, but it remained unclear why the dealer had to be in the form of a cat.

The second category, virtual betting, combines the material and the virtual elements in a little bit different way. Players can bet on completely virtual events through the same interfaces they use to bet on traditional sporting events. The products, which were presented in the show, included hyper realistic virtual (re)presentations of boxing matches and horse racing,

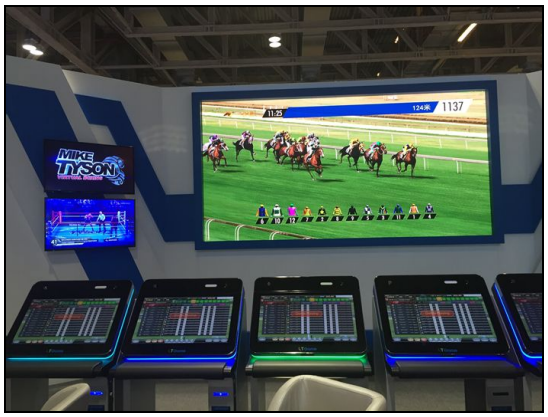


Figure. Virtual betting games.

for example. Even if one examined them very close to the screen, these virtual representations looked very real. By using this technology, it is possible for gaming operators to organize (or create) as many and as long or short events as they want from any imaginable object gamblers want to bet on. The players can also benefit, because they can choose the events that best suit their expectations, from a much larger variety of betting objects.

In conclusion, material and virtual products were both presented in MGS, but explicit hybrid social play products were not yet available. Mobile gaming and virtual betting were seen as important trends in the future as were the casino games, which have visible mechanical mechanics and digital user interfaces.

Key Takeaways

- Mobile gaming, including social casino games, was seen as an important trend also in the future.
- Hyper realistic virtual betting products are readily available.
- Casino games, which combine mechanical elements with digital user interfaces are very popular in Macao.
- Explicit hybrid social gambling products were not presented or available in MGS.

Research Visits in California and Washington, USA, 2017

Linda Lahdenperä. Researcher, University of Jyväskylä.

I met with authors, inventors and researchers of hybrid storytelling and discussed their projects and asked about their visions for the future.

University of Santa Cruz, 22nd January 2017

I met with Jacob Garbe, a digital arts researcher and co-creator of *The Ice-Bound Compendium*. It is a digital game application that is accompanied by a physical book. The game is about a deceased author whose consciousness has been turned into a computer program; an artificial intelligence named Kris. The player's task is to help Kris complete the novel that was left unfinished when the author died. The physical book is a scrapbook of documents from Kris' life. The function of the book is to convince Kris that the themes used in the novel he is writing are relevant to him. The book is scanned with the application that uses augmented reality technology to make the pages come to life. Garbe, however, does not believe that AR books will ever become mainstream products. This is because the technology has already existed since 2011 but there has not been any successful AR books. Garbe sees that the future of AR can be in toys and other objects instead of the print media.

University of Irvine, 6th February 2017

I met with Karen and Joshua Tanenbaum who both research and create hybrid objects. *The Reading Glove* and *Phylactery* are two of their inventions.

The Reading Glove

The player wears a technologically enhanced glove and touches selected objects in a random order. The glove reads the sensors in the objects and activates a piece of the story that the player hears through headphones. The individual story pieces form a complete story about an English spy in Algiers in the beginning of the 20th century. The goal of the player is to understand how the story pieces are connected. In addition to touch, the player should inspect the objects and use them, for example wear a hat or put on glasses. Each object has its place in the story and they belong to the protagonist.

Figures. Glasses (artifact from The Reading Glove), The Reading Glove, Phylactery.

Phylactery

The *Phylactery* is based on Hindu mythology and the horcrux from the *Harry Potter* -series. It is a box that the player can use to save their memories in artifacts. The box contains an RFID reader, a Raspberry Pi and speakers. A microphone is activated when a tagged object is placed on top of the box, so the user can narrate a memory about the object.

University of Southern California 22nd February 2017

I met with researchers Erin Reilly and Geoffrey Long. Geoffrey Long is a transmedia researcher and creative director of the University of Southern California's (Los Angeles) World Building Media Lab and World Building Institute. Erin Reilly is a researcher specializing in phygital (physical and digital) storytelling as well as a creator of phygital fiction. She has co-created Winkelbeans: toy monsters made of wooden blocks with magnets. Children can combine the blocks in different ways to create different monsters. The blocks come with a story application and each monster has their own story. The application reacts to the wooden blocks and the stories change depending on how the blocks are combined. Each monster also has a small speaker and they make sounds when connected to the same device.

I asked Reilly and Long how they see the future of physical-digital objects. Reilly thinks that physical toys could remember how children have played with them. If the child scans the toy, the application could read its memory and thus activate new levels in the digital game based on how the child played with the toy. Reilly also sees that, in the future, books could come with small flexible displays so the digital and the physical could be combined without the need for a separate mobile device. Geoffrey Long, on the other hand, thinks that toys could function like an operating system. Each section of the toy (for example a sword, a shield) would have a story related to it that would be activated with an AR application.

Patrick Carman Interview, 27th February 2017

In Seattle, I interviewed author Patrick Carman, who has created the bestselling hybrid (physical books & online videos) book series *Skeleton Creek*. He has been touring schools for years and he believes that his books have made a difference in children's attitudes to reading. *Skeleton Creek* even belongs to the curriculum in some schools in the USA. According to Carman, hybrid books work best for children aged approximately 9–12 years. Teenagers are too busy and adults find using a book and a device too tasking. Carman thinks that in the best hybrid experiences the digital and the physical content depend on each other. If either one is in an ancillary role, the whole experience is weaker.

Key Takeaways

- The researchers see the future of hybrid storytelling more in combining digital elements with physical artifacts than in combining digital elements with books.
- In the future, digital and physical could be combined directly without a mobile device acting as an intermediary.
- Hybrid books might work best for children aged approximately 9–12 years.
- The strongest hybrid books are the ones where the digital and the physical content depend on each other.

More about the inventions

- Winkelbeans: http://www.ebreilly.com/winklebeans.html
- Reading Glove: http://readingglove.ics.uci.edu/
- Phylactery: Cowling, M., Tanenbaum, J., Birt, J., & Tanenbaum, K. (2016). Augmenting reality for augmented reality. interactions, 24(1), 42-45.

Research Fellowship at The Strong National Institute of Play, Rochester, USA, 2017

Katriina Heljakka. Researcher, University of Turku.

Figures. Researcher Kati Heljakka at The Strong National Institute of Play.

During my career as a toy researcher, I have visited The Strong and the Brian Sutton-Smith Library and Archives twice before my research fellowship (February 21st - March 3rd) in order to access the extraordinary resources that have been valuable to my research, first when working towards my doctorate, and again when searching for materials during my early postdoctoral work. I'm currently working on my larger postdoctoral project, the Toyification of Culture, which is concerned with how, in a ludic era, as proposed e.g. by Brian Sutton-Smith in his book *The Ambiguity of Play* (1997), the playfulness of culture manifests itself through increasingly 'toyifying' (visual, material, digitally shared and social) tendencies. My proposition is that, alongside the suggested ludification and more popularly addressed gamification of culture, the (Western) world is becoming increasingly 'toyified' in terms of many areas of adult human life, such as technology, art, design, fashion - even other entertainment products, such as games, etc. Although one important agent in the ludic era is the playing adult, (toy) play in itself is mostly regarded from the perspective of childhood experiences and not as a transgenerational phenomenon. When adults are considered in reference to toys, their object play is still most often guised under the term 'collecting', hobbying or enthusiasm toward toys, even though their ways of interacting with these objects clearly represent activities we may associate with play.

During my research fellowship at The Brian Sutton-Smith Library and Archives in the spring of 2017, my first intention was to investigate whether evidence of toys (or other 'toyified' objects), that are targeted to user groups other than young children, appear in the industry catalogues and the Playthings Magazine Collection (1903-2010). I managed to find examples of either toys or other toy-like objects which were clearly targeted to more mature audiences. Unexpectedly, but importantly, I was also able to engage with two recent books on play: *The Handbook of the Study of Play* and *Play for Life* (Sutton-Smith, 2017). The latter, in particular, inspired me to delve deeper into Sutton-Smith's own library and

Figure. National Toy Hall of Fame.

read through every source that discussed adult play or the rhetoric associated with it, which I had not acquainted myself with during my earlier visits to the library and the archives.

As always in play, it is best to be prepared for some surprises as well: After having informed the staff about my keen interest in character toys, such as dolls, plush and action figures and the transmedia products that have inspired them (often played with by adults), a true gem landed on my research table next to the books, catalogues and magazines. It originated in a galaxy far, far away, and thanks to the archives, it was there for me to explore. Play is the highest form of research, and the Brian Sutton-Smith archives at The Strong being ready to play will take your studies to new heights - maybe even to those faraway terrains, previously unexplored.

Key Takeaways

- Toys and toy-like objects have been marketed to youngsters and adults since the early 20th century.
- The rhetorics of play in terms of academic research have been discussed in earlier studies also by others than Brian Sutton-Smith, who is considered a major contributor on this topic.
- The Brian Sutton-Smith Archives holds, besides toy catalogues, also other interesting materials on transmedia phenomena, such as press releases of movies (e.g. the first Star Wars film).

Academic Research

This section covers the summaries of academic publications published in the project and the presentations given during the project.

It contains both published and unpublished research papers, presentations in conferences and seminars – in short, all the research conducted in the project, whether it has already been published or is still waiting to be finished.

The summaries focus on the following themes:

- Hybrid play - How to approach and understand hybrid games, play and experience
- Hybrid board games - Sociability and marketing, the interplay of digital and physical, player experiences, aesthetics, history and durability, updating and planned obsolescence
- Game design & sociability - defining playability, heuristic evaluation, and social features
- Pokémon GO - Why people play, positive and negative game experiences, play and behavior change
- Transmedia - Storyworlds, digitalization of literature, phygital storytelling and fan works
- Money games - hybrid gambling games, Chinese gambling cultures and social networks
- Comicubes - a tool for stimulating creativity, studying gamification, playfication and toyification, ideation with children
- The ecosystem of play - games and hybrid play, playful interventions
- Adult play - toy play and photo sharing, fashion practices, stigma avoidance, creative material culture, collecting, and rhetoric, toys and TV fiction

We provide the publications with references and links to the original works where applicable. For more information on the research works and publications, please contact the authors directly (see contact details on page 3).

Games as Blends: Understanding Hybrid Games

Kankainen, V., Arjoranta, J. & Nummenmaa, T. (Forthcoming). *Journal of Virtual Reality and Broadcasting*.

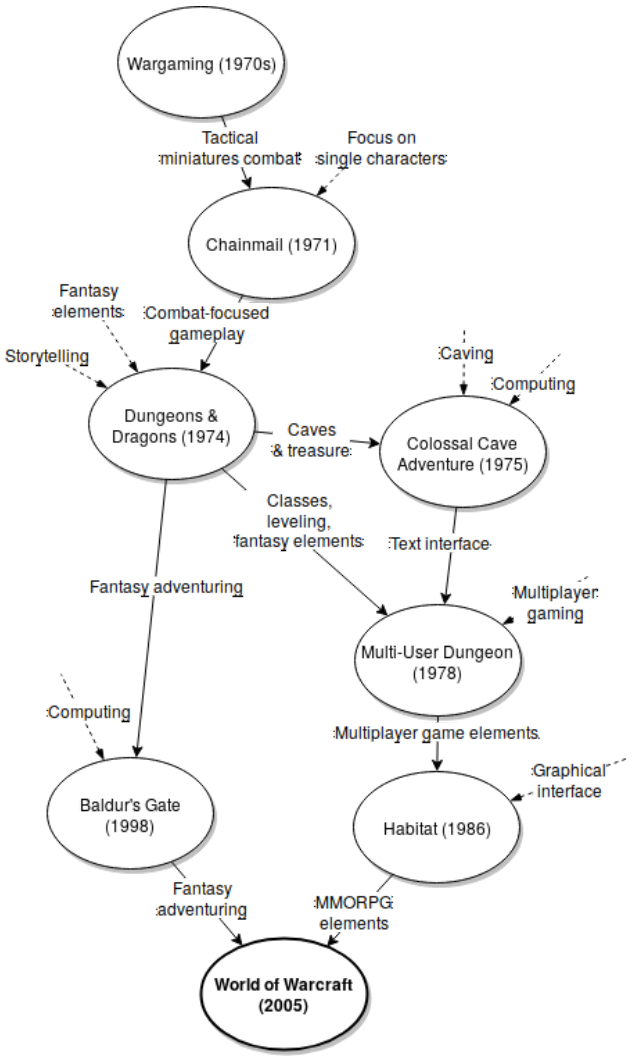


Figure. The evolution of role-playing games from wargaming to *World of Warcraft*.

Defining hybrid games in relation to recent developments in technology limits the thinking of designers. We argue that hybrid games should be understood through conceptual metaphors (Lakoff and Johnson 1980). Hybridity is the blending of different cognitive domains that are not usually associated together (cf. Fauconnier and Turner 1996; 2005). Hybrid games usually blend domains related to games, for example digital and board games, but can also blend other domains. Through viewing game experiences as blends of different domains, designers can understand the inherent hybridity in various types of games and use that understanding when building new designs.

Mixing digital technology with material play products alone rarely produces interesting products. Mixing different domains can form a novel experience borrowing features from both the physical and the digital domains. By looking at hybrid products through this lense, a designer can insulate what type of smaller experiences the overall hybrid experience is built from. This can be compared to the design conventions of digital games that have been proven successful previously, and can be mixed in new ways during the design process. A similar way of understanding what features of physical experience and digital experience make an experience interesting for users can help in the design process of hybrid products. Further, this kind of a tool can make it easier to communicate with others on the team, and can add clarity to written documents.

Key Takeaways

- Hybrid experiences are not tied to a specific technology, but more into mixing different domains of experiences.
- Designers should focus more on mixing the different experiences that digitality and materiality offer, rather than focusing on adding novel technology for its own sake.
- New games are blends of innovations in previous games. Previous features can be traced in a tree-like structure (see the figure on the left).

Blending in Hybrid Games: Understanding Hybrid Games Through Experience

Arjoranta, J., Kankainen, V. & Nummenmaa, T. (2016). In *Proceedings of the 13th International Conference on Advances in Computer Entertainment Technology*. ACM. https://dl.acm.org/citation.cfm?doid=3001773.3001798

Figure. Rock Band game controller next to a Gibson Les Paul 54 Custom electric guitar.

The meaning of hybrid games is often fixed to the context in which the term is used. For example, hybrid games have often been defined in relation to recent developments in technology. This creates issues in its usage and limitations in thinking. This paper argues that hybrid games should be understood through conceptual metaphors. Hybridity is the blending of different cognitive domains that are not usually associated together. Hybrid games usually blend domains related to games, for example digital and board games, but can also blend other domains. For example, *Rock Band* combines plastic game controllers with playing rock music. Through this type of thinking, designers can be more open to exploring how their games can be experienced.

Key Takeaways

- Hybridity has been defined in relation to recent technology.
- Combining digital elements with board games is a common type of a hybrid.
- Hybrid games should be understood through conceptual metaphors.

Example	Source Domain 1	Source Domain 2	Generic Space	Features of the Blend
XCOM: The Board Game	Board games	Digital games	Strategy Turns	Smart device as a game play accessory
Keep Talking and Nobody Explodes	Puzzles	Operating manuals	Deciphering instructions	Social interaction
Hitman Go	Digital games	Board games	Strategy Turns	Expansion boxes locked by score
Anki Overdrive	Slot cars	Digital racing	Cars Track	AI cars on a physical track
Skylanders	Digital Games	Toy figures	Characters	Saving in the figures
Geocaching	Treasure hunts	Digital mapping	Geography Maps	Digital map -based treasure hunting
Rocksmith	Playing instruments	Rhythm games	Rhythm Music	Evaluation and feedback of learning instruments
Mechanical Pinball	Mechanical machines	Billiards	Object manipulation	Single-player gaming

Table 13. Different domains of hybridity in some game examples.

Sociability in Hybrid Board Game Marketing Material: 7 key Features

Nummenmaa, T. & Kankainen, V. Poster presentation at the Academic Mindtrek Conference 2016, Tampere, Finland.

This paper identifies seven key features which appear in the marketing and promotional material of published hybrid board games. The features were identified by exploring the game websites and game boxes of thirteen hybrid board game products. This paper answers the questions 1) how do game publishers see hybridity to affect sociability in their games and 2) what do game publishers see as interesting from the perspective of the consumer. The materials were analyzed in order to determine how social features in hybrid games are presented. As a result of the analysis, it became apparent that there are certain key features which are presented as being important to the players. The following seven key features were found through the analysis:

1. A hybrid element as a game master and/or a common enemy
2. Replacing player-managed parts with more efficient versions
3. Hybrid element expanding possibilities for playing socially
4. Social features and interactions not normally seen outside of hybrid products
5. A personal physical element as a game interface
6. The possibility for hidden information
7. Hybrid elements enhancing possibilities for family play

The knowledge generated in this work acts as a view to how the industry sees hybridity in games as a tool for supporting social interaction, and how the industry wants to message it to the consumers when they explore promotional material. Combined with the knowledge of what consumers value in hybrid games, this can be used to develop new ways of marketing such products to the public. The identified key features can also be used as design knowledge for developing new hybrid board games, as they give insight into popular social features in hybrid board games.

Key Takeaways

- Seven key features describing how hybrid board games are marketed to the public and how the publishers see social features as selling points.

The Interplay of Two Worlds in Blood Bowl

Kankainen, V. (2016). In *Proceedings of the 13th International Conference on Advances in Computer Entertainment Technology*. ACM. https://dl.acm.org/citation.cfm?id=3001796

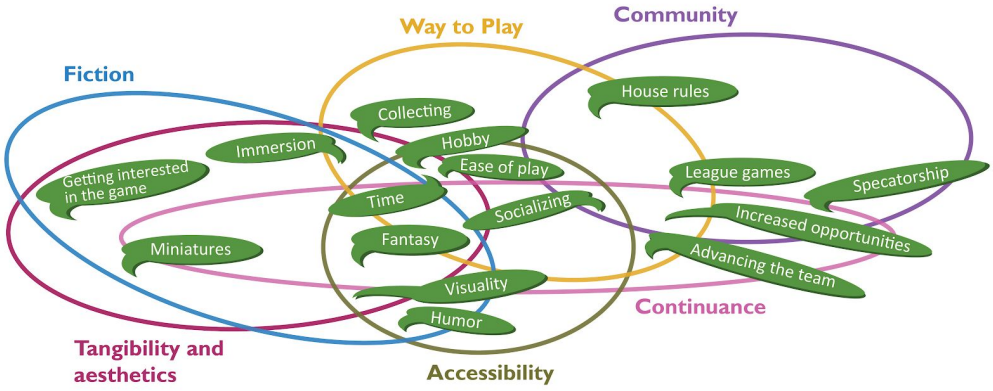
Figures. From top to bottom: Blood Bowl board game and a digital Blood Bowl game.

In this study, nine informants were interviewed on their experiences of playing the physical *Blood Bowl* board game and the digital adaptations of it. Considering the interview responses, playing *Blood Bowl* can be seen as a holistic pastime, where the material and the digital aspects have different, although sometimes overlapping, roles. The results provide insights on different elements, such as painting miniatures, online societies and overarching the theme in various products, that together form the overall experience around the game. Different elements can be roughly divided into six, partially overlapping, categories (See the figure below). From the design point of view, *Blood Bowl* is an interesting case of parallel experiences that form a larger experience together. When designing hybrid playful experiences, it is important to understand how people mix different media, digital and physical, in their activities. The overall experience can be seen as a hybrid, even if the digital and the physical aspects work asynchronously and independently of each other. The inherent strengths of the different types of media can be used as building blocks for a comprehensive hybrid experience. The six categories that were found can be used as a guideline when designing such holistic experiences.

Key Takeaways

- Six categories describing the hobby of playing the *Blood Bowl* board game and the digital adaptations of it.
- A hybrid gaming experience can be built out of separate but interlinked physical and digital activities.

Figure. Six categories describing the activities around playing Blood Bowl.



Phygital Board Game Design Tools Review

Kankainen, V. & Arjoranta, J. *Unpublished manuscript*.

Design tools in developing fields tend to be a combination of different approaches, on different levels of abstraction and using different ways of describing similar things. Because hybrid games combine different kinds of things, developers tend to come from different kinds of backgrounds, and may have difficulties in conveying what they have learned to other practitioners.

In this paper, we review different types of design tools for developing hybrid board games, and synthesize the results so that they can be described using the same kind of language and on the same level of abstraction. We review 11 papers from different backgrounds. Most of them come from HCI or interaction design, but others from computer scientists developing prototypes for research purposes. The tools described in these papers contain guidelines, design spaces, heuristics, design patterns and general suggestions. Although the approaches taken in the different papers vary greatly, there are some common themes that come up in many of them. Varying approaches also highlight the different aspects relevant in hybrid game design, and these aspects are discussed further in our study.

