Motivating Students to Learn law Through Co-Creation and Participation in Game Designing and Gameplay

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Abstract: The gaming industry has increased dramatically in a worldwide sense in recent years and this has brought significant importance to legal issues, such as intellectual property rights and contract law. This has meant for the continuous success of gaming companies that the understanding and use of IP instruments of protection is vitally important, however, it remains a challenge in many cases. Recently, the need to make the law more accessible to people and communicate legal information in a clear way has been recognized by legal designers, who are applying human-centred design to make legal services usable, useful and engaging. In our article we explore the co-creation process of an educational board game. Our research question is: How to facilitate 1. The learning of complex legal topics of the gaming business and 2. The training of soft skills by utilizing the principles of design thinking, service design, legal design and game design? We chose a board game as the presentation method of legal design, as the game environment is a context which is familiar to the game students. In addition, games enable the utilisation of different orders of legal design interventions, such as plain language, visual composition, interactive tools and creating a motivating learning environment. Learning by playing is an efficient way for learners to internalize the knowledge they have learnt. Our research approach was qualitative and we applied a design-based research method with which the educational game had been simultaneously developed and tested in practice. In this article we describe the collaborative game development process including the iterative development cycles with various stakeholders. In this article we focus on the co-creation of the contents of the board game describing its design process utilising legal design. Our observations highlight the potential of the game development process and playing the game in improving the students' motivation to understand the legal topics and processes relevant to game businesses. As our intermediary result we present the 1st version of the "Game Law - Law Game" educational board game. Our innovative findings will be of interest for researchers, practitioners, and teachers in the field of educational games, legal design and pedagogy.

Keywords: legal design, game design, educational game, GDBL, soft skills

1. Introduction

The gaming industry has been growing worldwide at a rapid rate and this has increased the significance of the role of legal aspects, such as intellectual property rights (patent, copyright and trademark), and contract law. The continuous success of gaming companies, increases the importance, understanding and use of Intellectual Property (IP) instruments of protection, however, this remains a challenge in many cases (Yu 2017). In Finland, the game industry has emerged relatively recently, but the Finnish digital entertainment industry is considered to be a prominent player in the global video gaming markets (Laajala 2014). All game developers should be familiar with some legal principles even though an in-depth knowledge is not required. In addition to intellectual property and contracts, other academics indicate that the third major area of law includes labour law (Rosenthal 2009).

Recently, the need to make the law more accessible to people and communicate legal information in a clearer way has been recognized by legal designers, who are applying human-centered design to make legal services usable, useful and engaging. The purpose of legal design is to focus on improving legal services by innovating, testing and building systems that serve best the people involved in them. (Hagan 2019)

We chose a board game as the presentation method of legal design, as the game environment is a familiar context to the game students. In addition, games enable the utilisation of different types of legal design interventions, such as plain language, visual composition, interactive tools and provide a complete journey (Hagan 2019), as well as creating a motivating learning environment. Learning by playing is an efficient way for learners to internalize the knowledge they have learnt. Traditionally games have been implemented in education in multiple ways (Wu & Wang, 2009; Sung et al., 2011). Firstly, they can be used to motivate students to do regular exercises and allow the instructor to monitor their progress in real time (Sindre et al., 2009; Foss &

Eikaas, 2006). Secondly, games can be played within the learning session to increase the participation and social interaction amongst the students. Lastly, the most demanding way is to have the students develop a game as a part of the course to learn skills within the desired field.

Emphasis and importance of soft skills for new employees has been steadily rising within workplaces with companies identifying a strong need for non-technical skills, including problem solving skills, teamwork skills, communication skills, time management, and cultural adaptability (Cukier et al., 2015). Also, recent studies show that soft skills are becoming more important than hard skills (i.e. technical expertise like engineering or graphic design). Particularly today in the network era and world of technological revolution, they are considered critical competences that are needed for a person to survive the complexity, diversity and constant and rapid change of work life. (Cimatti 2015; Karjalainen 2018; Global talent trends 2019; Workplace Learning Report 2019)

In a doctoral study made by Meeks (2017) she identified that the most important soft skill is communication capabilities for any new employee and she also noted that for new higher education graduates it's a skill they lack the most. One of the main conclusions from her research was that "colleges and higher education institutions need to emphasize the teaching of soft skills by making faculty more aware of the importance of the teaching soft skills, as well as by making students more cognizant of the significance of developing soft skills before entering the workforce." The importance of the development of soft skills by game development students was also recognised in our previous study regarding the co-creation of open badges in the Chips for Game Skills R&D project when identifying skill gaps between the game development education and game industry needs. (Kuhmonen, Pöyry-Lassila and Seppälä 2018).