The research conducted in this paper helps in analysing and developing hybrid games, allowing similar kinds of things to be discussed under the same framework. Further, a shared vocabulary helps designers to communicate their designs between each other.

Key Takeaways

- Hybrid games are discussed in multiple different terminologies, from augmented games to pervasive games.
- Design guidelines for hybrid games are often heavily context dependent.
- Most research on hybrid games is about describing specific prototypes. The results of these studies are hard to generalize.
- There is no agreed-upon understanding of what hybrid games are.

Player Experiences of Hybrid Board Games

Kankainen, V. & Sihvonen, L. *Unpublished manuscript*.

We conducted an online questionnaire about board gaming in general, and how various electrical and digital elements are used in games or peripheral to them. The survey was online 2nd-15th of December in 2016 and there were 329 respondents. The survey was distributed through email lists and on social media by the employees of the project and project partners. It was further shared in online services by third parties. The survey had four parts: demographic information about the respondents, board gaming in general, the usage of electrical and digital elements and feedback on the survey. The data was a mix of qualitative and quantitative data. In this paper, we focus on the usages of electrical and digital elements in board games. The respondents were not expected to be board game hobbyists, rather the goal was to get responses from various kinds of players. All responses were handled anonymously. The data was analyzed using a mixed method approach. First, we conducted an affective diagram analysis for open questions to categorize them based on the experiences and the way the electronic or digital element was used with board games. The quantitative data was then used to further examine, for example, how the experiences of hobby gamers and non-hobby games differ, or how age affects the quality of the experiences.

The initial results of the study give a picture of divided attitudes toward the digitalization of board games among the respondents. To some, it offers new exciting ways to play board games, while others feel that board games should be free of electronic and digital technology. There seemed to be quite a lot of usability problems when technology was integrated as a part of the game design. The digital and electrical features were also considered more prone to obsolescence than purely physical board games. The traditional board games lasted life and use, whereas the ones with digital features did not. However, it seems that there are many emergent ways the respondents used digital technology to enhance their board gaming experience, although the technology was not an inherent part of the game. Some of these uses have not been implemented at least in any successful way in existing hybrid board game design. This implies that several possible avenues exist for board game designers to utilize digital elements in future designs. Further, the study gives valuable insights into the reasons users feel hybrid elements enhance or hinder their game experience.

Key Takeaways

- The hybrid element should be well designed part of the board game for it to give added value and not hindering the game experience.
- The electronic and digital elements do not last time as well as physical elements of the game. This should be given consideration in the design process.
- There are several emergent ways to use digital technology in connection with board games that could be used as guidelines for possible future innovations.

Aesthetics in Modern Board Games

Kankainen, V. (2017). Lautapelien estetiikka [original title]. Presentation at the Tracon 2017 Convention. Tampere, Finland.

The aesthetic pleasures of board games are many. An aesthetic experience is somewhere between emotions and the senses. In games, there are several aspects that affect the rise of an aesthetic experience. In addition to immediate feedback there is at least the feeling of anticipation, motivation and memories. The designer cannot design an element but a good design does have baits for the forming of an enjoyable aesthetic experience. The hybridization of board games brings new kinds of elements into the overall aesthetic experience of the player.

This presentation looks over the various types of aesthetic pleasure that modern board games offer. These include tangibility and the soundscape connected to it and how the expanded game experience offers aesthetic pleasure through anticipation. Other elements of aesthetic experience include the environment of play, collecting, memories, habits and traditions, usability and sociability. As aesthetic pleasure is an important part of the play experience, these should be considered when adding hybrid elements to board games. Hybridity can offer new forms of aesthetic pleasure through technologies such as AR/VR and digital audiovisuality in general. However, there is a danger that hybridity diminishes some of the original aesthetic values of board games. There are also products that mix the aesthetic experiences of digital games and board games.

Key Takeaways

- An aesthetic experience lies somewhere between the senses and emotions.
- The Aesthetic experience in games has many building blocks: instant feedback, the feeling of anticipation, motivation and memories.
- An aesthetic experience is an important part of the overall game experience.
- In board games, the tangibility and the play context act an important part in the formation of an aesthetic experience.
- Hybridity can add new kinds of baits for the formation of the aesthetic experience.

Meant to be a Classic – The History of a Board Game

Sihvonen, L. & Sivula, A. (2016). Klassikoksi rakennettu – Erään lautapelin historia [original title]. *Pelitutkimuksen vuosikirja 2016.* University of Tampere.
http://www.pelitutkimus.fi/vuosikirja2016/klassikoksi-rakennettu-eraan-lautapelin-historia

In this article, we interpreted how a board game company's internal and external use of history confirms the symbolic value of a classic game. The case study was the Finnish board game company Tactic Games Ltd and its first board game Kimble which was introduced in 1967. Lately, protecting and preserving game culture has been the theme in several studies and archive projects which concern game history. The motivation of the act of preserving games requires information regarding the objects, events and matters which are connected to the games' histories. The information has been collected from private archives and museums, yet the history of the game is usually passed on among those who design and make (digital) games. Scholars, such as Reunanen et al. (2013), have suggested turning the gaze to the game makers. Our research material was composed of five specialist interviews which were conducted in 2015. Our research question in this article was what kind of meanings the interviewees built for Kimble and how they did it.

We applied the historiographical analysis based on the concept of historiographical operations by Paul Ricouer. The past can be documented, understood and explained, or represented (Ricouer, 2000, p. 169). Historiographical analysis is used to reconstruct the traces of historiographical operations from the past. The analysis is usable for both oral and written histories, and this article is a theoretic-methodological pilot project of how historiographical analysis can be used for oral histories.

Companies use their histories to enhance their image and identity in external and internal use. The external use can be seen, for instance, in advertising and products. For internal communication, history is used to engage workers or to help the management with change. (Sivula, 2014, p. 44.) History can also be used as a basis for product re-releases. The product is either re-released as it is, or modified a little. (Sihvonen, 2014.) Quite often classics are re-released, and a classic is an indisputable example of a company's use of its external history.

We divided the company and Kimble's history into three different phases based on the interviews: the early times from 1967 to 1969, the low action phase from 1970 to 1999, and the storytelling phase from 2000 to 2015. The early times are reconstructed from the memories of the

members of family Heljakka who founded the company. This phase is filled with facts and nostalgia. In the low action phase, it seems that Kimble has established its place in the Finnish culture. There are private memories that are not a part of the general history of Kimble. Then, the storytelling phase begins from the introduction of themed Kimble versions such as Winnie the Pooh. The company also published a retro version, a monument, as a reminder of its roots. The history is told by several people.

As a result, Kimble is argued to be a classic or have features that are associated with a classic. The game is also a trace of the company's early history, a monument of those times. The use of history, in this case, is consciously done, strongly personified and explained through its founder. The phases in Kimble's history imply a rapid establishment of a classic product, at least from the company's perspective. The history is part of the product, although rarely told. The history has appeared in the product on its anniversaries. A classic can be sold without a reminder of its history every time. In the future, one interesting theme would be how these stories are adopted by the users, and whether it is possible to produce these kinds of products from scratch.

Key Takeaways

- History is used for both external and internal motives, to either advertise the product or to involve workers.
- Product re-releases are one way to remind of the company or product history, and establish the classic nature.
- The features that last time are argued by connecting the product to the past.
- It is possible that stories can be integrated and product re-releases planned far into the future.

The Pop-O-Matic Die Container and Durability – Some Permanent Features of Kimble

Sihvonen, L. (2017). Pop-o-matic-muovikupu ja kestävyys – Kimble-lautapelin pysyvien ominaisuuksien merkitys [original title]. *Ennen ja nyt - historian tietosanomat: pelit & historia (1). Agricola -Suomen historiaverkko, Historiallinen Yhdistys ry, Suomen Historiallinen Seura ry, Turun Historiallinen Yhdistys. Ry.*
http://www.ennenjanyt.net/2017/01/pop-o-matic-muovikupu-ja-kestavyys-kimbe-lautapelin-pysyvien-ominaisuuksien-merkitys/

This article focuses on two major permanent features of the Finnish board game Kimble: the Pop-o-matic die container and durability. Kimble consists of an 8-angled plastic game board with the Pop-o-matic in the middle. Each player has a set of four game pieces. Kimble has been published as original versions and themed versions. The original versions had been modified seven times by the year 2015. The modifications were mainly updates in the visual design, but also some material changes were made. Themed versions, such as Winnie the Pooh, started appearing in 2000. Meanwhile, the Pop-o-matic and the fact that Kimble is extremely durable have remained the most permanent features of this board game. This article discusses these two features in three different material stages: in use (play), resting, and in other uses (other than board game). The article asks what the meaning of the permanent features is and how the meaning changes in between the material stages. I argue that the features have a central role in the relationship between the user and the object in normal use, and also when the product is updated and modified.

The research material consists of 247 online inquiry responses received for the Kimble online inquiry in 2015. More precisely, the material is formed from the answers to four questions regarding the descriptions of the game, different uses, the reasons to discard the game, and memories of play. The article's theoretical background is based on the studies of material culture, and the three material stages are inspired by Tacchi's studies (1998; see also Miller, 1998) of radio and its presence when the radio is on or off. Material culture can, from one perspective, be seen as constantly changing and reproduced things, something, that is always interpreted in the present (Korkiakangas and others, 2008). Such is the case with Kimble's durability which stands against the current discussion of planned obsolescence. This article deals with the durability of the whole game or the durability of the Pop-o-matic. The game pieces are excluded. The Pop-o-matic die container creates a soundscape in normal use in homes and restaurants. It is pushed in order to roll the die, and the pushing causes the sound. The Pop-o-matic was associated either with

the sound or the pushing depending on the user and her/his identity and sensitivity. This was either indicated in memories or the names that were given to the Pop-o-matic. Some names referred to the pushing, others to the sound. Only a few implied a synaesthesia where both the sound and the touch were mixed. When resting, Kimble was completely silent even though especially the sound echoed in the memories. The durability, on the other hand, was seen as both a physical feature but also as a psychological one. Not only did Kimble withstand intensive use, even beating, it also lasted time compared to quizzes and such. The physical durability showed itself as the basis for something timeless that lasted in storage.

Some of the other uses of Kimble were reminiscent of normal play such as educational use (counting) and a drinking game. The game was also used as a decorative item, or a toy. This meant that, in some cases, even though the permanent features were present and most likely enabled some of the uses, the Pop-o-matic or durability were not in a major role. However, other uses indicated that some of the users might have developed a deeper relationship with Kimble. The permanent features seem to have a significant role in how the user relates to the product. If the user dislikes the feature, she might give the product away more easily. Those who experienced Kimble as durable were likely to use it and not discard it. The permanent features make the product recognisable and relatable even when the product is re-released and modified. The relation of the permanent features and modifications should be studied in the future.

Key Takeaways

- The relationship with the product is likely to be formed in normal use.
- The permanent features have a key role in forming the product relationship, making the product recognisable and relatable.
- The features can also provide a foundation for other uses of the product.

Re-releasing, Updating, and Planned Obsolescence

Sihvonen, L. (2016). Presentation at the Planned Obsolescence: Texts, Theory, Technology. Liége, Belgium.

This research focuses on cultural neo-production process, and the role of obsolescence in it. The cultural neo-production process is formed from the simultaneous use of both planned obsolescence and planned revivification. Planned obsolescence means that a product breaks, wears out, or is in some other way turned useless or unwanted on purpose long before it is supposed to be. In revivification, a product is re-introduced to the users after a pause that has lasted for some years or even decades. This idea of planned obsolescence and revivification together was introduced in 1979 by Fred Davis who suggested that revivification would be based on nostalgia (Davis, 1979). Together they form the product's life span causing an alternation between re-releases and resting phases where the product is out of the consumers' reach. There are products with life spans that resemble this but do not become entirely obsolete. Obsolescence is different: it can be adaptive, meaning that a product is voluntarily modified in order to improve it according to consumer feedback or before any legislation comes to pass, or forced, which means that external motives or pressure have an impact on the product design. There are several forms and concepts regarding planned obsolescence, which all seem to have a purpose. It is obvious that the form of the obsolescence alters depending on the product (type). The ones mentioned in this presentation have mainly concerned classics. In the cultural neo-production process, obsolescence has a role in the creation of classics. Classics do become old or even obsolete but the obsolescence is under control and purposefully made.

Key Takeaways

- Planned obsolescence means that a product breaks, wears out, or is in some other way turned useless or unwanted on purpose long before it is supposed to be.
- Different products require and represent different forms of obsolescence.
- Adaptive obsolescence means voluntarily made modifications.
- Forced obsolescence implies that external motives and pressure lead to product modifications.
- Classics do become old but their obsolescence is controlled.

Playability - A Game-Centric Definition

Paavilainen, J. (2017). In *Extended Abstracts Publication of the Annual Symposium on Computer-Human Interaction in Play*. ACM Press. https://dl.acm.org/citation.cfm?id=3131306

Playability is a vague and ambiguous term that is often used but seldom defined. Used by games researchers, industry practitioners, journalists, and players alike, the term has remained unclear due to different interpretations and definitions. This paper proposes a game-centric definition of playability that is based on a game's functionality, usability, and gameplay. We argue that playability should not cover aspects such as controllers, social contexts, or player experiences, as these are external factors in the form of hardware, situation, and the players. The proposed game-centric definition is based on the components which are designed into the game. This approach is simple yet elegant, practical in its nature, and applicable to all kinds of games – physical or digital. Good playability does not necessarily result in good player experience, while games with poor playability can be fun in the right circumstances.

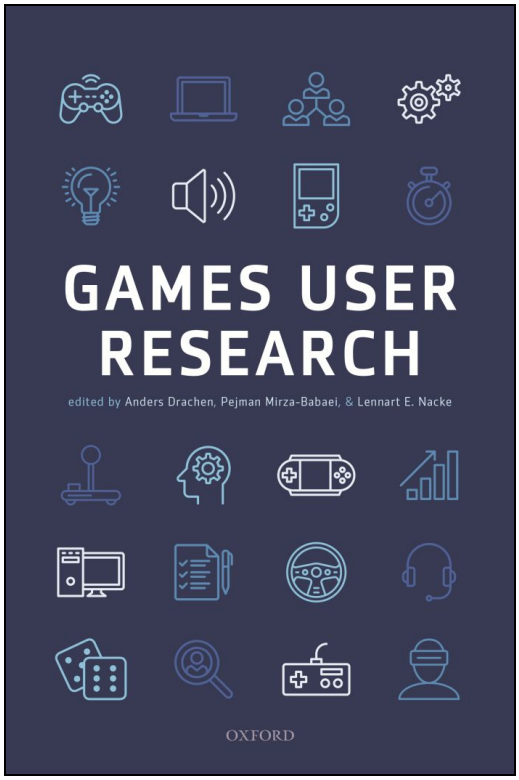
Hybrid social games provide an additional layer that is related to functionality, usability and gameplay. For example, if two different platforms are merged together, then it is imperative to consider both platforms separately and to look at he quality of the integration. The playability of integration is a key aspect to look for in a hybrid product or a service.

Key Takeaways

- Playability is based on a game's functionality, usability, and gameplay.
- Playability is focused on the game quality that has an effect on the player experience.
- For hybrid game design, it is important to identify the key playability aspects of different platforms - and support the integration between them.

Heuristic Evaluation of Playability: Examples from Social Games Research and Free-to-Play Heuristics

Paavilainen, J., Korhonen, H., Koskinen, E. & Alha, K. (2018). In A. Drachen et al. (Eds), *Games User Research*. Oxford University Press.
https://global.oup.com/academic/product/games-user-research-9780198794844?cc=fi&lang=en&



Modern game development calls for evaluation methods that are cost-effective and suitable for an agile environment. Heuristic evaluation is a quick & dirty method for discovering playability problems in games. Playability is the overall design quality of a game and heuristics are rule-of-thumb guidelines for good design quality. Poor playability can result in bad player experience, thus a player quitting the game. Good playability is important for free-to-play games as players can try and continue to play the game without a monetary commitment.

In this book chapter, we present the latest playability heuristics and present examples from the research done on social network games. We also propose six new heuristics for evaluating free-to-play games. The purpose of the chapter is to give practical tools for game developers and to provide design theory for scholars.

The procedure and the established heuristics are presented in the earlier Models, Methods, and Tools chapter in tables 7-10.

Key Takeaways

- Heuristic evaluation is a cost-effective method of identifying playability problems in any kinds of games.
- The established playability heuristics can be used to inspect hybrid games, as well, especially when accompanied by the design guidelines presented in this report.
- It is important to evaluate the design early and often during the development process.
- Heuristic evaluation does not replace the need for playtesting with actual users.

A Review of Social Features in Social Network Games

Paavilainen, J., Alha, K. & Korhonen, H. (2017). *Transactions of Digital Games Research Association, 3*(2). http://todigra.org/index.php/todigra/article/view/71

Although social network games on Facebook have become popular, their actual sociability has been questioned. In this paper, we review the social features of 16 social games and, as a result, present a list of 30 social features in three categories: presence, communication, and interaction. A common set of features, which was found in all of the examined games, is mainly focused on the presence and communication aspects, while neglecting player interaction. In addition, social features are primarily used for acquisition and retention purposes, rather than monetization. These findings are useful for the study and design of social features in social games and in other games with social network integration.

From the perspective of Hybrid Social Play, these findings become relevant when considering integrating social media features in a game. The article notes that the seven most common social features were:

1. PRE5: Off-game sociability
2. PRE6: Presence information
3. PRE7: Scorekeeping
4. PRE8: Social user-interface element
5. COM3: Facebook post to own and news feed
6. COM4: Facebook notification
7. COM5: Invite request

These seven social features could be considered as “must haves” in a game that integrates into a social network such as Facebook. The following pages feature all the social features with their descriptions.

Key Takeaways

- 30 unique social features were identified in social games.
- The seven most common features are related to presence and communication.
- The identified social features can be used as design inspiration for hybrid social games.
- Many of the features are related to the social media sharing opportunities.

Code	Social Feature	Description
PRE1	Activity information	The game informs the player about friends' actions in the game world.
PRE2	Community challenge	Community tournaments and other organized events in the game, which are accessible to the player.
PRE3	Automatic friend bonus	Automatic gameplay bonus based on the number of friends playing the game.
PRE4	Friend requirements	The player cannot complete a gameplay task without requesting her friend to do an action.
PRE5	Off-game sociability	In-game links to off-game social spaces such as discussion forums, wikis and Facebook fan pages.
PRE6	Presence information	The player receives information about the presence of other players in the game.
PRE7	Scorekeeping	Ranking and scorekeeping information, where the player can compare her status against others.
PRE8	Social user-interface element	Graphical user-interface elements, which have a social reference, such as player portraits, links, pop-up dialogs, etc.
PRE9	Visit game space	The player can visit a friend's game space.
PRE10	Community progress indicator	An indicator representing the community progress on a gameplay task.
PRE11	Relocate game space	Relocation of the player's own game space in the game world, to play in closer proximity with friends.
COM1	Asynchronous communication	An ability to communicate with others via asynchronous means (e.g. an in-game message system, a discussion board, or sign posts in the game space).
COM2	Facebook wall post to a friend	Sending a wall post to a friend's Facebook wall from the game.
COM3	Facebook wall post to one's own wall and the news feed	Posting a message from the game on a player's own Facebook wall and the news feed.
COM4	Facebook notification	In-game activity that is presented as a Facebook notification to other players.
COM5	Invite request	Sending a request to a friend to join the game (also asking a friend to become a neighbor in some games).
COM6	Rematch/Replay	Requesting a rematch or a replay from another player.
COM7	Request activity	Requesting an in-game gameplay action from a friend.
COM8	Request items	Requesting an item from a friend. Commonly known as a gift request.
COM9	Synchronous communication	An ability to communicate with others via synchronous means (e.g. chat).

Table 14. List of social presence and communication features in social games.

Code	Social Feature	Description
INT1	Competitive action	Player vs. player gameplay action.
INT2	Facebook click post reward	Clicking a Facebook game post leads to an in-game reward.
INT3	Interaction reward	Interacting in a friend's game space leads to an in-game reward.
INT4	Receive items	Receiving items sent by friends. Commonly known as accepting gifts.
INT5	Remove friend	Removing a friend from in-game contacts/neighbors.
INT6	Send finite items	Sending an item to a friend. The sending player loses that item from her inventory.
INT7	Send in-app purchase items	Buying an item with premium currency in the game and sending the item to a friend.
INT8	Send infinite items	Sending an infinite item to a friend. Infinite items are free for the player and can be sent on a daily basis.
INT9	Synchronous interaction	Interacting simultaneously with a friend in the same game space.
INT10	Team formation	Forming a team or an alliance through in-game actions.

Table 15. List of social interaction features in social games.

Why Do Players Misuse Emotes in Hearthstone? Negotiating the Use of Communicative Affordances in an Online Multiplayer Game

Arjoranta, J. & Siitonen, M. (Forthcoming). *Game studies*.

The game designers of *Hearthstone* have attempted to limit what they see as negative interaction by forcibly limiting player-to-player social interaction. Instead of free chat, the players are limited to a number of emotes.

Based on an analysis of forum discussions on the largest *Hearthstone* forum Hearthpwn, this empirical study of 76 discussion threads (more than 300 000 words) illustrates how players utilise Hearthstone's restricted communication affordances for negative and insulting purposes, and how the players negotiate about this type of interaction in the communication spaces surrounding the game itself. The focus of research is on what the players call "BM" or "Bad Manners", seen as impolite or inappropriate behavior.

Players use the limited number of emotes in ways that other players interpret as insulting despite the designers' best efforts to make sure that it is not possible. For example, the "Well played"-emote is supposed to compliment the opponent on their good plays, but it can also be used ironically to mock the mistakes an opponent makes.

The continuous debate over an issue which ultimately cannot be solved shows that players care deeply about the game and the surrounding culture. They are willing to negotiate the limits of appropriate behaviour on the forums for long periods of time, even if the community has no way to enforce any shared agreement.

This study contributes to our understanding of player-to-player communication, and offers insight into game design from a social interaction point-of-view.

Key takeaways

- There is no way to eliminate inappropriate communication from a game while retaining any interaction between the players.
- Even minor communication affordances can be misused.
- When players cannot negotiate meanings within the game, they take these discussions elsewhere.

The Pokémon GO Experience: A Location-Based Augmented Reality Mobile Game Goes Mainstream

Paavilainen, J., Korhonen, H., Alha, K., Stenros, J., Koskinen, E. & Mäyrä, F. (2017). In *Proceedings of the 2017 Conference on Human Factors in Computing Systems*. ACM. https://dl.acm.org/citation.cfm?id=3025871

Pokémon GO is a location-based augmented reality mobile game based on the Pokémon franchise. After the game was launched globally in July 2016, it quickly became the most successful mobile game in both popularity and revenue generation at the time, and the first location-based augmented reality game to reach a mainstream status.

We explored the game experiences through a qualitative survey (n=1000) in Finland focusing on the positive and the negative aspects of Pokémon GO as told by the players.

"A few of my friends are playing too and we talk about new findings and level-ups and other advancements in WhatsApp. It is nice to share. On Facebook there are lots of groups too, sharing tips and sympathizing if a nice Pokémon escapes. It is a surprisingly social game."
(Female, 31, ID 692, Sociability)

"This is probably the closest to accomplishing my childhood dream – to become a Pokémon master."
(Female, 23, ID 422, Brand)

The positive experiences were related to movement, sociability, brand and game mechanics. Whether it be strolling around, walking a dog or exercising, the element of moving in the real world was an essential part of the game experience. The social interaction that comes along with the game was also seen to be important. This can be, for example, playing together with family and friends, meeting new people and participating in online communities. The globally well-know brand was also meaningful: for older players it brings nostalgia while younger ones might be on the brink of becoming fans of the franchise. In addition, the hunting mechanics (searching, locating, capturing and collecting Pokémon) were considered fun. Other mechanics such as progression, achievements, hatching and evolving Pokémon were also mentioned. The game was seen as easy to pick up and supporting various play styles, providing spontaneous and casual gaming opportunities while also allowing for more dedicated play.

The negative experiences emerged from technical problems, unequal gaming opportunities, the bad behavior of other players and non-players, and the unpolished game design. Lag spikes, crashes, unresponsive servers, login problems, GPS inaccuracies and other bugs caused frustration as well as the battery draining out quickly and the game not recording the walked distances properly. Rural areas feature fewer Pokémon, PokéStops and Gyms than city centers, and this made the game play stagnant and progression slow. Cheating, GPS spoofing (playing remotely) and Gym stealing (claiming a Gym spot someone else has

"Everyone doesn't have the possibility to hang out in [a local park] every day. It is stupid that there are PokéStops mostly only in cities. In the countryside you can only hatch eggs. Unfair."
(Female, 22, ID 769, Unequal gaming opportunities)

opened) players were disliked, as well as littering ones. There has been incidents of threats of physical violence towards players and some non-players have condescending attitudes towards *Pokémon GO* players. The unpolished game design, the game being too simple and missing relevant features caused frustration, and the battle system and the sighting mechanics (for tracking Pokémon) were considered to be poorly executed. Catching the same common Pokémon all the time felt boring and the escaping Pokémon were frustrating.

Interestingly, the augmented reality features, safety issues or the free-to-play revenue model did not receive considerable feedback.

The findings are useful to academics and industry practitioners for studying and designing location-based augmented reality game experiences.

Key Takeaways

- The positive experiences are related to movement, sociability, brand, and the game mechanics.
- The negative experiences emerge from technical problems, unequal gaming opportunities, the bad behavior of other players and non-players, and the unpolished game design.
- The augmented reality features, safety issues or the the free-to-play revenue model did not receive considerable critical feedback.

Why Do People Play Location-Based Augmented Reality Games: A Study on Pokémon GO

Alha, K., Koskinen, E., Paavilainen, J. & Hamari, J. *Unpublished manuscript*.

"I have been a friend of Pokémon since the TV series originally begun. Pokémon Go and the 150 first Pokémon brought back the nostalgy."
(ID 131, Starting , Previous experiences)

"The game can get even the lazy to go outside, that is why I started."
(ID 62, Starting, Positivity)

"Gotta catch them all! This is a true ideal game for a collector, and I don't intend to stop until I've got every Pokémon's all forms."
(ID 53, Continuing, Advancing)

In this paper, we explore the reasons to start, continue, and quit playing Pokémon GO through a qualitative survey (n=2612).

Previous experiences of Pokémon or the fandom for similar types of games or hobbies was the most frequently brought up reason to start playing the game. Almost a third of the respondents reported more abstract feelings of **interest** as a cause to acquire the game. **The influence of others**, including children, relatives, partner, or friends, was seen as a strong motivation to start playing, as did the huge **popularity** of the game. In addition, the **positive** characteristics and the potential effects, the novel **technology**, the **situation, keeping up** with the times, **social features**, game **mechanics** and the **nature of the game** motivated the respondents to start playing the game.

Advancing was the biggest motivation to keep on playing, especially wanting to catch all the Pokémon. The **situation,** mainly a player wanting "something to do" while, for instance, walking the dog or going to the store, was mentioned as a reason to continue playing. The **positive aspects** of playing, like exercising and being outdoors, continued to be significant reasons to continue playing. The game **mechanics,** especially collecting, played an important role in continuing playing. In addition, **social features, the influence of others**, **interest**, **expectations**, the **nature of the game**, **previous experiences**, **keeping up** and the **technology** were mentioned as reasons to continue playing.

The current **situation** outside of the game, for example lack of time, was the most frequently reported reason to stop playing. Slow or difficult **advancement** was a strong reason to quit the game. Various **problems** in the game encouraged players to quit playing due to, for example, the game simply not working. Furthermore, the **shortcomings** of the game, the game **mechanics**, the **nature of the game**, **changes**, **the company** behind the game and the **influence of others** were also mentioned as reasons to quit the game.

"I don't have time to go and sit in the park or walk somewhere just after Pokémon."
(ID 78, Quitting, Situation)

"It is not nice to play the game in a vacuum. When other players' enthusiasm faded, so did my own enthusiasm towards the game."
(ID 526, Quitting, Influence of others)

In addition to shedding more light on the Pokémon GO phenomenon, the findings are useful for both further studying and designing location-based augmented reality game experiences.

Key Takeaways

- Earlier experiences, especially with the same brand, the influence of other people, popularity and general interest were the most common reasons to start the game.
- Advancing in the game, especially trying to catch all the Pokémon, was the most reported reason to continue playing.
- Positivity related to movement and exercise was mentioned as a reason to start and continue.
- The current situation outside of the game was the most often mentioned reason to quit the game.

Behavior Change Types with Pokémon GO

Kari, T., Arjoranta, J. & Salo, M. (2017). In *Proceedings of the 12th International Conference on the Foundations of Digital Games*. ACM. https://dl.acm.org/citation.cfm?id=3102071.3102074

> "*-- I love that I can walk around the city, and immediately see other people playing the game, other people enjoying the outdoors and getting some exercise, while making new friends. -- I always regarded the Pokemon shows with some cynicism; everyone was so cheesy and positive and made friends so quickly, based on nothing but their love for pokemon. But now that Pokemon go is released, that really has become the reality. People who have never met before, from opposite background, that might have walked down the street without ever giving each other the time of day, can now meet, befriend each other, purely based on their love for Pokemon*" (Participant 11)

In this paper, we investigated what types of behavior changes Pokémon GO has promoted or induced among its players. The study was based on an online survey sample of 262 Pokémon GO players (mean age 28.5), collected using the critical incident technique and analyzed using qualitative methods. Most experiences (69.8%) took place while playing with others.

The analysis showed that the behavior changes induced by Pokémon GO are not only restricted to increased physical activity or social behavior but are more multifaceted: players were more social, found their routines more meaningful, expressed more positive emotions, and were more motivated to explore their surroundings.

Key Takeaways

- We identified eight types of behavior changes: added activity in life, enhancing routines, exploration, increased physical activity, strengthening social bonds, lowering social barriers, increased emotional expression, and self-treatment.
- 43.1% played to combine fun and exercise; 54.6% played just for fun.
- Pokémon GO players became more social, found their routines more meaningful, expressed more positive emotions, and were more motivated to explore their surroundings.

Pokémon GO: Entering the Ludic Society.

Mäyrä, F. (2017). *Mobile Media & Communications, (5)*1. SAGE.
http://journals.sagepub.com/doi/abs/10.1177/2050157916678270?journalCode=mmca

This essay discusses the significance of Pokémon GO within the framework of ludification in culture and the society. Ludification is a useful, though somewhat ambiguous concept that relates to play and playful elements emerging in different areas of culture and the society. Whereas gamification is focused on the application of game-like elements to non-entertainment applications, the focus of ludification is on the spread of play as a practice, playfulness as an attitude and the supposedly growing role of playful designs in our everyday reality. Even while digital games are played by millions, game cultures have remained in the margins of public life, to a certain degree. Pokémon GO is a part of a new wave of phenomena that are about to change that situation. As a location-based game, it encourages people to play digital games out in the open, visiting public spaces in order to make use of their PokeStops, or to openly engage in Pokémon gym battles in the city streets and squares.

Key Takeaways

- Multiple games have had the technical features of Pokémon GO before it, without comparable success.
- Popularity relates to maturation and ‘critical mass’ in portable technologies, fast networks, but most importantly in ludic mindsets.
- People are now more tolerant also toward adult play, as the norms, values and experiences of new generations point toward an evolving “Ludic Society” and pervasive playful cultures.

Transmedial Playthings: Games, Toys and Playful Engagement in Storyworlds

Mäyrä, F. & Tyni, H. (forthcoming). In S. Coelsch-Foisner & C. Herzog (Eds.), *Transmedialisierung: Wissenschaft und Kunst. Kulturelle Dynamiken*. Universitätsverlag Winter.

In this chapter, we have argued that while it is important to understand transmediality through the design and operations of multiple commercially available playthings, such as toys, movies, comics or novels, it is even more important to recognize the key role of creative energy and curiosity that stimulates the boundary-crossing practices that link them together. While characters or the milieu, for example, can be shared between games, fictional texts and toy products, the native modes of expression, and the available interaction modalities differ between them. Play and playfulness are among the key elements for understanding how such interactions are organised within transmedial contexts. It is important to detect and analyse the product and publication strategies that exploit the cross-promotion strategies in transmedial storyworlds. However, the multi-layered texts or products do not magically come alive all by themselves. For those performances to happen, there need to be users – readers, game players, toy users – who have the necessary transmedial literacy and playful attitude, so that they are motivated to activate and instill these potential linkages with true, creative and imaginative energy of their own. The analytical tools and theories for understanding transmedial storyworlds are still in a rather early stage, but our work suggests that it is important to focus on describing and defining the operation of transmedial playthings. Then both the connections and the dissonances in transmedial contents, as well as in the playful practices of design and appropriation, can be taken into consideration.

Key Takeaways

- Engaging the storyworld is important for a successful cross-media strategy.
- It is important to know the audience, and their ludic literacy, before launching playful products.

Digitalization of Children's Literature: Playfulness and Gamefulness in Children's Literature Apps

Koskimaa, R. & Lahdenperä, L. (2017). Lastenkirjallisuuden digitalisoituminen: leikillisyys ja pelillisyys lastenkirjasovelluksissa [original title]. *AVAIN-Kirjallisuudentutkimuksen aikakauslehti*, (3), 74-93. Kirjallisuudentutkijain Seura. https://jyx.jyu.fi/dspace/handle/123456789/56695

In our article, we look at children's digital literature, emphasizing aspects of *play*, *game* and *materiality*. It is worth noting how many functionalities in digital literature for adults, considered as novelties not present in print literature, have actually been employed in children's literature (pop-up books, books with audio-extensions, etc.) for a long time. During the past decade, especially tablet devices have been employed as platforms for children's digital literature, which takes advantage of their touch screens, audio-visual capabilities and computing power. These literary apps, as well as various augmented books (physical book + an app), follow many of the traditional traits of children's literature, but also provide new solutions rarely used in adult literature.

We provide an analysis of three literary apps and two augmented books, one of them being a duvet cover accompanied by a digital app. The analyzed works are listed in the table below as well as their elements of play, game and materiality. With play we refer to the way the reader can use the book's affordances in a playful manner. The game-like aspects, on the other hand, mean completing tasks within set rules. Furthermore, with materiality we refer to the materiality of the device and the book as well as how the physicality of the user is incorporated into the reading act. Our key references include Laura Borras' (2015) study of digital reading and Ayoe Quist Henkel's (2016) article on the materiality of children's literature apps.

Our analysis is useful in revealing some of the common traits in children's electronic literature. All of the analyzed works have playful characteristics but only three of them have game-like elements, such as competition and completing tasks. Many of them encourage replay by, for example, varying the outcomes of the activities. The materiality of the reading process is pronounced in how (with the augmented books) the reader needs to use both the physical book and the device as well as how the applications require physical actions from the reader such as moving and shouting. Visually, the analyzed works resemble children's picture books, with the exception of *The Little Mermaid* the visual style of which is borrowed from digital games. The audio of the analyzed works, on the other hand, is closer to animation films than games. As a topic for future study, it

would be interesting to find out how these applications impact children's later reading habits and expectations.

Key Takeaways

- Playfulness is found in all of the analyzed works but only three of them have game-like elements.
- Children's digital books often encourage replay.
- Children's digital literature often takes advantage of the physicality of the user.

Works	Play	Game	Materiality
The Book about Moomin, Mymble and Little My (Kuinkas sitten kävikään?) (2012). Literary app. Jansson, Tove/Spinfy (2012). Helsinki: WSOY	- Shaking the apple tree, moving the rocks - Coloring activity - Searching for and activating animations - Drama of the turning page		- Moving the device and touching the screen
Taro at the Center of the Earth (Taro maan ytimessä) (2011). Literary app. Parvela, Timo & Kaakinen, Jussi / mobilive. Helsinki: WSOY.	- Searching for and activating animations - The reader moves in the story space horizontally and vertically - Timed action sequences - Changing the order of the panels		- Touching the screen
Wuwu & Co (2014). Literary app. Helle, Merete Pryds, Slocinska, Kamilla, Garbos, Tim & Køie, Aksel . Copenhagen: Touchbooks.	- Repeating the wakeup call	- The story does not advance without the reader completing the tasks	- Moving the device and shouting into the mic - Touching the screen - The reader has to move - Fine motor skills
The Little Mermaid (2015). Augmented book Andersen, Hans Christian . Copenhagen: Books & Magic.	- The pictures come to life when scanned with a mobile device	- Minigames - Competing - Encourages to replay in order to collect more points	- A physical book and using it with the device - Moving the device - Fine motor skills
Enchanted Duvet/SpinTales (2016). Augmented duvet. New York & Mumbai: TiltTextiles.	- The pictures come to life when scanned - Magic beans grow when tapped - Coloring activity and photographing it	- Completing tasks - Encourages to replay by varying the outcomes of the activities	- A duvet cover and a pillowcase and using them with the device - Blowing into the mic, touching the screen, moving the device - The reader has to move

Table 11. The playfulness, game-like elements and materiality in children's electronic literature.

Let's Get Phygital! Combining Physical and Digital Platforms for a Unified Storytelling Experience

Lahdenperä, L. *Unpublished manuscript*.

Despite the growing importance of physical-digital books, previous research has mostly overlooked them, and mainly concentrated on either digital or physical books. Furthermore, the little research there is on the topic, only discusses novels that are augmented with websites, when, in actuality, the field of physical-digital books is much more diverse. My contribution to this discussion is to map out the phygital storytelling phenomenon by creating a comprehensive typology of all the different combinations of physical and digital in books. In order to do that, I will first situate the digital-physical book in the context of previous research and theories.

I will be building on the research of Fjellestad (2016) on web-augmented novels and Dena's (2010) research of transmedia fiction, as well as Tyni et al. (2013) article Dimensions of hybrid in playful products. I aim to create categories of the different combinations of physical-digital books by analyzing individual examples. The works analyzed are:

- Cathy trilogy (2006–2010) by Stewart & Weisman. Philadelphia: Running Press.
- Level 26 (2009–2011) by Zuiker & Swierczynski. New York: Dutton.
- Roadside Crosses (2009) by Deaver. New York: Pocket Books
- Night Film (2013) by Pessl. New York: Random House.
- The 39 Clues (2008–) New York: Scholastic.
- The Little Mermaid (2015) by Andersen. Copenhagen: Books & Magic.
- Enchanted Duvet/SpinTales (2016). India: TiltTextiles.
- Skeleton Creek (2009–2014) by Carman. New York: Scholastic.
- Modern Polaxis (2015) by Sutu.
- The Ice-Bound Compendium (2015) by Garbe & Reed. Simulacrum Liberation Press.

Phygital fiction is here defined as a single transmedia story composition that expresses its fictional world through at least one physical platform (often a book but does not need to be limited to that) and at least one digital platform. It is important that the content of both

the physical and the digital platform(s) is not independent (it can be independent on one of the platforms), because then it is no longer a single composition but several compositions. There are three different ways in which the digital and the physical are combined in the case books:

1. The content on both platforms is independent but one of the platforms needs the other to function. For example, an augmented reality application on a tablet needs a physical book to scan in order to work.

2. The content in one of them is independent and the other has an ancillary role. For example, a novel in a physical book is readable alone but the accompanying website makes no sense without the novel.

3. The content in both of them depends on the other. For example, the story is complete only when the reader reads both the physical book and watches the online videos.

The digital platform is either an application or one or several websites and/or phone numbers and email. The digital content is presented in the form of fictional websites, videos (animated or live action), audio recordings, text, photos, pictures, games (augmented reality and regular) and different combinations of these as activated by augmented reality applications. The physical component is most typically in the form of a codex but it can also be another artifact such as a duvet cover. In addition, there can be supplementary artifacts packaged with the main physical component, such as cards and various documents. The main story content is, in most of the cases, either in the codex or divided equally between the codex and the digital, but there are two exceptions to this. In Ice-Bound Compendium, the story content is in the interactive game application and in Enchanted Duvet the story content is in the form of semi-interactive fairy tales in the accompanying application.

The physical platform is most often in the main role and the digital in the supporting role, but the roles are reversed in a few cases and, in some instances, the digital and the physical are equally dependent on each other. Furthermore, I argue that the value the digital brings to the mix can often be bigger than its actual volume and role in the reading process. By this I refer to how the digital is emphasized in the marketing of these books and also why people read them. Phygital books

are also often marketed as being beneficial to children's literacy.

The practical implication of my analysis is to underline how the digital does not need to be only a gimmick that comes with a book but it can be an integral part of the experience, with even literacy improving benefits. In addition, the physical platform does not need to be a book, but can be an object designed to be used, such as a duvet cover.

Key Takeaways

- There are (currently) three ways to combine digital elements with physical books: 1) the contents are independent and integrated only on the level of their platforms, 2) either the digital or the physical content is in an ancillary role, or 3) the content in both depends on the other.
- The digital is often in an ancillary role, but there are cases where the roles are reversed.
- The digital platform is either an application or one or several websites and/or phone numbers and email. The physical platform is a codex or (in one case) a duvet cover.
- The value of the digital for the reading experience and in the marketing is often bigger than its actual volume.
- Phygital books are often marketed as being beneficial to children's literacy.