Our research question is: In the context of the game industry, how to facilitate 1. The learning of complex legal topics of the gaming business and 2. The training of soft skills by utilizing the principles of design thinking, service design, legal design and game design? In our article we present the agile development process and reflections on collaborative educational board game design. As a result of the five development cycles, the 1st version of a board game focusing on IPRs, contracts and labour law, as well as soft skills, such as teamwork skills, communication skills, self-motivation skills and learning skills, was co-created.

In this article we focus on the co-creation of the contents of the board game describing its collaborative design process utilising legal design. This case study was carried out as a part of a Research, Development and Innovation (RDI) project called "Chips for Game Skills". Various student groups from universities of applied sciences participated in the co-creation process, including law, business and game development students. The university lecturers acted as instructors, developers, and researchers in the co-creation process with additional guidance from game industry representatives.

The article is organized in the following way. In the next section, the theoretical framework focusing on design thinking, legal design and game design based learning is presented. In section 3, the implementation of the case study is described. In section 4, the findings and results of the study are presented, followed by conclusions and discussion in section 5.

2. Educational board game and legal design

We approached the idea of developing the educational board game with the help of concepts and theories from design thinking, service design, legal design and game design. Firstly, we looked at the concept of design thinking and legal design and secondly, we reviewed the concepts and practices of game design based learning. In the third stage, we utilised design sprints as a service design method for directing the co-creation process of the educational game.

Design thinking means a way of adapting a professional designer's processes, mindsets and mechanics into other fields. Legal design thinking is the cross-discipline of legal thinking, design thinking, visual thinking and user experience (UX) design. The purpose of legal design is to improve legal services by innovating, testing and building systems that serve best the people involved in them. According to Hagan (2019) "Legal design aims to build environments, interfaces and tools that support people's smartness, and to shift the balance between the individual and the bureaucracy". In her research Hagan (2019) has mapped out several challenges for legal design to tackle, from which we selected as a starting point for our development project the following two: 1. "How can we better educate and empower young legal graduates?"; 2. "How can we make law accessible for

ordinary people?" In our case, legal graduates means bachelor degree business students specializing in law studies, who want to develop themselves as legal specialists by thinking of new tracks and solving problems in innovative ways. By improving communication our special focus is in communicating legal information to game development students and starting game companies in ways that people can understand and utilise. In addition, we paid attention to how law students can be educated in a way that legal information is more engaging and activating.

Service design is a methodology and a process enabling customer-centred development and value co-creation for customers through involving them in the design process. (e.g., Stickdorn et al., 2018; Yu and Sangiorgi, 2018; Andreassen et al., 2016) The idea is to enable collaborative development based on deep customer insight and interaction between various stakeholders. The idea of service design is to work iteratively so that several iterations of data collection, idea creation, and prototype testing would repeatedly follow each other. This cyclic or iterative way of working aims to minimize risk of failure as the ideas are tested continuously (Yu and Sangiorgi, 2018). (Kuhmonen, Pöyry-Lassila & Seppälä 2018)

Our approach was to integrate Game Design Based Learning (GDBL) within service design framework because we considered it extremely important to understand the needs of the users and to have a participatory mind-set, where users are seen as partners and active co-creators. In addition, service design is fitting for agile project work including prototyping, testing and iterating. (Kuhmonen, Pöyry-Lassila & Seppälä 2018.)