Independence	Platform-tied	Augmented	True hybrid
Platform	Either both the digital and the physical platforms depend on each other or one of them does.	Both platforms can be independent, or one can depend on the other.	Both platforms depend on each other.
Content	The content in both of them is self-sufficient but is set in the same fictional world.	The content in one of the platforms is not self-sufficient.	The content in neither of them is self-sufficient.

Table 12. Combinations of the digital and the physical in books.

Fan Works as Transmedia Expansions: The Case of “Battlestar Galactica”

Koistinen, A.-K., Koskimaa, R. & Välisalo, T. (2016). Presentation at the Expanding Universes: Exploring Transmedial & Transfictional Ways of World-building Conference. Krakow, Poland.

Battlestar Galactica (BSG, 2004–2009) is an example of a TV series acting as the center of a vast transmedia universe comprising of novels, comics, games, collectibles, webisodes, films, and spin-off television series. As Henry Jenkins has noted, transmedia narratives provide gaps and excesses that invite fans to create their own expansions. Suzanne Scott has noted problems in the relations between official transmedia productions and fandom. She argues that as different transmedia productions are created by the official producers to fill the narrative gaps, the fans may find it hard to create fan fiction if they wish their fiction to fit into the official series canon. When transmedia products are published between seasons there is less and less time for fan works to be created and consumed before they are possibly invalidated by the official products. We examine how the official BSG universe has transformed to unauthorized fan-created transmedia expansions. We analyze selected fan works, such as fan fiction, fan videos, and games, in the framework of studies of transmedia. How have fan works expanded the world of the re-imagined BSG? Are there certain themes that emerge from the fan fiction? Do fan works tend to go against or seek to fit into the canonical, official world of the series? We investigate how fan-created content is affected by the official transmedia expansions of BSG by comparing the implicit consumer positions, as defined by Carlos Scolari, and thematic expansions that we have identified in the transmedia universe of BSG with the aforementioned fan works. The analysis is informed by fan studies and our previous work on developing the concept of a “transmedia universe”.

Key Takeaways

- There is a variety of both affirmational (adhering to the official franchise) and transformational (subversing the official franchise) fan works.
- Fan works and official expansions are partly created using similar strategies.
- Together, official expansions and fan productions lead to greater heterogeneity of the transmedia universe than acknowledged by previous research.

Hybrid Social Play: Implications for Gambling

Kinnunen, J. (2017). Presentation in SNSUS (Stiftelsen Nordiska Sällskapet för Upplysning om Spelberoende) Conference, Odense, Denmark.

The gaming industry creates innovations constantly. Online gambling has plenty of similarities with recent digital gaming and, for example, many of the most popular free-to-play games are simulations of traditional gambling games, such as slot machines, roulette and card games. These so-called social casino games have been one of the most profitable game genres in the recent years.

The latest trend in the gaming industry has been the creation of hybrid games. In the gambling industry, the term hybrid gambling is often used to refer to games which combine the elements of chance and skill in digital platforms. If the players play against each other, the more skillful players can have an advantage against the other players. Even if these new hybrid gambling games have many similarities with digital and/or arcade gaming, the chance element is still more influential than the skill element in the determination process of these games.

Hybrid social gaming is a more versatile concept than hybrid gambling. Hybrid social games combine the digital and the physical elements and internet connection into a single product. For example, a board game can be connected to a smartphone application. By using the smartphone app, board gaming can include elements of augmented reality; playing can continue off the actual board in other online and offline environments. Players also have more extensive possibilities for social interaction than in traditional board gaming. In this sense, playing crosses previous boundaries, as did online gambling in its early days.

Technologically, it would be easy to add hybrid elements also to gambling games. Same or similar hybrid elements from board games could be implemented to table casino games, such as Blackjack or any card games. Hybrid elements could link brick-and-mortar gambling to online gambling and extend the possibilities for social interaction. Any physical game can work as a foundation for hybrid social elements. For example, there are already hybrid scratch cards available in some jurisdictions. By using a mobile app, a physical scratch card can be augmented to online gaming environments.

New technologies will evidently become a part of gambling too. If hybrid social games and play gains popularity in digital gaming, the gambling industry will utilize similar elements in gambling games in ways that are approved by the gambling regulators. The development of new hybrid social gambling is therefore not dependent only on technological innovations, but also on larger societal trends and regulations concerning leisure time, entertainment, digital gaming and gambling.

Key Takeaways

- Hybrid gambling has been used to mean gambling games which combine the elements of chance and skill.
- Hybrid social gaming and play is a more versatile concept than hybrid gambling.
- The same and similar elements from board gaming can be technologically implemented to table casino games.
- Hybrid social gambling games, such as augmented scratch cards, are already available
- The increase of hybrid social gambling is not only dependent on technological innovations, but also on societal regulations.

New Chinese Gambling Cultures and Social Networks

Kinnunen, J. (2017). In *Extended Abstracts of Chinese DiGRA 2017* Conference. Digital Games Research Association. Extended abstract in Chinese Digra 2017.

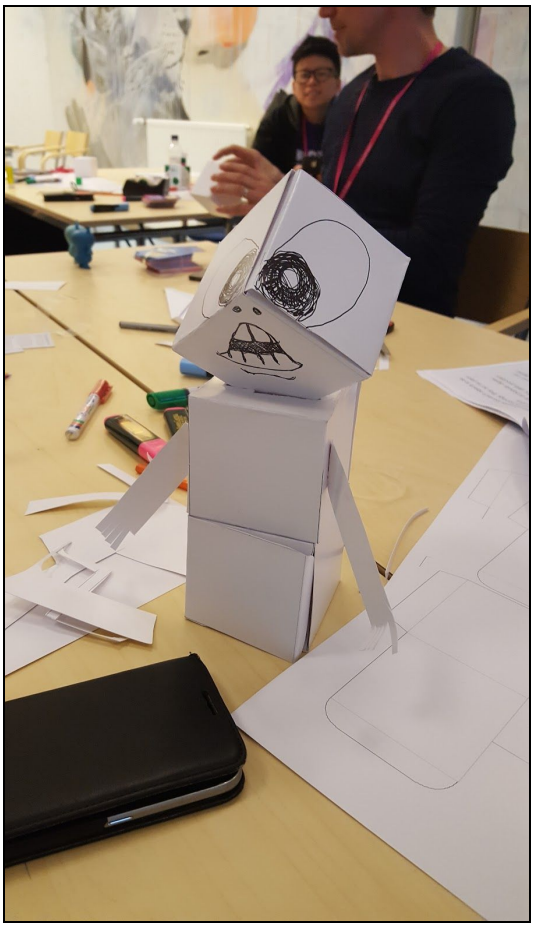
Free-to-play social games, which have similar characteristics to real casino games, are often referred to as social casino games. Similarly to other free-to-play games, starting to play social casino games is free, but the game design urges players to consume money while playing. In this sense, playing social casino games has similarities to gambling, which cannot continue without the constant usage of money. However, players are not betting real money on social casino games and they cannot win real money from them. The rewards can be, for example, virtual items, points or social capital, which nevertheless can be meaningful for the players' experiences of gaming. The experiences of playing social casino games and real casino games can also be similar because the structural characteristics are similar in both game types, even if they are often reversed. Both social casino games and new slot machine games are digital, but they differ from each other on how they are connected with the players' social networks. While slot machine gambling is legally available in China only in Macao, free-to-play games have become very popular and profitable activities also in Mainland China. Many popular free-to-play games are digital versions of traditional Chinese board and card games, which are often played casually with small monetary bets between friends. Digital free-to-play versions often involve similar social interaction to traditional forms of playing. Players can play with other players, against each other and game related social interaction is also enabled outside of the actual playing, for example, on social networking sites. The threshold to start to play these kinds of games is low, because the players are already familiar with the non-digital or offline versions of these games. Slot machine gambling does not have the same advantage, because cultural traditions and societal regulations are very different compared to free-to-play gaming. In the West and especially in Las Vegas, slot machine gambling has been the most popular and the most profitable form of gambling. In Macao, table games, which are played with friends or other players, have so far been much more important. However, things are changing also in Macao. New digital slot machine games have more in common with mobile social casino games than old mechanical slot machines. Players who are familiar with digital games have started to play new digital forms of gambling also in Macao. In this way, gambling in Macao complies with the global trends in digital gaming.

Key Takeaways

- Casino gambling is illegal in China outside Macao
- Casino-like free-to-play games are very popular also in Mainland China
- Free-to-play social casino games have many similarities with "real" gambling
- Mobile gamer generation's attitude towards new digital slot machines is more positive than previously

Workshop on the Internet of Toys – Character Toys with Digital Dimensions and Connections

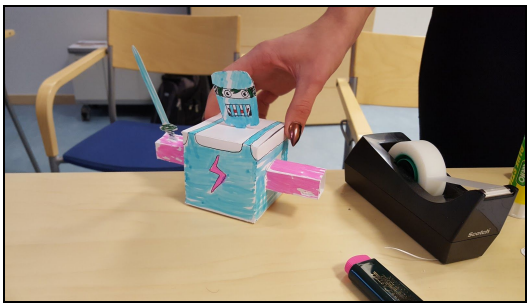
Ihamäki, P. & Heljakka, K. (2017). In *Proceedings of the 21st International Academic Mindtrek Conference*. ACM. https://dl.acm.org/citation.cfm?id=3131085.3131114



Figures. Workshop in Academic MindTrek 2017 conference in Tampere, Finland.

The Internet of Toys - Character Toys with Digital Dimensions and Connections workshop aims to use the Comicubes service design method and prototyping tool to envision internet connected toys with the workshop participants. This workshop caters for the early stage of the service design process to create product and service ideas for the Internet of Toys by using the concept of character toys prototyped with cardboard cubes.

The Internet of Toys workshop idea is to use the Comicubes service design method and ideation tool to create three-dimensional, character-like shapes and forms of prototypes for the Internet of Toys - i.e. toy characters with a digital twist and connection. The goal of the workshop is to co-create prototypical ideas for hybrid and connected toys in teams, which will take the form of character toys with digital content and connection to the Internet. We will use the simple, three-dimensional ideation platform that the Comicubes ideation tool provides, i.e. blank cardboard cubes, crayons, glue, blank playing cards, some inspirational visual materials from toy magazines, and scissors. We will record the workshop, which will be employed later as research material to continue our study on the Internet of Toys - Character toys with digital dimensions and a connection to the Internet of Toys, e.g. apps, websites and social media services. Our aim is to continue this research and build a conceptual framework for understanding the multitude of dimensions (already designed affordances and possible design-features of the future) that the Internet of Toys may provide to children of ages 3 to 10 years old through character toys. The target audience for character toys represents children of this age, who, as digital natives, are connected to the Internet from an early age.



Figures. Detailed Comicubes avatars.

"This workshop caters for the early stage of the service design process to create product and service ideas for the Internet of Toys by using the concept of character toys prototyped with cardboard cubes."

In this workshop, we invite creative thinkers from various academic disciplines and industry professionals to join in a creative dialogue to discuss and to generate ideas for future toys which may connect to other toys, other players, and possibly other objects digitally within the physical realm.

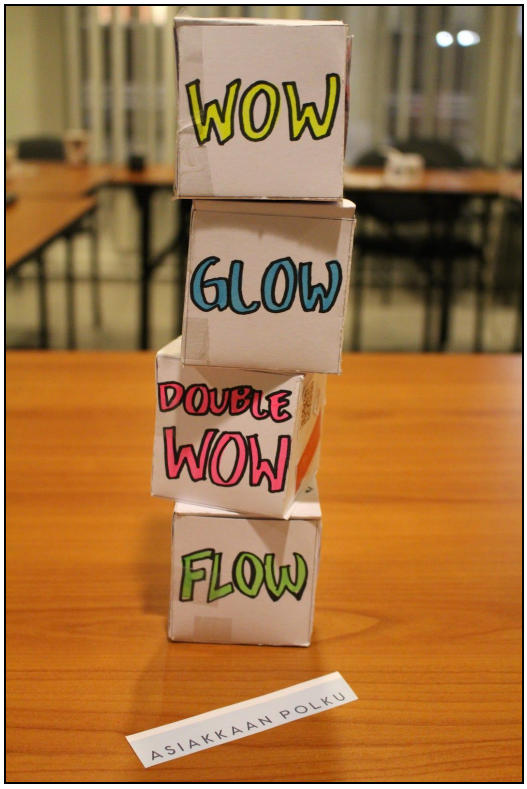
Workshop participants may apply the Comicubes method and tool for the creation of character toy personalities, storytelling and solution prototyping in combination with role-play to engage with the ideas and advance the envisioned design through prototyping. The workshop will take 3 hours (20 minutes for presenting the Internet of Toys workshop idea, schedule and giving of instructions, 10 minutes for participants organizing themselves into groups, 60 minutes for brainstorming and Comicubes prototyping, 1 hour for the groups to present their works and half an hour for the conclusion).

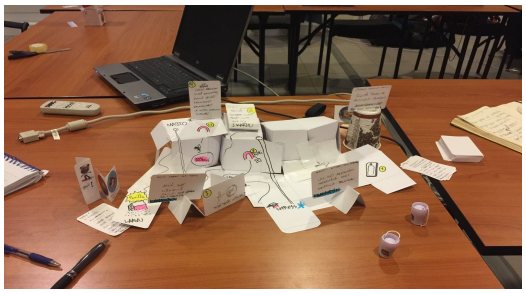
Key Takeaways

- Comicubes may be used in brainstorming for Internet of Toys –types of concepts.
- Comicubes invited the participants of this workshop to play with character-creation.
- Using the character-based approach, it was easy for the participants to consider ways in which IoToys bring added value to play through their connectivity.

Gamification of the Customer Journey at a Ski Resort

Ihamäki, P. & Heljakka, K. (2017). In *Conference Proceedings of the Design Management Academy: Research Perspectives on Creative Intersections (Volume 1)*. Design Research Society. http://designmanagementacademy.com/dma2017/





Figures. Prototyping customer experiences with Comicubes.

"The Comicubes tool helps in telling stories about the customers' current and future experiences, which can lead to greater customer insight and better service designs."

This research explored the customer journey at a ski resort that aims to create a journey with more engagement and enjoyment for the customer by using the concepts of gamification and playfication. In Finland, ski resorts offer a lot of services and winter fun in Lappish (Northern Finland) settings. Customers can enjoy well maintained slopes, efficient ski lifts and stunning views. The ski season lasts for more than 200 days. The multifaceted ski area is suited for children, adults, beginners and experts. The ski resort wants to enhance its service design and make the resort more inviting for today's customers through gamification and playification. We have named the ski resort service as "Ski slope game". The concept targets families who want to gamify their skiing holidays. This is a unique concept planned at a Finnish ski resort, which does not have similar products or services to offer yet.

The service design takes the customer journey as a starting point. It describes the service from the customer's point of view before, during and after engagement. This outside-in view helps spot gaps and irritations in the interactions between the customer and the organisation, as well as in the overall delivery of the service. The customer journey highlights how different front-stage channels such as the web, face-to-face, call center, smartphones and even third-party services align to the customer journey. By mapping what each channel offers the customers in their interactions with the organisation, you quickly get an overview of how the teams within the organization need to align their back-stage process to meet customer expectations. This approach also helps the ski resort to spot and visualize redundant and overlapping capabilities across the channels and to simplify service delivery. (Reason et al. 2016, 12)

In this study, we have used the Comicubes tool which is a solution prototype with many concepts that make up solutions. This Comicubes prototype could be used as a basis for creating appearance or performance-based prototypes. The Comicubes functions as a platform which the participants can engage with freely and exhibit the key behaviors you seek to understand about the envisioned experience. The Comicubes tool helps in telling stories about the customers' current and future experiences, which can lead to greater customer insight

and better service designs. As any good tale, a narrative structure is comprised of four acts: before, beginning, during and after. This research tries to understand the service design customer journey map through the concepts of gamification and playfication, and create a model that aims at evaluating how Comicubes-based prototypes may offer solutions for the ski resort to develop their real environment. In order to fill this gap, the model has the following characteristics following a concept proposed in new play theory by Heljakka (2013):

- **WOW** is based on a structured framework which organizes the wow experiences using gamification and playfication as a key phase;
- **FLOW** for each phase identifies the most important drivers as flow experiences and provides a set of the features of each driver;
- **DOUBLE WOW** provides a way of understanding how the Customer who has already experienced a wow with the service perceives something unexpected.
- **GLOW** compares the customer experiences to what they have experienced before and gives them a pleasant memory footprint, which they want to re-experience. This means that the customer has engaged the service and wants to come back again and again.

Key Takeaways

- The gamification of services should be complemented with the ideas in relation to less rule-bound, more casual and creative playification, in which productive user participation is encouraged.
- The concept of ‘customer journey’ may be approached through the WOW-FLOW-DOUBLE WOW-GLOW -continuum.
- The Comicubes tool helps in telling stories about the customers’ current and future experiences.

Comicubes – A Playful Tool to Stimulate (Design) Creativity

Heljakka, K. & Ihamäki, P. (2016). In Celebration & Contemplation: Proceedings of the Tenth International Conference on Design and Emotion. The Design & Emotion Society. https://www.researchgate.net/publication/308916150_Heljakka_K_Ihamaki_P_2016_Comicubes_-_A_playful_tool_to_stimulate_design_creativity

"In Comicubes – an open-ended and hybrid play concept which is potentially both toyish and gameful – the comics medium becomes incorporated with the original idea behind three-dimensional toys."

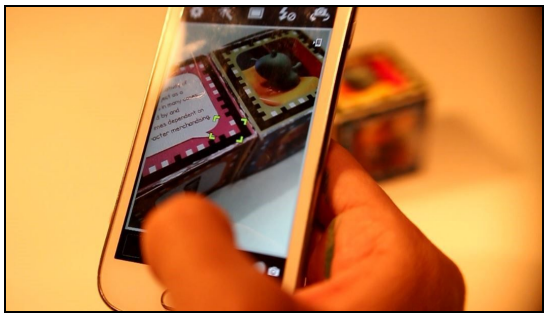
This paper investigates the play potential of an open-ended and hybrid play concept, Comicubes. We propose a hybrid that interweaves the ideas of comics and three-dimensional toys together and challenges the traditional idea of comics as images that are read one after another by suggesting a more open reading paralleling the interpretation and use of and a physically manipulable toy object. Moreover, the concept invites integration of digital enhancements in the physical plaything and thus enables potential AGE (Augmented Game Experience) elements. The aim is to develop an understanding of how the Comicubes concept is perceived as a platform for play and, on the other hand, to open a conceptual dialogue between comic-style storytelling, toys – words, images, objects, their hybrid relations – and their possible openness to interpretation, play and interplay. By exploring the concept we seek to define its potential as 1) a toy, 2) a game and 3) a hybrid of the aforementioned. Our hypothesis is that in Comicubes – an open-ended and hybrid play concept which is potentially both toyish and gameful – the comics medium becomes incorporated with the original idea behind three-dimensional toys, opening up the reception and imaginative interpretation, manipulation and finally, transforming the comics reader into a player.

Key Takeaways

- A combination of images familiar from comics and the three-dimensional form of the cubes generates an open-ended and hybrid plaything.
- With the Comicubes, it is possible to co-create novel ideas for new playthings.
- With smart printing technologies, the paper-based tool can be used to develop ideas around playthings that include connectivity, VR and AR.

Developing the Comicubes Concept Tool: Cardboard Cubes as a Point of Entry to Studies in Gamification, Playification, and Toyification

Heljakka, K. & Ihamäki, P. (2017). Comicubes-konseptointityökalua kehittämässä: kartonkikuutiot pelillistämisen, leikillistämisen ja lelullistamisen (tutkimuksen) lähtökohtana [original title]. In P. Tuomi (Ed.), *TiedeAreena 2017*. Tampere University of Technology. Pori Department. Publication 20. https://tutcris.tut.fi/portal/files/12971617/TiedeAreena_2017.pdf%20



Figures. Comicubes is a conceptual physical tool with the possibility to add Augmented Game Elements (AGEs).

"Comicubes may also be categorized as a device that helps in the generation of research knowledge as well as a new type of a method which can be used as an aid in creative processes, especially in terms of gamification."

This presentation discusses a toyified and gamified conceptual tool, which has its origins in artistic work. The tool has been developed, enhanced and used in product development, service design and the structuring of scientific research. The conceptual design of the hybrid tool is based on an exploratory plaything created by the first author, which represents an object that resides between two-dimensional images and three-dimensional toys. The tool which has been named *Comicubes,* is based on simple paper technology and consists of cardboard cubes. It is a playful platform which enables the building of physical models and prototypes and it can also be understood as a conceptual method. During the past few years, the tool, which was created in 2014 (Heljakka, 2014), has been used both as a material resource and a starting point for ideation workshops conducted with testers of different ages and with different backgrounds (Ihamäki & Heljakka, 2017, Heljakka & Ihamäki, 2016; 2017).

Comicubes may also be categorized as a device that helps in the generation of research knowledge as well as a new type of a method which can be used as an aid in creative processes, especially in terms of gamification. The play(ful) tool invites to play with its three-dimensional materiality and it is easy to build models of different gamified subjects with it. In the core of the tool is its simple but universally known form that allows physical manipulation. In comparison with tools that have been used in prototyping before (e.g. Lego), the Comicubes offers an economically sound, ecologically sustainable and easily approachable platform for creation. In our time, playfulness manifests in the cultures of production, distribution, consumption and users. Even research methodologies may be considered to undergo processes of playification, toyification and gamification. The Comicubes tool demonstrates this development. The goal of our study is to collect user data. By conducting several workshops with users of different ages, we have tested the capacity of Comicubes to function in the building of physical prototypes. Preschool children and university students from different academic areas have created toyified

“Preschool children and university students from different academic areas have created toyfied concepts, artists have created works and professionals from different fields have developed versions of e.g. customer journeys related to service design.”

concepts, artists have created works and professionals from different fields have developed versions of e.g. customer journeys related to service design. Each workshop described in our presentation enables the investigation of the problem-solving of different user groups, from the viewpoints of workshops aiming at prototyping either products or services.

The tool that has its origins in artistic work has developed into a play(ful) concept and, thanks to the findings in our case studies, into a resource, which may be used in artistic, science-based and product development-oriented projects that focus on gamification. One of the most central directions of our current research focuses on the uses of Comicubes in service design. We suggest that Comicubes suits the planning and exploration of the gamification of customer journeys. Our following case studies are, on the one hand, interested in the ideation of concepts related to the Internet of Toys (IoToys) and, on the other hand, in how Comicubes may be used in brand design and management.

Key Takeaways

- Simple paper technology may be used in the formation of conceptual approaches to gamification and playification.
- Comicubes help in envisioning new products and service models, e.g. when using the concept of a customer journey as a starting point.
- As a play(ful) approach to design, this simple ideation platform functions as a more flexible or customizable tool than e.g. Legos.

Digital Natives and Cardboard Cubes: Co-Creating a Physical Play(ful) Ideation Tool with Preschool Children

Heljakka, K. & Ihamäki, P. (2017). In *Proceedings of the 2017 Conference on Interaction Design and Children*. ACM. https://dl.acm.org/citation.cfm?id=3084322

"The workshop findings indicate that the children in our test group, as digital natives, were able to use the Comicubes platform to co-design and create a physical plaything and develop associated play patterns and open-ended (toy) or rule-based (game) ideas for its use."

This presentation highlights a study on the interactive design and implications of a playful co-creation tool, Comicubes, which combines a two-dimensional blank cardboard canvas with a three-dimensional, open-ended toy medium: the cube. In our study, we tested the concept's functionality as an ideation tool suitable for different target and age groups, as well as its potential as a creative physical platform that encourages design thinking, allows for playful manipulation, and invites interaction. In workshops designed for preschool-aged children, the participants were asked to create a plaything of their choice by applying various art supplies to blank cardboard cubes. The workshop findings indicate that the children in our test group, as digital natives, were able to use the Comicubes platform to co-design and create a physical plaything and develop associated play patterns and open-ended (toy) or rule-based (game) ideas for its use.

Figures. Preschool children working with the Comicubes.

Key Takeaways

- Comicubes offers an easily approachable platform for co-creation with preschoolers.
- Preschoolers do not necessarily differentiate between physical and digital play experiences. The cube format which was used as a point of entry to ideation work brought the Minecraft game to some participants' minds.
- Preschoolers associate universal play patterns with physical material such as the Comicubes used in this study.

”N 61° 29.330 E 021° 47.580” Sigrid-Secrets: Art Experiences through Geocaching

Heljakka, K. & Ihamäki, P. (2017) ”N 61° 29.330 E 021° 47.580”. Sigrid-Secrets: Taide-elämyksiä geokätköillen” [original title]. In P. Tuomi. *TiedeAreena 2016.* Tampere University of Technology. Pori Department. Publication 19. https://tutcris.tut.fi/portal/files/8228327/TiedeAreena_2016.pdf

Figure. Sigrid-Secrets is a digitally enhanced art experience based on geocaching.

“Gamification as a part of an art exhibition invites and motivates the users to interact with the artworks and participate in activities familiar from game mechanics as the playful elements known from games bring added value to the users.”

Digitally-enhanced, location-based games, such as geocaching, in combination with visual art represent a new method in urban cultural production. This study investigates geocachers of an urban trail, their experiences and the sharing of these experiences. Geocaching is digital treasure hunting in which GPS-systems or smartphones are used to find caches in different environments. The hobby is practiced in over 180 countries and over 10 million users have registered on the Geocaching.com website.

Location-based games such as geocaching in combination with artistic media represent a new means of delivering aesthetic cultural experiences and committing users to interact with art within urban spaces. Gamification explores game design elements in non-game contexts (Deterding et al. 2011). Gamification as a term originated in the digital media industry and was popularized by Zicherman and Cunningham (2011). Gamification can be used in a variety of contexts, such as in the development of art experiences and the inclusion of user experiences, for example by activating the users to share their own experiences with each other. According to Huotari and Hamari (2011), gamification may be considered a process in which game-style experiences are used to deliver added value to the users. Gamification as a part of an art exhibition invites and motivates the users to interact with the artworks and to participate in activities familiar from game mechanics as the playful elements known from games bring added value to the users. In the context of an outdoor exhibition, this means that through gamification, e. g. rules on how to access the artworks are given. Again, through a game mechanic, the players may be invited to social interaction. Scrutinizing the implications of the gamification of art experiences offers an interesting starting point to the investigation of possible added (play) value of the converging artistic media forms. Through gamification, many benefits, such as the commitment of users to participate in various activities and the sharing of experiences may be reached. In the study at hand, our focus is on the effects of the convergence of two art forms (an established and popular urban gaming platform and a series of visual art

works) and the user experiences of gamifying an art exhibition.

Our own gamified project takes a multidisciplinary approach using play, games, gamification and the more leisurely *playification* (less rule-bound, paedic form) into account when considering contemporary art experiences. Art, technology and the game mechanics provided by the platform of geocaching, converge in the hybrid *Sigrid – Secrets* geocaching trail: works of art featuring a semi-fictional narrative are found based on coordinates. In the *Sigrid-Secrets* letterbox hybrid cache posted on Geocaching.com website the cache has a story, which is at the same time a clue to find the artworks and finally the cache itself. On the *Sigrid-Secrets* trail, visual art works are placed along a geocaching trail. The artworks are attached to existing structures at a park (such as benches). Following the tradition of geocaching, one must try to find the artworks in unusual, 'hidden' places. At this time, the static photographs feature playful visual elements, which may be interacted with by searching for clues in the pictures. Using an app on the mobile phone (a work in progress feature), which helps the user to locate the artworks on the trail through coordinates, will also open up new dimensions to the narrative of the *Sigrid-Secrets* experience. Alongside the artworks placed on the trail, *Sigrid-Secrets* also features a final object to be found, the actual *cache*.

Thus, *Sigrid – Secrets* represents a location-based, simultaneous art and game experience built upon a geocaching framework. It represents convergence between play(ful) gameful experiences and contemporary art situated in an urban context we consider here as a play environment. Our research agenda and scientific contribution aims at generating new knowledge about the user experiences of our 'artified' game experience and mapping out practices in relation to geocachers sharing these experiences. The story related to Sigrid-Secrets has been written as a fictive narration, which is based on actual locations in the city of Pori. The story contains playful features such as riddles. There are altogether six photographic artworks placed on the physical geocaching trail in the urban milieu. The artworks generate a narrated, gamified framework for the geocaching experience. To our best knowledge, a similar approach has not been used in the context of geocaching prior to this. In the following phases, the artworks will function as portals to a gameworld, which includes minigames of different kinds.

This study demonstrates how the inclusion of art has brought with it additional playful and gamified elements to geocaching. Moreover, the participants of the trail have shared their experiences with others. [At the time of writing this summary in December 2017, some 247 geocachers have completed the trail]. As one geocacher describes on the Geocaching.com Official *Sigrid-Secrets* website: ”The secrets have been glanced and the well-hidden cache found. Various works of art were there along the way!” (Geocacher Arto Aulis 27.7.2016). Many comments point to the cache such as “rare type of a cache”. (pokia 2.9.2016) and its secretive location: ”Walked to six art works and finally then came here. Nice places and the final jar is absolutely perfect."(hippihiiri 14.8.2016), but the artworks have been glanced upon as well: ”*The secrets and the very well stashed jar was found. The trail included various works of art.*"(Arto Aulis 27.7.2016)

Key Takeaways

- Geocaching in combination with an art ‘exhibition’ represents a new type of a playful, hybrid urban experience.
- Geocaching in combination with artistic media represent a new means to commit users to interact with art within urban spaces.
- Geocachers are willing to share their experiences with others through the Geocaching.com website by using playful language and in this way, continuing the style of narration of the story related to the trail, in our case, the story of Sigrid-Secrets.

The Sigrid-Secrets Geocaching Trail: Influencing Well-being through a Gamified Art Experience

Ihamäki, P. & Heljakka, K. (2017). In *Proceedings of the GameFIN conference*. Tampere University of Technology, TUT Game Lab. http://ceur-ws.org/Vol-1857/gamifin17_p10.pdf

Figures. Geocaching can be utilized as a platform for an art experience.

"We aim to form an understanding of how the inclusion of the logic of gamification effects the experience of and participation in the art exhibit and, in this way, influences the overall experience of well-being."

In the study at hand, we explore the effects of gamification on mental, physical and social well-being in an experience delivered through an urban geocaching trail enriched with visual artworks. Our study is interested in user experiences related to the various dimensions of well-being by mapping out ways of the users' participation and the sharing of their own experiences. Our research question is twofold: We ask how the art experience delivered and gamified through the framework of geocaching may contribute to mental, physical and social well-being. We target the questions by a triangulation of data collected from three sources of geocachers; through the comments made on the Geocaching.com *Sigrid-Secrets* website player feedback, semi-structured interviews with the users of the trail and a survey focusing on the general well-being effects of geocaching collected from the geocacher community in Finland and the Geocaching.com blog. By asking the users about their experiences regarding the *Sigrid-Secrets* trail and investigating the geocachers' general understandings of the wellbeing effects of the activity of geocaching, our aim is to find out the potential of a gamified art experience to provide health benefits.

Key Takeaways

- The gamification of an art experience through geocaching may contribute to:
    - mental wellbeing by offering aesthetic experiences.
    - physical wellbeing by offering light exercise through 'slow walking' in an urban environment.
    - social wellbeing by offering a chance to take part in transgenerational ludic experiences, e.g. with family members and friends.

Strategies of Social Screen Play(ers) across the Ecosystem of Play: Toys, Games and Hybrid Social Play in Technologically Mediated Playscapes

Heljakka, K. (2016). *Wider Screen, 1-2*. Filmiverkko ry.
http://widerscreen.fi/numerot/2016-1-2/strategies-social-screen-players-across-ecosystem-play-toys-games-hybrid-social-play-technologically-mediated-playscapes/

Contemporary play(fulness) manifests itself as multimedial cultures of production, distribution, consumption and use. In the core of the *ecosystem of contemporary play* are the play industries, the play products, the creative and productive players and the technologies, which all play important roles in shaping ludic behavior. Today, a significant part of play practices are in one way or another connected with different screens: technology together with social media platforms enables players to share their play in online environments in ways that were unimaginable in times when toy and game enthusiasts mostly communicated through hobbyist conventions, newsletters and fanzines.

Through various screens, players carry out different play patterns related to e.g. photoplay or videography made of toys and games. Player-created content influences the industries of play by directing companies to build marketing strategies and actual products that in one way or another capture and capitalize on the essential elements that have made social media popular – its capability to engage users in circulating visual, audio-based and animated play content.

"In order to understand the constituents of social play value, this review aims to investigate the ways in which social screen play operates across the networked ecosystem of contemporary play."

The developers and designers of various play experiences (material, digital or their combinations – hybrids/phygitals) operate with concepts such as playability and play value in order to give form to products and applications that are able to invite their users to meaningful ludic activities. One of the elements that build play value is the social aspect of play experiences. At the same time, there is a lack of conceptual tools for measuring *social play value* for products that are simultaneously situated, used and experienced in physical, digital (and in-between) environments and as a part of either/both material artefacts and digitally enhanced or augmented play worlds. The first step in this direction is to map out the strategies of social screen players across the ecosystem of play. In order to understand the constituents of social play value, this review aims to investigate the ways in which social screenplay operates across the networked ecosystem of contemporary play. By reviewing practices of the play industry and comparing them with current

play patterns shared on social media, the author builds a foundation for understanding the building blocks of the ecosystem of contemporary play and the various strategies its actors present in terms of screen-based play patterns. Through a small-scale analysis conducted on the screen-based media of Flickr, YouTube and Kickstarter with search words game(s), toy(s) and hybrid social play applied to each, the author then cross-examines how what is considered valuable in terms of play products parallel each other between the actors of the ecosystem of contemporary play: the current makers, users and potential future players involved in the ecosystem.

Key Takeaways

- Many forms of (toy) play today tie in with screen-based practices.
- Contemporary play may be investigated with the 'ecosystem' of play in mind.
- Flickr, YouTube and Kickstarter function as 'windows' into current toy design and (toy) play cultures.

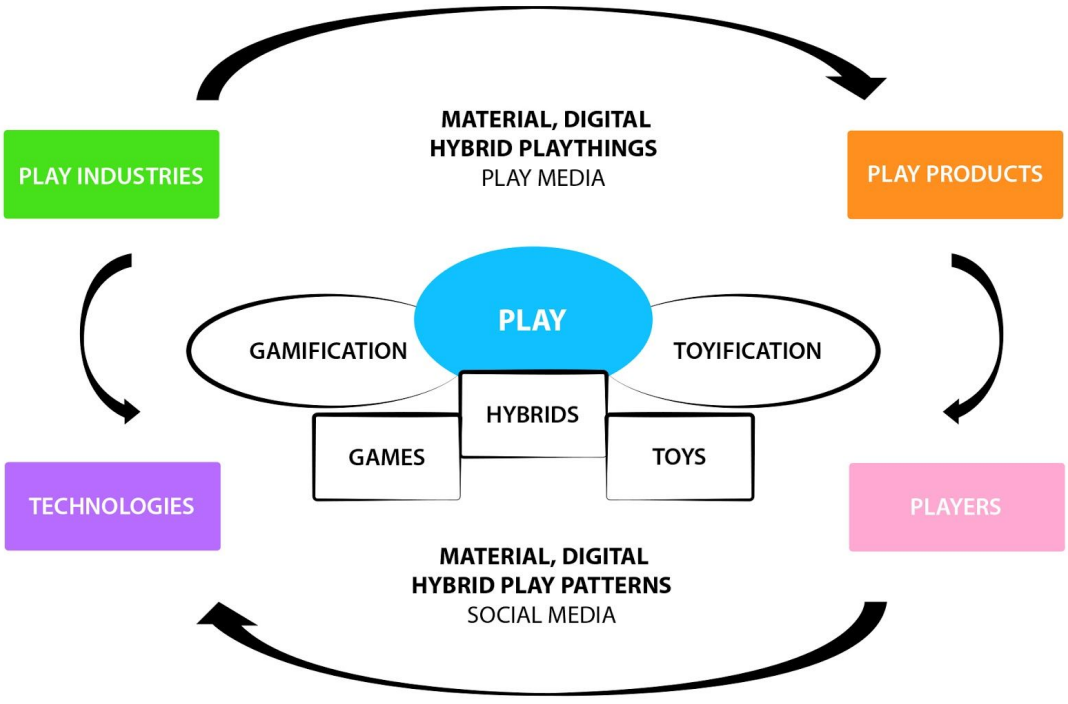


Figure. The ecosystem of contemporary play: a visualization of linked players and platforms (Heljakka, 2016)

Towards a Framework for Analysing Playful Interventions - Lessons from a Pink Sandbox Full of Dice

Kultima, A., Nummenmaa, T., Savolainen, S., Holopainen, J., Heljakka, K., Kankainen, V., Alha, K. & Mäyrä, F. (2016). In *Celebration & Contemplation: Proceedings of the Tenth International Conference on Design and Emotion*. The Design & Emotion Society.
https://www.researchgate.net/publication/308983087_Towards_a_framework_for_analysing_playful_interventions_-_Lessons_from_a_pink_sandbox_full_of_dice

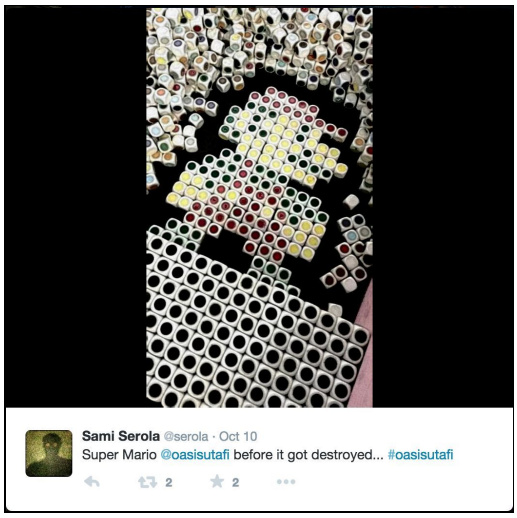
Figures. Sandbox full of dice affords many forms of play.

"We are interested in examining installations on three different levels: on the level of basic interactions that the users of the artefact engage in, on the level of play behaviors and on the level of distinct play episodes that emerge from the interventions."

The role of play in the modern society has been gaining importance; the rising commercial successes of the game and toy industries in the past decades are strong indications of it. As this has most notably taken place only during the recent decades, the colloquial meaning of 'play' is still often associated with something trivial and non-important. Play is what one engages in within their leisure time and out of the context of anything serious, work, or meaningful.

In 1970, play theorist Brian Sutton-Smith wrote about the need to stop framing play only as an activity of children as "anything that children did, was regarded as not important, and as play." (Sutton-Smith, 1970). Even though being playful is often associated with children, there is a tradition of thought that points out how beneficial fun and play can be for adults. In her review of research into this area, Jacqueline Miller (1996) reported that humor at work can relieve stress, improve interpersonal skills, and foster creativity and rapid learning, among other things.

Hunter et al. (2010) examined how the roles of play and work were tightly interwoven in knowledge-intensive work such as programming. The play activities were important for the pacing of work activities, the building of work identity, socialization, and creativity. In this article, a playful art installation; the work "There Are No Rules" (TANR) is analysed as a playful intervention and a framework for analysing future playful installations is proposed. We are interested in examining installations on three different levels: on the level of basic interactions that the users of the artefact engage in, on the level of play behaviors and on the level of distinct play episodes that emerge from the interventions. These three levels provide different views for potential comparison of the cases and a source for finding the links between the successful interventions with their play affordances and contexts.



Figures. Captured moments of play.

Key Takeaways

- A sandbox type of art installation invites users to open-ended, productive play.
- An installation employing colourful dice generates diverse play patterns in the hands of the participants.
- An installation like the ‘There Are No Rules’ piece encourages social participation and long-term, transformative play.

Stigma Avoidance through Visual Contextualization. Adult Toy Play on Photosharing Social Media

Heljakka, K., Harviainen, J. T. & Suominen, J. (2017). *New Media & Society*. SAGE.
http://journals.sagepub.com/doi/abs/10.1177/1461444817732534

Figures. Adult photoplay with the Blythe doll.

"Playing with things (or object play) largely remains a stigmatized activity when conducted at adult age."

While the benefits of play have been widely recognized, carrying out activities with toys at an adult age is still often seen as stigmatizing behavior. Some adults solve this issue by referring to their toy activities as either hobbies or collecting. Yet the primary purpose of toys is play. People may therefore utilize their toys for new kinds of play. One popular decision is the utilization of toys in photographs and videos aiming at personalization and storytelling on social media. Using eight interviews, we point out that this visual contextualization of play not only ties into the adults' sublimation of their desires to use their toys, but also to threads of cultural history in which sublimated or substituted artistic uses have been found for objects. Finally, we show that this activity is a form of play too, made possible by the existence of photo sharing sites like Flickr and Instagram.

"I assume that collecting and the making of photographic stories can be thought of as an adult way of playing, even though I distance myself from the word itself." (Sylva, b. 1986)

This was how one of our interviewees, an adult toy player, explained her relationship with toys and play. It crystallizes the visual way in which she avoided the potential shame of being an adult into toy *play*, a word (in Finnish *leikki*) from which she "distances herself". Adults theorize play and the position of play is first and foremost understood as the activity of children – in fact at many times as the work of the child. When used in reference to adults, "play" is often considered as pointing to serious, goal-oriented activities such as sports - or when discussing sex as play (Harviainen and Frank, 2016). It seems that we have arrived at a situation in which Western societies are beginning to understand and value play more in terms of an important element of everyday culture, as envisioned by Brian Sutton-Smith (1997: 149). Playing with things (or, *object play*), however, largely remains a stigmatized activity when conducted at an adult age.