GDBL enables the students to stay motivated and have fun while learning. The characteristics of what makes things fun to learn are described by Malone (Malone, 1980) as, easy to learn, allow rapid development, and provide an open development environment to attract students' curiosity. In the literary review of GDBL Wu & Wang (2012) found that it was common to present the teaching design using a game design framework in articles from the perspective of a teacher's experiences from the course, not thinking about this process from a learning theory perspective. When the students design the learning content through a game, they must utilise different skills such as analysis, evaluation, creativity and revision. They also get to practice their project management skills, including planning and monitoring, and problem solving as a team. The game design problems always have many possible solutions and through trial and error the students understand the importance of iterations and quickly dropping designs that don't work. In this process, communication, feedback and negotiation skills are essential as the project team is working towards a common goal that everyone can support and stand behind. Their intrinsic motivation and learning is higher when the knowledge they had absorbed was transformed into something tangible and personally meaningful.

3. The case study

In this case study we describe the iterative development and co-creation of the educational board game consisting of five cycles involving business students, law students and instructors, lawyers, game development students, a group of ordinary people and game industry representatives.

Our research approach was an action research (Costello, 2003), and the research focused on a single case (Yin, 2012) and the utilized methods as well as the collected data were qualitative (Silverman, 2013). Throughout the educational game co-creation process service design methods were utilized as a development methodology (Schneider and Stickdorn, 2010). In our case, the data consisting of interviews, collaborative workshop materials and other co-created materials was collected in one peer-to-peer (P2P) learning project during the academic semester in spring 2019. An important aspect of the process is some kind of guidance for the student team and here the participating student team was guided by a lecturer and an RDI expert acting as instructors and researchers.

The game development process consisted of five cycles: Firstly, brainstorming and prototyping sessions including several sprints were organised. Secondly, interviews with lawyers were conducted and thirdly, co-creation events and testing workshops were implemented for game development, business and law students. Fourthly, game mechanics were tested by a group of ordinary people. Lastly, game industry professionals were involved in game testing during the fifth cycle and additionally the co-creation and testing sessions were observed and documented by the students in the blogs published in Chips for Game Skills R&D project's website.

During the first cycle, a few prototypes of the game were created and they included a card game combining elements from Trivial pursuit and Playstation's Buzz. After some interesting discussion the next prototype was built around question cards (Figure 1) which consisted of examples of arguments and questions and the players tried to choose the right option from the three choices that had been given. In order not to make the game too simple, there were five cards to answer the questions with: A, B, C, all correct or all wrong with the players being able to read the right answers and explanations on the other side of the question cards. One point was received per right answer, and the winner was the player with the biggest number of the points at the end of the game. We noticed that it takes quite a lot of time to make well balanced answer options with enough challenge for increasing the spirit of competitiveness in the game. In a situation where each player answers every question correctly, it's not fun and motivating for the players. "Although educational games should include challenges, it should be noted that too high challenge could make players unmotivated and give up. The challenge level should be designed to match the players' abilities to keep them engaged and positive (Shi & Shih 2015)."

Based on the instructors' feedback, a game board was integrated into the next version of the game prototype. It was important to determine how the players move on the game board, as a team or individually, and how the points are calculated. After generating multiple game scenarios, it was decided that the best way to move on the board is as a team and after some consideration the game board was divided into two parts: the point counting area for individual progress and the path through the categories including the questions for the team.

Figure 1: Question cards of one of the first prototypes of the game

During the second cycle, the lawyers were interviewed and a mindmap was created to help in mapping a complete picture of the areas that should be covered by the game (Figure 2). The identified areas included e.g. IPR, contract and labor law and data privacy.

The learning goals of the game development process and the game itself included also soft skills training. In our previous work (forthcoming Kuhmonen, Pöyry-Lassila & Seppälä 2019) we identified the following four skills required in the future work-life: 1) teamwork skills, 2) learning skills, 3) interaction and communications skills, and 4) self-motivation skills (Figure 3). According to our findings, these skills ensure smooth game development from the original idea to a published game and enable successful careers in game companies. During the game development process the students needed to think of real work-life situations requiring the management of the soft skills and come up with questions for the game inspired by their own experiences. Importantly, the morale and ethics of human behavior and the consequences of actions in certain real-life situations werediscussed.

During the third cycle, the game was iteratively co-created, tested and further developed according to the feedback received from the game development and business students. The focus was put on both the hard legal

skills and the soft skills and the competence building together, and the balance of the difficulty of the legal questions were tested with law students through gameplay. To make sure that the substance was completely accurate the factual content was checked by lawyers.
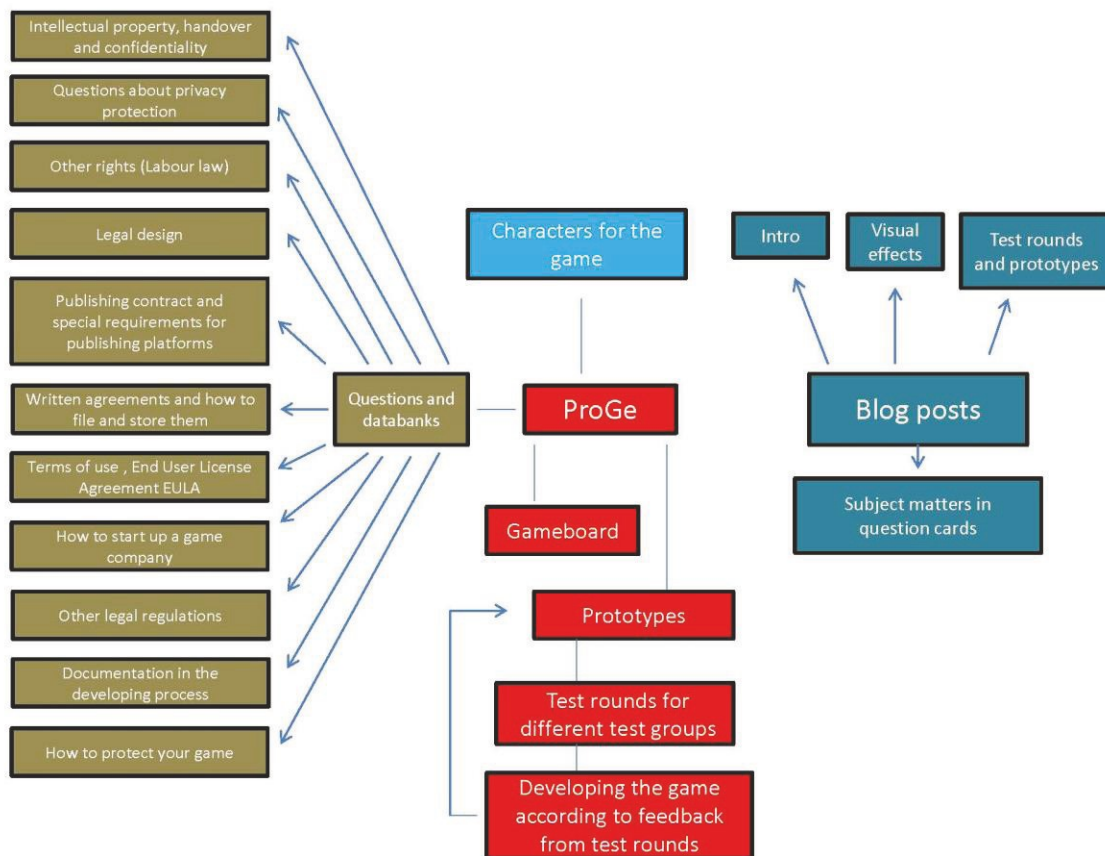

Figure 2: Mindmap of the game development process including the game topics

The feedback was collected and interestingly the questions provoked a lot of conversation among the players. Some of the answer options were seen as matters of opinion that could be considered a bit tricky in a game that aims to teach legal issues, however, through intensive arguing the topics were identified and that they should be memorized. The question cards needed more reframing and the point counting needed some fixing and additionally in the view of the tester, the role of soft skill cards should have higher priority within the game.

During the fourth cycle, the testing phase of the game focused on the overall playability, the entertainment value, the difficulty level and flow of the game, as well as getting feedback on the clarity of the rules. The test group consisted of ordinary people who had no previous experience in the game industry. The test session was organised, guided and monitored by the students. The lengths of the various actions in the game were also tested (for example, how much time it takes to play one card from each category) and also how long it took to play three questions from each category.