In the Western world of the 21st century, toys are nevertheless more perceivable outside of the realms associated with childhood. As creatively cultivated objects, toys have come to have significance for people of different ages. They are adopted, collected and

cherished, and aesthetically valued. Toys are even anthropomorphized to the degree that they have in some cases come to represent substitutes for pet animals and family members for their owners. For many people, however, adult activities with playthings traditionally considered as 'children's' toys - such as the character toys described in this study (i.e., dolls) - form a strange, stigmatizing combination. In many societies, one is expected to leave play (excluding certain formalized forms such as sports) behind as one grows up (Paley, 2004; Heljakka, 2013). This may be a part of a "protestant ethic" that opposes leisure as a waste of time (in the sense of Weber, 1905: 175), or "taking life seriously", or something similar. Although adult play has begun to obtain recognition during the second half of the twentieth century (Sutton-Smith, 2017), being an adult and owning toys not intended for one's children is still seen as stigmatizing. Stigma, in this case, means a stain upon one's social identity (as per Goffman, 1963). Some adult toy enthusiasts solve this issue by referring to their activities as *collecting*, but that too carries a catch: if one uses the collected toy for its intended purpose - play - even once, it can lose some of its monetary value.

The Collins English Dictionary refers to the toy as *an object designed to be played with*. The primary purpose of toys is, thus, to be employed in play. As we show in this article, some toy-collecting adults utilize their toys for play in new ways, ones not typically associated with children's play. One popular type of these practices is visual contextualization through the use of technologies, the utilization of toys in screen-based play practices. This strongly ties into the cultures of visual self-expression on social media, including selfies (e.g., Rettberg, 2014), picture-sharing subcultures (some of which also try to navigate stigma, e.g., Wargo, 2015; Ging and Garvey, 2017), and hobbyist communities the members of which share their achievements on video and photo sites.

Key Takeaways

- Adults avoid the term 'play' when referring to activities with toys
- Photoplay (toy photography) is one way of turning to activities with toys in an artistic way, which alleviates the potential stigma associated with adults who own and use toys
- Practices related to visual expression forms a significant part of the activities adults carry out with toys today

This article analyzes the ways in which some adult owners of dolls navigate their interest to use the dolls in some way, by creating and sharing photographs of those dolls. The argument is built by presenting interview data together with existing research, and then discussing the implications of that data. We first look at the theory grounding this research and the methods utilized in it. Then, we turn to the affordances play is given in the current-day culture and the ways in which photoplay ties into them. Following that, we examine our case, Blythe, and then its role on photo-sharing social media. Finally, we discuss the implications of this for new media and stigma avoidance related to playful practices.

All Dolled Up, Then Photoplayed: The Fashion-Oriented Practices of Adult Doll Players in the Twenty-First Century

Heljakka, K. (2016). *Catwalk: The Journal of Fashion, Beauty and Style*, *5*(2), 43-62. The Inter-Disciplinary Press.

Figures. Photoplay with the Blythe doll, and Bearbrick - a designer toy dressed in Ivana Helsinki exemplifying the close relationship between toys and fashion.

This article investigates the toy playing adult of the 21st century and her role in an increasingly play-oriented world. There is evidence that more and more adults are interested in object play: They both collect toys and conduct different activities with them. While the fashion industry both inspires and influences toy design and the category of fashion dolls and designer toys in particular, adult players are expressing a growing interest to dress up their dolls in unique and personal styles, photograph them and share their fashion tales on social media applications such as Flickr and Instagram. I attempt to clarify the position of adults as active players of fashion dolls (e.g. Blythe) in the context of fashion. By turning to doll conventions and meetings taking place on social media platforms such as the photo management service Flickr – I aim to demonstrate how the phenomenon of adult doll play can be addressed from the viewpoints of fashion-oriented play practices; e.g. creating outfits, styling, hairplaying, posing, photoplaying and finally inviting others to join the game by enjoying, elaborating and evaluating the outcomes of these play patterns. As artefacts of a fashion-driven industry, dolls are considered as muses, companions and even as avatarial extensions of ourselves. The play of one adult, once shared, becomes an invitation to play that encourages other adults to acquire new dolls, join in and inspire them to play processes which will ultimately result in further fashionable outcomes.

Today, a toy is an object with a definite design that can reflect contemporary fashions and trends (Brougère 1999). The toy industry is linked with both the fashion and the entertainment industries, as its product portfolio changes constantly. Fashion is inspired by art and again, functions as a source of visual stimuli for design, including toy design. The design of toys is directed both by the innovative and playful creativity of the toy designer as well as global cultural phenomena (Heljakka 2013). The entertainment industry in all its forms functions as a major source of inspiration for the designers of contemporary playthings. Toys are influenced by developments in other media: Current trends in literature, arts, graphic design, comics, movies and finally – the world of fashion – affect the stylistic choices made by toy designers (Heljakka 2013, 26).

"The toy industry as a fashion industry itself is greatly dependent on novel ideas brought forward by trends and fashion."

The toy industry as a fashion industry itself is greatly dependent on novel ideas brought forward by trends and fashion. To a great extent, toys are inspired by the same storyworlds that offer fashion designers ideas about characters and interesting narratives. One example of a classic character that has appeared both in fashion and contemporary toy design is Disney's Bambi, whom Jean Charles de Castelbajac made a tribute to in his collection in 2010 and what Funko, a maker of vinyl toys has recently produced as a new version in their signature, 'cutified' style. On the other hand, toys themselves function as a source of inspiration to fashion houses, as well. Popular high street clothing chains such as H&M have licensed many toy brands to use in their apparel, e.g. *My Little Pony* in the fall collection of 2014. During the recent years, toys have functioned as inspiration for many haute couture fashion houses, as well. In 2013, Chanel presented a line of plastic and bright accessories inspired by the popular Lego bricks. In an interview posted on the U.K.-based *Daily Mail*, the Danish toy company found Chanel's inspiration both unmistakable and flattering. Sometimes characters which have their origins in the world of toys may inspire fashion houses to tributes consisting of complete collections showcasing these toy icons as demonstrated in a recent collaboration – Moschino's employment of Barbie and the classic teddy bear in a collection by designer Jeremy Scott. Finnish design house Ivana Helsinki's collaboration with the Japanese toy producer Bearbrick in 2015 presents a further case of fashionable inspiration flowing in two directions – fashion design and brands offering an inspirational resource for toymakers and toys providing a platform for fashion houses willing to showcase and experiment with playful ideas.

Key Takeaways

- Toys are majorly inspired by the fashion industry today. This can be viewed as a hybridization between two different industries heavily influenced by novelty and trends.
- Current fashion also draws a lot of inspiration from toy-aesthetics and this leads to the idea of the toyification of fashion.
- The fashion-world functions as a source of inspiration for new toys, e.g. real-world 'characters' of fashion designers, such as Karl Lagerfeldt of whom several different toy portraits have been produced.

Contemporary Toys, Adults and Creative Material Culture: from Wow to Flow to Glow

Heljakka, K. (2017). In A. Malonowska & K. Lebek (Eds), *Materiality and Popular Culture: The Popular Life of Things*. Routledge.
https://www.routledge.com/Materiality-and-Popular-Culture-The-Popular-Life-of-Things/Malinowska-Lebek/p/book/9781138657809

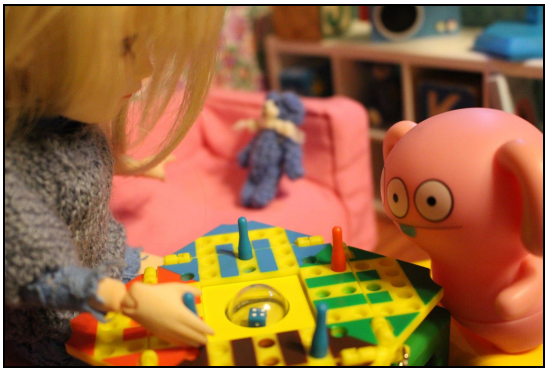


Figure. "Whose ludic turn is it?"

In the time of the *ludic turn*, as proposed by Brian Sutton-Smith (1997), the cultures of play are in convergence. Although the industry of traditional toys is faced with fears relating to the digitalization and dematerialization of play culture, physical toys are surviving due to the unique tactile and manipulable qualities that still cannot be grasped by digital or even, hybrid playthings. The presumption is that a toy with an outstanding play value will endorse a *wow* effect. Once utilized in play, the toy gives the player a secondary wow, which results in an experience of *flow*. Popular play patterns are used to cultivate mass-marketed toys and in this way, add certain value to artefacts that have previously been considered trivial objects, at least from the perspective of adult use. Finally, when the player has creatively cultivated the toy, s/he has given it an added (auratic) value, *glow*.

The chapter addresses the material life of toys from the perspective of temporal and spatial trajectories of adult-created toy stories. Drawing on contemporary research on adult engagement with playthings, the chapter presents the evidence of the existence and the multifaceted dimensions of object play at a mature age. A part of the analysis is dedicated to the nature of play in an adult-toy interaction. Contemporary toys such as dolls, action figures and soft toys are given narratives in the form of backstories. In play, these narratives are challenged, creatively cultivated and finally circulated through social media platforms. In other words, character toys as categorized above are used in various play activities such as collecting, customizing and creating visual and animated stories (including play patterns, e.g., toy tourism, photoplay and transmedia-inspired play). As my research demonstrates, personalized play content and the documenting and sharing of it creates both engagement with toys and mimicking of the aforementioned play patterns. The play practices of adults who use toys during leisure time (whom I also discuss as 'everyday players') show that the uses of toys are not only activities partaken in domestic spheres, but also in public spaces and social contexts. Contemporary mass-marketed toys are frequently used as creative,

"Character toys as categorized above are used in various play activities such as collecting, customizing and creating visual and animated stories (including play patterns, e.g., toy tourism, photoplay and transmedia-inspired play)"

social tools by adult players. Their activities suggest that the playgrounds of material play culture not only expand in parallel with play that occurs in the context of digital, social media, but that these different realms of play culture are being reinforced by each other.

Key Takeaways

- (Adult) activities with toys (or, rather play activities with them) manifest as collecting, customizing and creating visual and animated stories (including play patterns, e.g., toy tourism, photoplay and transmedia-inspired play.
- Character toys (dolls, action figures and plush) are materially manipulated and customized by many adults.
- Character toys may be considered as both creative and social tools for adults.

More than Collectors. Exploring the Theorists', Hobbyists' and Everyday Players' Rhetoric in Adult Play with Character Toys

Heljakka, K. (2016). *Games and Culture*. SAGE.
http://journals.sagepub.com/doi/abs/10.1177/1555412016670493

The article aims to present, analyse and discuss the attitudes of the three groups of adults – theorists, hobbyists and 'everyday players' – towards play(ful) behaviour and activities in relation to character toys. The rhetoric of play theorists is mirrored against the rhetoric of organized players (hobbyists) and (non-organized) everyday players through in-depth interviews and participatory observation. Questions guiding the exploratory path this article takes include the following: First, what has led to the dominant ideas of the toy as a *collectable* item and of adult toy consumers as *toy collectors*? Secondly, why is the manipulation of toys that happens at an adult age considered *hobbying* and not playing? The results of the analysis indicate that the uses of toys at an adult age represent more complex and multifaceted actions and relationships to play than the terms "collecting" and "hobbying" imply.

"For some, the collecting of dolls surely is just collecting of things, but many doll people I know are hobbyists and many are players too. […] Nevertheless, many are shy of the word play and rather talk about hobbying, even though what else would the displaying of dolls in different scenarios and storytelling [with them] be to an outsider, than play. There may perhaps not be enough discussion on adult play, [as] many think that play only belongs in childhood. But for me it is funny that if an 8 year old child changes the clothes of a doll it is play, and if a 48 year old person does the same, it should not be called play." (Interviewee Tiina, age 32)

As stated in earlier research, adults are increasingly cracking open the doors to their 'toy closets' (Heljakka, 2013). Mainly thanks to the advances in socio-technological developments such as the rise of the popularity of the Internet and, most importantly, the growing popularity of social media platforms as 'playscapes', we are witnessing a gradually strengthening emergence of the once ephemeral phenomenon of *adult toy play*. Adults are considered the primary audience for artefacts we now recognize as toys, such as doll houses (see e.g. Stewart 1993), but during the 19th and the 20th centuries toys were mainly acknowledged as playthings intended for children. The romantic notion of the toy playing child has been challenged in the 21st century as toys are increasingly identified as objects of adult fandom (Geraghty, 2014).

"Adults who are identified as consumers of toys are mostly addressed in terms of the allotelic – goal-driven and perhaps serious – practices in relation to (selective) collecting and hobbying."

Adults who are identified as consumers of toys are mostly addressed in terms of the allotelic – goal-driven and perhaps serious – practices in relation to (selective) collecting and hobbying. Considering the resistance to the phenomenon and the possibility of adult play, and even the outright refusal to discuss adult activities with toys as play, it becomes interesting to ask what has led to these attitudes. At the same time, some adults seem to have a more leisurely or casual stance towards their toys. In this way, they present more autotelic attitudes towards their activities, as illustrated by the following interview excerpt:

"I don't understand hobbying that entails performing or goal-orientedness. There are collectors to whom the amount [of toys] is important and that the collection is complete. Hobbying should create joy. If you are distressed, you have the wrong hobby." (Interviewee Hannhell, age 50)

This article explores rhetorical approaches to the intertwining and tripartite topics of adults, toys and play through an investigation of rhetoric from three sources: play theorists, hobbyists and everyday players. The study at hand utilizes previous theoretical explorations of play and qualitative interviews with toy hobbyists functioning in an official association (the Finnish Doll and Toy Society, American hobbyist magazine *The Doll Reader* and others participating in formal gatherings organized around playthings). Finally, the author has conducted interviews with *everyday players*, the non-organized adult toy players, who communicate about their play(ful) activities, e.g. at doll meetings and through social media or blogs. By exploring these three perspectives, both theoretical and empirical by nature, my goal has been to study the ways in which adults address activities with toys and whether or not play is considered to have a role in these interactions. Moreover, what I am trying to accomplish is to see how the current rhetoric on the toy-interested adult could open up to realizing the possibility of play in activities that are (at best) considered to be *playful* by nature, but withdrawn when the topic of play itself is raised.

Although many contemporary objects (e.g. figurines) are rhetorically placed outside of the sphere of play by claiming their status as 'collectibles', it is sometimes hard to understand why this is the case. At the same time, the metaphorical dimensions of 'toyishness' are vast, as e.g. cameras, smartphones and even vehicles are (playfully) referred to as "toys". In this article, focusing on character toys (i.e. dolls, action figures and soft toys), collectibles (as valuable as they might be) are viewed as toys.

Key Takeaways

- Adults most usually refer to their 'play' as 'hobbying' or 'collecting', this is also the case from the viewpoint of play theory concerning adult interaction with toys.
- Adults are also interested in consuming toys in creative ways, not necessarily in terms of the goal-orientedness that collecting implies.
- The rhetoric of *playfulness* (but not *play*) is as far as many adults are willing to go in relation to their activities with toys.

Toying with Twin Peaks: Fans, Artists and Re-playing of a Cult Series

Heljakka, K. (2016). *Series: International Journal of TV Serial Narratives, 2*(2). Universitat Politècnica de València/Università di Bologna. https://series.unibo.it/article/view/6589

Figures. Re-playing Twin Peaks through toyification of art.

"The aim is to shed light on the object practices of fans and artists and how their creativity manifests in the current Twin Peaks fandom."

This article explores the playful dimensions of Twin Peaks (1990-1991) fandom by analyzing adult created tributes to the cult series. Through a study of fans and artists "toying" with the characters and story worlds of Twin Peaks, I will demonstrate how the re-playing of the series happens again and again through mimetic practices such as re-creation of characters and through photoplay. Earlier studies indicate that adults are showing increased interest in character toys such as dolls, soft toys (or plush) and action figures and various play patterns around them (Heljakka 2013). In this study, the focus is, on the one hand, on industry-created Twin Peaks merchandise and, on the other hand, the fans' creative cultivation and play with the series scenes and its characters. The aim is to shed light on the object practices of fans and artists and how their creativity manifests in the current Twin Peaks fandom. The study shows how fans of Twin Peaks have a desire not only to influence how toyified versions of e.g. Dale Cooper and the Log Lady come to existence, but further, to replay the series by mimicking its narrative with toys.

Key Takeaways

- Current adult toy play draws inspiration from popular TV.
- Adult toy play practices illustrate the re-playing of familiar popular narratives.
- TV series like Twin Peaks are constantly re-played by fans and artists and the outcomes are shared on social media platforms.

Fifty Shades of Toys. Notions of Play and Things for Play in the Fifty Shades of Grey Canon

Heljakka, K. (2016). *Intensities: Journal of Cult Media*, 8. School of Journalism, Media and Cultural Studies, Cardiff University.
https://intensitiescultmedia.files.wordpress.com/2016/01/5-heljakka-fifty-shades-of-toys2.pdf

Figure. Naughty Teddy. Christian Grey as a toy.

This essay explores the playful dimensions of E L James' erotic novel trilogy by investigating how the notions of toys and adult play are used in the narrative of the books and presented in the utterances of Christian Grey and Anastasia Steele in the dialogue of the first cinematic adaptation of *Fifty Shades of Grey* (2015). As E L James' working title for her first version for the book was *Master of the Universe*, it is plausible to perceive a straightforward connection between the literary work and the traditional realms of toy culture. The working title, in which a reference to action figures launched by Mattel in the 1980s is incorporated, implies that Mr. Grey is an action figure of sorts but contrary to the idea of toys, one that is not willing to surrender to be played with by others. Instead, he is the master player in control of a *Playroom* and an aptly curated collection of toys, and the one playing with human 'dolls' by functioning as the architect of sexually charged scenes.

The essay concludes that the trilogy (together with the first cinematic adaptation) in its playful appropriation of various instruments for play may have contributed to the prevailing megatrend of *toyification* of everyday life by influencing both the producers and the users of adult toys to take a more casual stance and rethink the aesthetic, the audience and the appropriation of sex toys.

"So it begins": Entering the Playroom

I wonder briefly what the drawers actually *do* hold.

Do I want to know?

(*Fifty Shades of Grey* 2012, 98.)

In the time of the ludic turn, sexuality seems to have once again developed into an area of interest for companies capitalising on playfulness – the designers, makers and producers of sex toys. According to a definition in Oxford English Dictionary, a *sex toy* may refer to 'n. *(a)* a person viewed as a sexual plaything; *(b)* a device or object designed for sexual stimulation (such as a dildo, a vibrator, etc.) or to enhance sexual pleasure or performance' (OED online version, 2015). According to many companies, sex toys as objects

designed to create pleasure help in achieving outcomes related to eroticism and release, and in this way contribute to sexual health.

The history of sex toys illustrates the trajectory of these objects from mechanical, electronic and industrially-produced domestic appliances to pornographic commodities and later to cute, colourful, humorous and sometimes character-based *toys*. Today, some of these 'erotic accessories' are designed by women and sold by women to women (see e.g. Comella 2004, Smith 2007).

"Sex has lost its significance as a form of reproduction or relationship and become a form of 'play'". (Juffer, 1998)

Juffer (1998, 83) writes: "sex aids have more recently come to be understood in terms of recreation. They have become 'toys' just as sex has lost its significance as a form of reproduction or relationship and become a form of 'play'".

Since the launch of E L James' erotic trilogy *Fifty Shades of Grey* (2012), the sex toy industry has reported significant increases in the sales of erotic toys in the Western markets. *Fifty Shades of Grey* stayed at the top of *USA Today*'s best-selling book list for 20 weeks and sold some 70 million copies worldwide (Trachtenberg, 2013). In the trilogy, the activity of sex is constantly referred to as *play*. The three books and the cinematic adaptation of E L James' first novel are, in the interest of this essay, entirely based around the adult playing of sexual games.

Sex has been employed as a topic in game studies for a long time (e.g. beginning with Suits 1978, and most recently Brown 2015) but there are only a few studies on how toys used in sex are designed, manufactured and marketed, or – used in sexual play. One of the most relevant writings exploring accessorized sex is Clarissa Smith's article from 2007. Smith points out that the consumption of accessories for sex such as toys depends on gender and class identities and contributes to the construction of a particular form of hedonistic femininity. Lynn Comella's dissertation from 2004 investigates the liberation movement in reference to women-owned sex toy stores. Again, Fahs and Swank's (2013) study introduce women's narratives about using sex toys. Although the aforementioned writings do not represent the conclusive range of literature in relation to sexual consumption, the research material concerned with sex toys in particular and especially in reference to playfulness as a mindset or play as an activity is relatively scarce. In this essay, concentrating on the toys in E L James' trilogy (*Fifty Shades of Grey*, *Fifty Shades Darker* and *Fifty Shades Freed*, all published simultaneously by Vintage Books in 2012) and the first

film directed by Sam Taylor-Johnson (2015), I draw on theoretical writings from transdisciplinary sources, concentrating first and foremost on studies interested in sex-related products as commodities but secondly building on ideas derived from e.g. game studies, play theories, toy research and online materials provided by companies selling erotic toys in order to investigate the contemporary material aspects of sexual play as a sub-phenomenon of the *toyification* megatrend.

Key Takeaways

- Play is a key theme in the Fifty Shades of Grey novel series.
- Sex toys are undergoing a development of *cutification*, which is a sub-genre of toyification.
- The Fifty Shades of Grey novel series has contributed to an upswing in the consumption of sex toys.

Artistic Productions

This section presents three examples of artistic productions, which have been exhibited in three locations in Finland during 2016-2017. These exhibitions intertwine with academic studies in the sense that the process of creating and curating them has parallelled, guided and contributed to the game and toy-based studies relating to topics such as adult toy play, transmedia-inspired play and the toyification of art.

The first example, Sigrid-Secrets (based in Pori, 2016-, and Rauma - forthcoming), describes a gamified artwork, which originated in the context of an urban exhibition in Pori in the summer of 2016 - 'Hidden Art' (Kätketty taide). As the work represents a participatory - and at this stage permanent - installation, it has allowed the researchers to examine its reception and long-term use in several research papers, some of which are described in this report. The studies around Sigrid-Secrets demonstrate, first, how gamified art can be created in a way that invites users to participatory play, and second, in which way it is possible to gather information on its use.

The second example of the art exhibition #Sadanvuodenleikki (exhibited in Noormarkku and Rauma in 2017) shows how toys are used to communicate, address and re-play historical events and representations of for example war time Finland. The exhibition also studies the evolution of play and playthings through the 1900s to this day.

The third example, Peak Experience (exhibited in Pori in 2016 and Helsinki in 2017) illustrates how the fictional world of the popular TV series Twin Peaks created by David Lynch and Mark Frost in the 1990s, and developed into a new TV series in 2017, has been used as a starting point for an art exhibition. The exhibition, interested in re-playing iconic scenes and the unique ambience of the TV series that has generated a cult following, uses the concept of toyification of art as another point of entry to studying questions related to fandom, transmedia-artistry and object play of adults with toys.

Sigrid-Secrets. Art Experiences Through Geocaching.

Heljakka, K. & Ihamäki, P. (2016-). *Vihervuosi*. Pori, Finland (May 2016, Kätketty taide); Rauma (Forthcoming).


SATAKUNNAN KANSA

Taide meni piiloon Porissa

Mistä 1500 neliömetrin varahalli?

Parittaja menetti rahat ja firman

Niinistö tapaa Obaman

Messusopimus esille lokakuussa

Taksapäätös pitkittyy Porissa

Kuntakentän lainakanta vain kasvaa

Poliisi vahtii pyöräilijöitä nyt tarkasti

Tänään juhlitaan suomalaisuuden päivää

Aasian makuja meksikolaisittain

Luonnon omia muistomerkkejä

Pöriläine

Figure. Kati and Pirita featured in a local newspaper.

The *Sigrid-Secrets* art experience based on a geocaching trail was a part of the national *Vihervuosi 2016* thematic event in Finland. It was launched as a part of the *Hidden Art* (‘Kätketty taide’) exhibition in May 2016. The geocaching trail including physical artworks stands as a permanent exhibit after the ending of the event. The hybrid and social art experience holds six artworks placed in the city center of Pori. The *Sigrid-Secrets* art experience includes a fictive story presented on the trail’s own website. The ‘treasure hunt’ conducted together with the character of Sigrid presented in the photographic works, includes playful elements, e.g. mini games, such as riddles and trivia questions. In this way, the *Sigrid-Secrets* experience represents a convergence between playful and gameful experiences and contemporary art – a gamified art exhibition that involves interaction with the artworks themselves, urban space and digital technologies.

Key Takeaways

- A geocaching trail may be enhanced with physical artworks that build on a story.
- The story told on the geocaching trail may be made interactive through mini games, for example.
- An ‘artified’ geocaching trail offers possibilities to develop hybrid play experiences in the intersections between physical artworks, urban structures, and digital communication technologies.

#Sadanvuodenleikki

Heljakka. K. (2017). *Osteria da Filippo*, Rauma, Finland (November 2017); *Galleria Ekqvist*, Noormarkku, Finland (September 2017).

Toys have a startling capacity to channel human emotions – besides feelings of joy and happiness, also emotions related to fear, uncertainty and unease. This is because – or despite – the fact that they are images of a human being. In photoplay, toys are enlivened through photography and used as vehicles for storytelling.

This exhibition created in honour of Finland's centennial celebrations, casts an eye on the history of playthings and the activity that brings them to life – the past and the present, the traditional and the current, the material, the digital and their converging fields – toy play then and now.

During times of independence, Finns have experienced both war and peace. People played during the war and play especially may be a strategy to deal with difficult matters. My (Heljakka's) own generation has usually approached the war theme through the imagination. Warfare happens in the context of the imagination and entertainment plays its role in this process. A real life war is hard to imagine in the independent state of Finland. Still, its threat seems to creep closer and closer all the time. Is one allowed to play with the theme of war in order to understand it better?

In this exhibition, the themes of play vary from serious to entertaining. The photo-comic Karjala 1944 is based on a real-life story from war-time Finland and a manuscript by the Finnish comic artist Hanneriina Moisseinen. The toy version is my own creation. Death of a Doll builds on a wartime photograph in which a male soldier leans on the body of a female soldier. The woman in the picture was an enemy, as Finnish war victims were not photographed in this way. The exhibition features lighter shades of play as well: artworks from the past years of my career as a toying artist. In Noormarkku, at Galleria Liisa Ekqvist the guests are able to acquaint themselves with a historial toy collection curated by Liisa and Juhani Ekqvist for the exhibition. In Rauma: Images from the geocaching trail Sigrid-Secrets created in cooperation with Pirita Ihamäki and photoplay featuring the Blythe doll in a traditional Finnish dress made by Tiina Tommila.

Figures. War and dolls blurs the line between serious and play.

"At best, art invites to play and participatory artworks allow the exhibition visitors to take part in this play."

My own toy-play surprises and baffles me at times and sometimes generates an experience which I refer to as 'wow' in my research. Playing is my own research instrument, and the toys are portals to the world of play. Art gives a freedom to play. At best, art invites to play and participatory artworks allow the exhibition visitors to take part in this play. In this way, playing comes closer to the concrete. Will you play with me?

Kati (Katriina) Heljakka (b. 1975) is a toy researcher and toying artist based in Pori, Finland. She has an interest in photoplay (toy photography) and participatory artworks. Heljakka got her doctorate from the Aalto University in 2013 with her dissertation concerned with adult toy play and has since participated in many art exhibitions both in terms of solo and group exhibitions in Finland, Portugal and the United States. Currently, Heljakka works as a postdoctoral research fellow at the University of Turku in the Hybrid Social Play project, in which she continues her research on toys and play.

Key Takeaways

- Hybrid features such as QR codes may be used as a part of art exhibitions by animating images.
- Toys may be used in the re-creation of existing narratives and visual documents, thus provoking emotional responses in the viewers.
- War-related images may be created with toys in a way that is approachable to young audiences as well.

Figures. Wartime narratives depicted with dolls.

Peak Experience

Curator/artist at group exhibition, Creat Space, Helsinki (January 2017); P-galleria, Pori (November 2016). Artists: Anoschkin, Heljakka, Ivana Helsinki, Kallionkieli, Kasurinen, Kettunen, Laine, Lehtinen, Tukiainen, Ramirez.

Figures. Kati with "Reflections" of Twin Peaks and toyified Killer Bob and Laura Palmer.

In 2015, 25 years had passed from the first broadcasting of Twin Peaks. The saga of the original cult television series that still attracts new audiences continued in 2017, when a new season created by Mark Frost and David Lynch, and directed by Lynch, saw daylight.

In the beginning of the 1990s I (Kati Heljakka) was a teenager, who, after videotaping episodes of Twin Peaks with my sister, used to press the pause button every time Killer Bob appeared on the screen. After having been a fan of the series for decades I have, during the past years, explored Twin Peaks both as a toy and play scholar and as a visual artist. After having seen Raisa Kettunen's re-playing of iconic Twin Peaks scenes with her Blythe doll, I dreamed up the idea of an art exhibition which would invite Finnish artists to participate in a group exhibition as Twin Peaks fans, players, creatives and contemporary artists. A dream team of ten artists was created, including a Columbian talent.

The Peak Experience team includes internationally recognized contemporary artists Jasmin Anoschkin, Mari Kasurinen and Katja Tukiainen, the art and design brand Ivana Helsinki, goldsmith and jewelry designer Henna Kallionkieli, visualists Johanna Lehtinen and Carina Laine, amigurumi artist Jennifer Ramirez and photoplayers/toy photographers Raisa Kettunen and Kati Heljakka.

The name of our exhibition refers, besides Twin Peaks, to peak experiences theorized by psychologist Abraham Maslow (1908-1970). A peak experience stands for a moment of happiness and fulfilment, which has meaning to both wellbeing and mental development. Maslow placed the human desire for self-expression on the top of his hierarchy. When playing, a person may have a peak experience related to the use of the imagination and limitless self-expression. Contemporary forms of play are often inspired by popular culture and the re-imagining of and toying with story worlds connected to transmedia phenomena have become emergent in both fandoms and in the context of art. Mimetic forms of play and multifaceted intertextual references to iconic popular productions are present in fan art and tributes of various kinds.

Figures. Iconography inspired by Twin Peaks and the iconic line borrowed from the series turned into a toyified protective jacket/wearable art: "The owls are what they seem".

Our Peak Experience art exhibition plays with artworks and spatial atmospheres created with different techniques. It is an artistic tribute to the magic story world created by David Lynch and Mark Frost. In our exhibition, minimalism meets maximalism, plastic meets organic materials and beauty is juxtaposed with terror. At the same time, humor, mischievousness and mystery are present. The exhibition includes participatory elements, as well, allowing the viewers to join in the game by posting photographs depicting landscapes from their hometown, which remind them of Twin Peaks by using hashtags #ihakotvinpiiksis, #precissomitwinpeaks, #justlikeintwinpeaks and #peakexperience. Further, visitors may photograph themselves in a staged environment reminiscent of Agent Dale Cooper's dream world/the Black Lodge. This exhibition has been curated by the Finland-based post-doctoral researcher and artist Kati Heljakka.

Key Takeaways

- Artists re-play famous scenes from TV series like Twin Peaks. Sometimes this is done with the help of toys.
- Toy portraits are made based on popular TV characters both professionally and non-professionally. E.g. the toy company Funko's work is based on the idea of producing 'cutified' versions of known characters. Again, many non-professionals (or non-industry based crafters) make e.g. amigurumi (crocheted toys inspired by fictional characters)
- Gallery guests may be encouraged to take part in the exhibition by activating themselves through photo challenges like in the exhibition presented above. The threshold to play, may, nevertheless, be surprisingly high and not many will participate, although given the chance to take part in an art exhibition and have their work showcased.

> *"Contemporary forms of play are often inspired by popular culture and the re-imagining of and toying with story worlds connected to transmedia phenomena have become emergent in both fandoms and in the context of art."*

Hybrid Game Case Studies

This section presents case studies of six different hybrid games focusing on their playability and player experiences. These case studies are based on the game evaluation assignments made by University of Tampere students for the ITIA8 Player & User Studies course run by Janne Paavilainen. Each game was studied by a team of three students. In these case studies, the games are evaluated from three perspectives.

1. Heuristic evaluation of playability
2. Playful Experiences (PLEX) analysis
3. Playtests and interviews

The heuristic evaluation of playability focuses on the quality of a game. The students utilized playability heuristics by Korhonen (2016) to investigate design problems in these games. Depending on the game, the heuristic evaluation took one-to-two hours and it was done individually. After the individual inspection, the group discussed their findings and created a master list of unique playability problems with severity ratings and references to the violated heuristics.

The PLEX analysis was first done individually and then discussed and summarized in a group. The students used the PLEX categories to recognize their personal experiences with the game. Rather than just identifying the categories, that are usually abundant in games, it is more important to analyse how each PLEX category is manifested through the game.

For the playtests and interviews, the students recruited a total of six playtesters for each game. The test was one-to-two hours depending on the game. Each testee was interviewed about their play experiences and the findings were summarized in the assignment report. The case studies presented here are summaries of the course assignment reports. The students have highlighted the most important and interesting findings with the key takeaways. These case studies with three different evaluation methods provide interesting perspectives to the playability and player experiences of hybrid games.

Anki Overdrive (Anki, 2017)

Celedon, L., Yapa. & Daunoravicius, T. (2017). Evaluation of Anki Overdrive. ITIA8 Player & User Studies Evaluation Assignment. University of Tampere.

Figures. Anki Overdrive provides a new kind of slot car experience with mobile phone integration.

Anki Overdrive is a racing car hybrid board game. The players build a physical racing track with the provided kit, and control the cars through a mobile app. A maximum of four cars can race each other on the track. Players can also activate an inbuilt weaponry system to interrupt their opponents and gain an advantage. In addition to the multiplayer mode, the game also supports a single player mode in which the other three cars are controlled by an AI. Moreover, the game also has an upgrade system where the players can spend in-game cash for example to upgrade their weaponry and buy special items and boosts.

Through the heuristic evaluation conducted on Anki Overdrive, the team found several problems along with some good findings about the game. Mainly the inability to connect to the game with an Android phone when the game is hosted by an iPhone was disturbing and it took a lot of time to figure out what went wrong. Also, the visual design of the mobile application is not optimized enough and has several flaws as some of the car controls are not clear enough and could be improved. Furthermore, the user does not feel that they are in control as just pressing the gas pedal can win them the game. However, the team also found that the visual appearance of the physical racetrack and the cars is fun and encouraging and the freedom to create the tracks is very impressive and pleasing. Also, the game mechanics are simple and easy to learn, hence, anyone could setup and play the game in less than 10 minutes.

The game provides opportunities to play physically close with multiple players, enables the player to build the game environment freely and pushes the player towards achieving pre-defined goals, since the campaign mode requires the user to follow and complete objectives in order to unlock additional features, for example. Also, the racing track, the cars and the visuals of the mobile app resemble the feeling of driving an actual car. Thus, the team identified *Completion*, *Competition*, *Control*, *Exploration*, *Relaxation*, *Submission* and *Simulation* as the most prominent PLEX categories. Also, the team noticed that some of the features and design flaws can disturb the player (*Suffering*), the audiovisuals can arouse the user's imagination (*Fantasy*) and the game can be played with friends (*Fellowship*). The team found that the game strongly complies with many categories of the PLEX analysis, whereas some categories were less

dominant but could still be experienced by playing the game.

According to the results of the playtests of six people, the team found that all the participants were very enthusiastic about controlling the car with their mobile phone. However, the participants faced issues controlling the car with their mobile phone due to a lack of clarity about the car controlling interface. Moreover, the team observed that the participants did not feel challenged enough during the gameplay and were not interested in playing the game again. Nonetheless, the visually pleasing cars, the ability to block other cars by switching lanes and the ability to build innovative tracks are some of the significant attractive features that the team perceived during the interview process. Finally, the team was also able to gather good future improvement suggestions from the participants, such as making the mobile car controls more user friendly, minimizing the odds of getting the car flipped off the track, and introducing barriers on the track so that a player could switch lanes more often.

Key Takeaways

- The level of freedom given to build the racing track is remarkable.
- Android users cannot play with iPhone users.
- The player does not feel in control of the game just by tapping the gas pedal.
- The playtesters did not feel that the game was challenging enough.

Space Alert (Czech Games Edition, 2008)

He, D., Pehkonen, V. & Ouyang, W. (2017). Evaluation of Space Alert. ITIA8 Player & User Studies Evaluation Assignment. University of Tampere.

Figures. Space Alert is an audio-based board game.

Space Alert is a science fiction themed cooperative team survival game. It demands cooperation, communication, comprehension and strategy. Players become crew members of a spaceship, scanning through dangerous sectors of the galaxy. The regular playing time is 30 minutes with 1-5 players. As a hybrid board game, it provides a CD which includes soundtracks that work both as timers and as a method of relaying information. The players make decisions according to the announcements from the soundtrack. The players are allocated distinct roles within the game, each role having specific tasks. To name a few, the tasks include coordinating a defensive plan or listening to information transmitted in the soundtrack and conveying it to the other players.

The playing experience of Space Alert was analysed with game playability heuristics. Several playability issues came up during the playtest sessions. The rules are complicated, causing the first time players to take a while to understand how to proceed within the game. Fortunately, there are predesigned methods to simplify the gameplay by discarding certain parts of the game, which may ease the process. Secondly, the roles suggested in the handbook provided with the game are not of equal difficulty. For example, playing as a captain requires very good memory and an overall understanding of where all the players currently stand, while playing as a security chief you just listen to the communications officer and place threat cards to their corresponding places on the board.

In the PLEX-analysis, the most important categories found were *Fantasy*, *Challenge*, *Thrill* and *Fellowship*. Firstly, the game design, especially the soundtrack, enhances the theme and the imagined situation of a space battle audio-visually. Secondly, the tasks require understanding of various terms and fast reactions to urgent alerts, which cause excitement and challenge. Thirdly, communication, cooperation and friendship are developed when the players decide on strategies and coordinate their movements together. In addition, other less common PLEX-categories that can be found are *Control*, *Suffering* and *Submission*. The captain may feel pleasure from dominating and commanding, but depending on the captain's attitude and decisions, the other players might experience emotions such as suffering. Frustration and confusion are perceived due to the complicated rules and the long guide book.

Submission is relatively less common, felt by the players during the playtests who were passive and/or did not understand the rules.

An agreement was reached among the playtesters that the rules and regulations of the game were hard to understand at first. The imbalanced roles were mentioned. The captain should organise and memorise the members' movements according to the soundtrack, which requires more responsibility than other crew members. On the positive side, the way Space Alert is played as a team against the board was thought of as unique and interesting. This, together with the soundtrack and the necessity for teamplay, caused an immersive experience once the gameplay became more familiar to the playtesters.

Although Space Alert might be challenging to learn; especially for players who are not board game aficionados; it provides a fast-paced, immersive and unique experience once the gameplay is understood. Since the soundtrack includes a host of missions to choose from, the players are faced with new challenges every game. That is, until there is no new missions to play. Since the threats are always drawn randomly, the same mission can be played with different aliens and monsters to face, but seasoned players may be able to memorise at which point of each mission events occur, causing the gameplay to become repetitive. However, this is a minor complaint and there is even an expansion available if this becomes an issue.

Key Takeaways

- An immersive audio-visual board game experience.
- Playing together against the board evokes fellowship.
- Multiple ways to change the game's difficulty.
- Takes a few rounds to understand the rules initially.

XCOM - The Board Game (Fantasy Flight Games, 2015)

Komulainen, L., Latva, M. & Vaculíková, J. (2017). Evaluation of XCOM - The Board Game. ITIA8 Player & User Studies Evaluation Assignment. University of Tampere.

Figures. XCOM features many tokens and uses a tablet to facilitate gameplay.

XCOM: The Board Game takes the popular XCOM universe and turns it into a challenging hybrid board game. Up to four players take on a mission to thwart an incoming alien invasion by hunting down their U.F.Os, securing the Earth's orbit and assigning missions to bring peace to all the continents. Each player assumes one of the four roles in the game; Commander, Chief Scientist, Central Officer, and Squad Leader. All have different abilities and control over different stages of the turn. The game features a downloadable companion application to act as a game master. The application generates all the in-game events and changes in the phase of the game while creating an immersive atmosphere via music and sounds. The gameplay is divided into two phases called the timed phase and the resolution phase. In the timed phase, the application provides events that the players are given a certain time to react to accordingly. After all of the events of the current phase are processed, the application announces the start of the resolution phase. In this phase, the players have to resolve all of the events currently unfolding around the world on the game board. In the end, the game mostly revolves around the challenge of managing different resources that are spent completing different tasks during the resolution phase.

The heuristic violations were mostly centered around the difficulty of the game. This was a combination of the amount of time it takes to set up the game as well as actually learning how to and playing the game. Difficulties presented themselves in the complexity of the rules and the flow of the game. As for positive findings, the team concluded that the digital application was crucial to the flow of the game. This was because the application contained all the necessary information for the game to be played, such as FAQs and the rules.

Through PLEX analysis, the team found that XCOM induced feelings of *Exploration* and *Discovery* by being an innovative and interesting experience while also requiring *Fellowship* to complete and play the game effectively. One of the most noted categories was *Challenge* due to the game being unforgivingly difficult to understand and play.

In the playtesting part of the evaluation process, the team had two different groups of four volunteers with varying board game experience to play a round of the game on easy difficulty. The members of the first

Figures. Playtesting in action.

playtest group were totally new to XCOM and the board game, only having heard the name before. Setting up the game proved to be a challenge in itself, as the game has various kinds of cards and tokens that must be set on their corresponding spots on the board. As they were rookie players, the playtesters tried out the tutorial mission. After playing for a set time of around two hours, the playtesters were still in the middle of the tutorial mission. The playtesters also noted that the game is very difficult to get immersed in and were discouraged by its unforgiving nature. Additionally, playing the game in tutorial mode gives a false impression of what playing the game in regular mode is like. In the second group, two of the four players had played the game before. The presence of experienced players had a tremendous impact on the first-timers' gameplay experience. Setting up the game was quicker and the flow of the game was easier to understand when explained by someone who had a prior understanding of it.

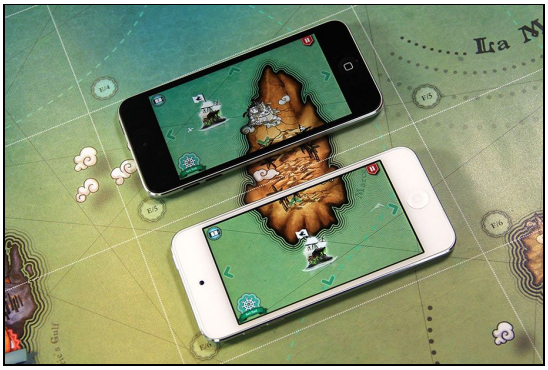
A development idea from the evaluation was that the digital application could be given a soul of its own. It could work more like a companion. With this added feature, it could still direct the game, but the app could take on the role of a player as well. This could play an important part in getting to know the game.

Key Takeaways

- Difficulties in learning the game may discourage beginners from playing.
- The (optional) digital application is essential for the flow of the game.
- The tutorial does not give a reliable impression of what playing the game is actually like.
- The presence of experienced players makes the game easier for others to understand.

World of Yo-Ho (IELLO, Volumique, 2016)

Rahnama, B., Pekkarinen, T. & Iso-Ettala, E. (2017). Evaluation of World of Yo-Ho. ITIA8 Player & User Studies Evaluation Assignment. University of Tampere. Summary by Elina Koskinen.



Figures. World of Yo-Ho utilizes mobile phones and a large gameboard.

World of Yo-Ho is a turn based pirate themed hybrid board game that features a physical board with a map that consists of seas and islands. The game also requires a downloadable application that turns the players' smartphones into pirate ship pawns. To play the game, smartphones with a certain screen size are required. Moreover, the players are required to use their own personal phones. The game is suitable for groups of 2-4 and is estimated to last for 45-90 minutes on average. In the beginning of the game, each player chooses a captain and a ship, all of these having their own perks and qualities. The main aim of the game is to reach a selected amount of points.

Through heuristic evaluation, it was discovered that the biggest playability problem was network issues. All the phones needed to be connected to the same network but some public networks do not seem to work. Turning one of the phones into a Wi-Fi hotspot causes all the phones to freeze and crash when the hotspot phone receives messages or phone calls. Fortunately, the application automatically saves the progress of the game, so the game continues from where it crashed. The most frustrating playability issue was with the movement of the ships to the correct spots on the map due to the application's inability to decipher the phone's movement accurately. The tutorial had some issues, as well. The tutorial appeared as popup boxes that contained information about the player's current activity. The tutorial moved forward when any part of the screen was tapped, even accidentally, and it turned out that moving backwards in the tutorial was impossible. During the game, there was no option available to ask further information when needed, except for the paper instructions. However, the finding that the players are able to proceed with the tutorial at their own pace was a positive feature.

Other positive features that were found in the game were such as the audio-visual representation. The battle scenes were entertaining and the sounds at the beginning of each turn also added humour to the gaming. The game also supported different playing styles, for example, some players were able to battle sea monsters or each other, while others could freely explore the islands.

Some categories rose up in the PLEX-analysis more than others. *Competition* was felt during completing

missions and collecting points. The feeling of *Discovery* was present, for example when finding new items. *Exploration* of objects or situations in the game, like missions or combat situations, was possible. Familiarising with the game felt like exploration too. *Humour* was found in the sounds and animations. *Suffering* was felt during the game mostly due to frustration caused by the application operating incorrectly or by the unclarity of events.

From the digital aspects of the game, the playtest group enjoyed the sounds and believed that the phone added depth to the game. The notion of their phones being their personal pirate ships also caused enthusiasm and the players seemed to enjoy moving their phones on the board. However, the playtesters had similar problems mentioned earlier with the phone movement and network issues. Almost all found the tutorial unhelpful and unclear. It was felt that it had too much text compared to the difficulty of the gameplay itself. The playtesters also thought that the interaction between the players was reduced compared to a traditional board game as mostly everyone seemed to focus on their own phones and rarely talked with each other.

During the debriefing, the players said to have been left with a good impression of the game and had a fun time playing it. They found the visuals appealing and thought the gameplay was new and innovative. The board was clear and the game was easy to understand.

Key Takeaways

- Network problems with open Wi-Fi and phone hotspots.
- Phone movement on the map was often interpreted incorrectly by the app.
- No possibility of going back in the instructions.
- Interesting audio-visual representation.

Beasts of Balance (Sensible Object, 2016)

Hakkarainen, S., Raparanta, E. & Simpanen, S. (2017). Evaluation of Beasts of Balance. ITIA8 Player & User Studies Evaluation Assignment. University of Tampere. Summary by Elina Koskinen.

Figures. Beasts of Balance utilizes a scale and a tablet for gameplay.

In the hybrid board game Beasts of Balance the players work as a team and try to achieve a common goal. The game is reminiscent of “old school” block building games that require dexterity. The visual style is personal and compelling. The game is easy to learn and quick to play – one game lasts for about 15 minutes.

The major PLEX-categories were *Captivation*, *Challenge*, *Fellowship* and *Thrill*. *Captivation* came up because it was easy to forget about one’s surroundings when concentrating on the changing world on the mobile app, finding usable strategies with the physical objects, thinking about different strategies and trying to keep a steady hand when placing the blocks so that the whole thing would not fall apart. The game offered some *Challenge*, mostly through placing the physical objects in a way that helps achieving the objectives of the player. The other kind of challenge, though a negative one, is trying to keep all the animals alive, but it was almost impossible to maintain all the life created in the game. Also, the challenge grows as the game progresses as there are more and more things the players have to take into consideration when making their decisions. *Fellowship* emerged because the game requires communication and is clearly most fun to play with people you know. The excitement, *Thrill*, in the game mostly emerged from placing the physical objects. The way the physical objects were designed caused the structures to be somewhat unstable at some point in the playthrough and made it risky to add new pieces. It was also the only way for the game to end so the risk was especially high the further the game progressed.

Most of the interviewees were confused about the logic behind gaining points which lead to the game having no clear goals**.** This was also one of the more severe heuristic problems. The lack of understanding the logic of gaining points can be seen in the absence of the *Competition* category in the PLEX analysis. This could have been very different if there had been a clear understanding of collecting points from the beginning of the gameplay. In the playtest, the meaning of competition was verbalized by some players, but it was hardly visible or clear. Most of the test groups did not recognize competing as a part of their goals in the game. This could also be seen as a positive aspect. In the PLEX-analysis, the lack of clear objectives was found relaxing and offering a sense of a laid-back feeling. In the playtest situations, the relaxed feeling could be

noticed in the calm atmosphere and easy conversations between the players.

One of the most interesting findings was the experience of help and instructions given. In the heuristic evaluation and the PLEX-analysis the lack of instructions was experienced mainly as a bad thing but in the playtest groups it was also seen as a positive aspect. Two of the test players brought up how not needing to read manuals and rules for the game was unusual but in a good way. In the evaluators' own game sessions there was some frustration about not knowing precisely how the game works and what the logic behind the different actions is. This kind of frustration was not noticeable in the playtest situations. One of the reasons for this kind of a difference in the experiences could be a consequence of our aim to understand the game as well as possible to be able to conduct the observations and the interviews.

Beasts of Balance is interesting in the sense that it offers the possibility to choose what is important in the game experience and what objectives the player is aiming for. In the PLEX-analysis and in the playtests, the joy of discovery can be seen to be important. All of the test groups were interested in the cross-breedings of the species and the functions of the different physical objects. The aim to use and understand the different actions and functions of the physical objects was verbalized by most of the interviewees. The players can be innovative and creative in finding their own goals.

Key Takeaways

- Easy to learn and quick to play.
- The PLEX categories strongly present were *Captivation*, *Challenge*, *Fellowship* and *Thrill.*
- The lack of clear goals was interpreted both positively and negatively.
- The lack of instructions was also interpreted in both positive and negative ways.

Descent: Journeys in the Dark (2nd Edition) (Fantasy Flight Games, 2012)

Kakko, E. & Chistov, P. (2017). Evaluation of Descent: Journeys in the Dark (Second Edition). ITIA8 Player & User Studies Evaluation Assignment. University of Tampere. Summary by Elina Koskinen.

Figures. Descent art box and gameboard.

Descent: Journeys in the Dark is a board game with a mobile application extension “Road to Legend”. The game app acts as a digital Overlord / Game Master. For the campaign, “Rise of all Goblins” was selected since it was introduced as a tutorial play. The game’s average session time is two hours.

During the heuristic evaluation, all of the group members felt that there was confusion about the functions of the game pieces. The application did not give much hints about how the pieces needed to look like and the manual did not explain their purpose in a comprehensive way. It was hard to keep track of things changing, like health and the special states of the characters. Overall, everyone’s findings supported the main feeling of confusion, frustration, and hassle when playing the tutorial game.

Through the PLEX-analysis, it was found that the strongest category was *Fellowship* since it is about cooperation and keeping everybody alive. *Challenge* was felt when trying to learn the rules and battling enemies. The game was felt to be a generic *Fantasy* game. *Submission* was felt from different points of views, whether it was submitting to the rules, to the group or a zombie army. The feeling of *Completion* came from completing levels, quests, and tasks. *Discovery* emerged from search tokens, unopened doors, and unidentified objects. *Exploration* was about discovering tiles and investigating. *Suffering* emerged from actually playing the game with too many rules, cards and dices, and from the inconsistency of the tutorial.

The interviewed playtesters also felt the game to be too hard and confusing. They did not seem too interested to go through the frustrating journey of learning to play the game, but still saw potential in it. The playtesters felt that the more enthusiastic players of this type of a game could still feel it to be worth the time spent.

Most of the testers felt that setting up the game pieces by following the given instructions was quite easy. The actual gameplay instructions and using the manual was usually seen to be confusing and frustrating. The instructions and finding help from the manual was felt to be unpleasant. The testers proposed adding a better hinting system, direct links from the application to a part

of the manual in question or expressing instructions in an audible or a visual way to make the instructions and the information more available and pleasing.

Most of the testers were not really satisfied with the mobile application as an extension for a traditional board game. Potential in the digital format was found, but the playtesters thought the state of the application was pretty poor at the time: it would definitely need more development. Digitizing health tracking and dice rolling were seen as good additions to the application since they caused much unnecessary hassle and misunderstandings.

Almost every problem detected occurred with the actual manual or with the provided game app. These were related to the quest structure of the tutorial and required a great deal of manual backtracking and reading throughout the gameplay session. This led to a frustration and confusion in both the expert review and the playtesting session.

Key Takeaways

- The game was felt to be too difficult and confusing.
- The instructions were poorly presented.
- The game has potential, but is currently a mess.

Key Findings

This is the last section of the report – the key findings. We have crystallized the results of all the research and design work into concise answers replying to the three original research questions. The findings have been formed through many different methods and approaches utilized during the two year research process. Before we can truly comprehend the answers, we must understand the questions. Here the questions are explained with further details.

1. What are the key digital and physical aspects that define successful social playability in physical, digital, and hybrid use contexts?

This is a question focusing on the design quality of the artefact. It focuses on the attributes of hybrid products and services that afford successful social playability. Hybridity should not be understood only as a combination of the digital and the physical, but as a diverse opportunity to combine technology, concepts, and materials together.

2. What are the principles and best practices for the design and evaluation of hybrid entertainment products?

This is a production related question that inadvertently relates to the first one. Basically, this means how do we get to the answer of the first question – the means and the methods to design successful hybrid social play. There is a strong connection between this question and the first, and thus the answers are closely connected.

3. How successful hybrid social playability can be implemented within emerging, near future forms of games and media?

The last question relates to the vision of the future. What are the upcoming trends and how do they relate to hybrid social play – and how does one prepare oneself for the future.

In addition to this report and its key findings, we also recommend the reader to take a closer look at the earlier Hybridex project's final report. Hybrid Playful Experiences: Playing between Material and Digital (Tyni et al., 2016) http://tampub.uta.fi/handle/10024/98900

1. What are the key digital and physical aspects that define successful social playability in physical, digital, and hybrid use contexts?

I.	Easy to approach, easy to use. Accessibility is a key aspect in new hybrid products and services. The technology should be user-friendly, not a frustrating nuisance that requires a lot of mental effort and is prone to errors. Feedback and reward should be quick, thus encouraging continued use. Familiarity lowers the barrier of entry, as was shown by *Pokémon GO*. One should not reinvent the wheel, but combine features that users already enjoy in digital and physical products. Sociability can be encouraged, but not demanded. Automation helps to prevent errors, mistakes, and cheating.
II.	Added sustainable value. Hybrid products should not only rely on gimmicks or shock value. Although such an approach can be successful in creating initial interest, there should be long-term value for the user. The added value can be evaluated by considering whether it could be reached without a hybridity. The added value can exchange, extend, or expand the norm.
III.	Digital updates. Digitality affords updates and further developments that extend the life-cycle of hybrid products. Products have become services that are scalable as digital content can be updated, improved, and transformed easier than physical content. Digital content also affords user-generated content in any domain via appropriate tools. Updates and UGC tools must be user-friendly and non-invasive. Digital updates also increase the replay value.
IV.	Physical objects are more personal and intimate than digital features. Physicality affords tactile experiences, induces sociability, and evokes emotional responses. Physical elements can lower the threshold for adoption and they provide presence and a center of attention for play. They should also have clear affordances – and hidden surprises. Ownership and collections can be a great source of personal enjoyment and social interaction among hobbyists.
V.	Meaningful phygital. The physical elements should support the use of digital elements and vice versa. Both dimensions should be meaningful to the player and interlink in a natural way according to the theme. Instead of working at the same time or in a single product, the use of physical and digital elements can take turns. They can be related through a thematic rather than a functional connection.
VI.	Social technology. Hybrid elements should not move the focus away from social interaction. Rather than looking at devices, users should interact with each other. Hybrid sociability should support presence, communication, and interaction between the users. The social features do not have to be complex – sometimes an ambient sociability focusing on (tele)presence can be enough. Social media integration, such as sharing and streaming, has become increasingly important. Presenting information asymmetrically encourages sociability between the players.
VII	Characters, stories, and brands can be utilized to make hybrid products more accessible. Brands mean familiarity, characters provide identification, and stories inspire imagination. All these aspects can lower the barrier of entry and create interest for a new user.
VIII.	Content is the king! Technological gimmicks are worthless if they cannot provide meaningful content for the user. The social, playful user experience is the goal and the hybrid product or service is just a vessel to move toward that experience. A useful approach is to think of hybrid games as hybrids of different gaming experiences. As time passes, something that is considered hybrid now will be the new norm. Hybridity in itself offers only short term value. Through new kinds of experiences that are blends of existing experiences, hybridity can offer more sustainable value for the users.

Table 16. Key aspects for defining social playability for hybrid use contexts.

2. What are the principles and best practices for the design and evaluation of hybrid entertainment products?

1.	The design guidelines presented in this report offer a starting point for creating hybrid products. Rather than seeing these guidelines as straight-forward answers, they should be understood as questions and lenses in a given context. They highlight the questions the designers should consider when creating new hybrid entertainment products. The guidelines can and should be neglected when there is good reason to do so. Often guidelines can be tradeoffs.
2.	Design canvases and models are great tools to guide the design process and to keep the focus on the important aspects. There are several design canvases and models available in this report that can be used as a basis for creating hybrid products in different domains. Again, these could, and should, be modified according to the case at hand.
3.	It is important to understand hybridity in a broader context than just the digital-physical dichotomy. Materials, genres, brands, industry practices etc. can be analyzed and merged together to create new forms of hybrid products. In a modern society, various media and entertainment products and services form a network where they intermix and borrow content and features from each other. For example, the toy industry is influenced by the fashion industry and traditional video games and money games borrow features from each other.
4.	Case studies are an important source of inspiration and a way to avoid the pitfalls found in earlier works. Mixing and matching successful features from earlier examples is a viable approach for creating new hybrid products with familiarity to earlier designs. Research prototypes and early launches can provide valuable information for commercial projects.
5.	Hybrid design requires hybrid teams with mixed expertise from different fields related to the hybrid product. Having comprehensive expertise from different domains is paramount to successful hybrid design.
6.	The design focus should be in the hybrid experience and not in the product or service itself. The product or service is merely a tool for creating hybrid social experiences. Technological triumphs should not trump (social) user experience and emotion engineering.
7.	It is important to understand when it is preferable to design hybrid products from scratch rather than trying to (forcefully) implement hybrid elements into an existing design that was not originally created to support such features. In any case, the hybrid element should be well designed for it to bring any added value. As the users are accustomed to the fast pace of the digital society they will quickly abandon products that do not fill their needs.
8.	Understanding the target group is vital for affording hybrid social play. Acknowledging the needs and wants of the users can guide the design process into the right direction.
9.	Evaluate design quality and user experience early and often. Both expert review methods (e.g. heuristic evaluation) and user testing are important as they complement each other. The guidelines presented in this report can be used as evaluation heuristics, as well, accompanied by the established playability heuristics presented in the report, as well.
10.	Planning and brainstorming hybrid products can function as a team spirit and creativity enhancing activity as well as bringing forth tacit knowledge in the company, even if the concepts are not realized. Concept design and paper prototyping are accessible to everyone regardless of their role in the company.

Table 17. Best principles and practices for the design and evaluation of hybrid products.

3. How successful hybrid social playability can be implemented within emerging, near future forms of games and media?

A.	Current trends and novel approaches eventually become mainstream. Currently, VR and AR technologies are providing wow-effects as most people do not have previous experiences with them. This effect will lessen over time as these technologies become more commonplace and mundane. At that point, it is crucial to provide valuable content through these technologies. It is important to follow and recognize new technologies that can provide added value through hybrid social play.
B.	Favor sustainable design over one-hit wonders. Large established hardware and software ecosystems provide sustainability. Elements that are commonly available, cheap to implement, and easy to use provide a promising platform for hybrid products. With physical products, customers often expect a much longer lifespan than with digital products. As such, it is important that hybrid products last time at least as well as a comparable physical product would. For example, board games can be played even years after the purchase, so an outdated digital element should not make the game unplayable.
C.	Social media integration, sharing, tweeting, snapchatting, and streaming have become very popular and there will be new forms of social media interaction in the future. Utilizing these affordances can be very beneficial for gaining views and visibility. (Un)intended humorous features can become memes that go viral, thus providing free marketing through customers.
D.	Current technologies already provide vast possibilities for hybrid social play. Utilizing tried-and-true technology in novel combinations can be used to create something new. Utilizing familiar technologies, platforms, and concepts lowers the threshold to try novel designs – and the production cost. Transmedia game concepts are often best realized with existing resources instead of developing new technology.
E.	Transmedia can be used to tie together media franchises. The power of brands should be utilized to create intriguing and exciting combinations of well-known and popular brands, characters, and storyworlds. Such combinations should be done with extreme care, however, so that the two merging aspects support each other in a natural – or a surprising way. The researchers and inventors of hybrid storytelling interviewed for this report see the future of hybrid storytelling more in combining digital elements with physical artifacts than in combining digital elements with books.
F.	Small but meaningful hybrid elements can have a great effect on the user experience. Affording small but meaningful choices through the hybrid element can make the product or service stand out and become more than the sum of its phygital parts. Rather than developing complex hybrid systems, the less-is-more approach can be more viable in an emerging field of social hybrid products.
G.	Understanding current trends on both the local and the global level. Games and play can have small but meaningful differences in the East and the West. Importing and exporting innovations successfully to and from other cultures requires thorough understanding of the phenomena and the cultures. The same applies when implementing features from different types of games, as in the convergence between free-to-play and gambling games.

Table 18. Implementing hybrid social playability for future forms of games and media.

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