Based on the feedback from the test sessions a new, more playable, chessboard style game board was designed and soft skills cards were changed into conversational cards (Figure 4). Logo and illustrations for the categories were clarified and for earning soft skill chips, interaction between the players should take place. When two or more players end up in the same square they have to take a soft skill card and have a discussion concerning the situation described in the card. There are three examples in the cards of how some people might act in a described situation to support and stir up the conversation. All players who have taken part in the conversation, earn a soft skill chip.

Figure 3: Soft skills categories (forthcoming Kuhmonen, Pöyry-Lassila & Seppälä 2019)

The goal of this cycle was also to get feedback about the questions with emphasis on the story-based soft skills cards. For this purpose, another test group of persons with ages of 35-40 and also with no previous experience in the game industry was invited to test, how well the questions related to the soft skills would spark discussions between the players about creative thinking, work morale, problem solving, social interaction and communication. As a result, the game was found to be very entertaining and fun. Soft skill questions were experienced an entertaining way to get points in addition to the points requiring the knowledge of legal issues. The idea of the game and rules were easy to learn and one of the players wished to get this kind of game to her workplace.
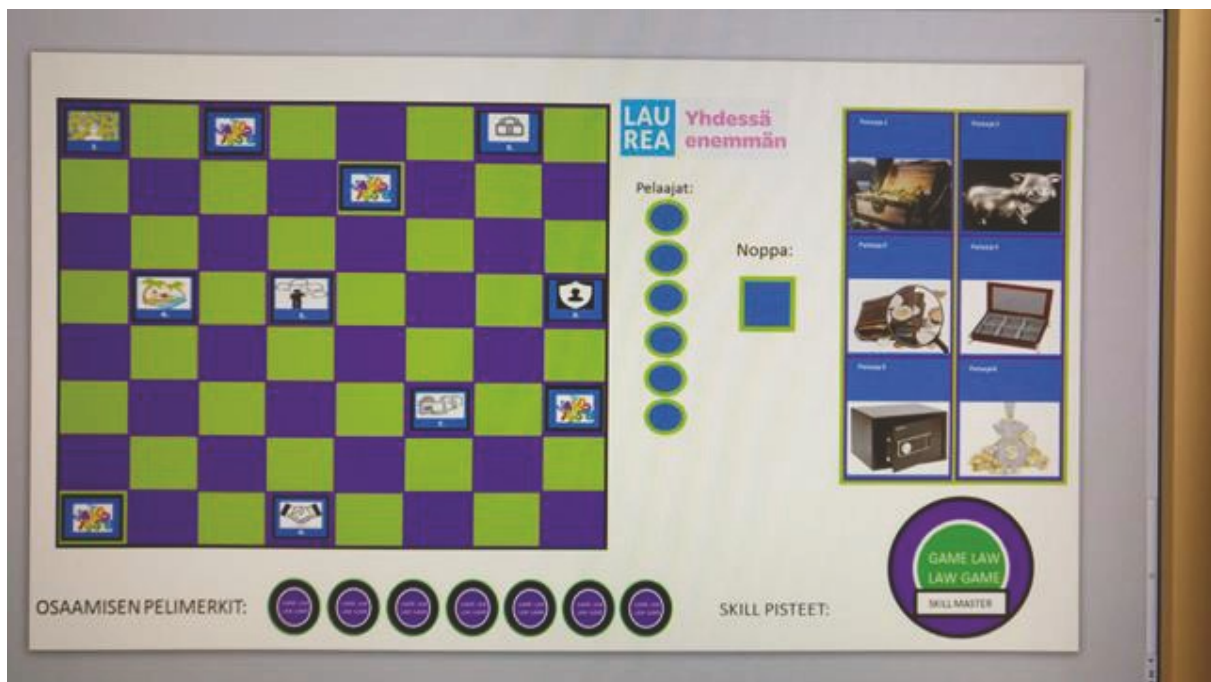

Figure 4: The prototype with a revised game board

During the fifth cycle the game was tested by the industry professionals representing an association whose mission is to develop, support and assist everyone in the gaming industry. From this testing the main feedback was that the ambiguity of the questions is a good feature because it encourages conversation between the players. A conversation and sharing of experiences help people to understand the legal issues easier and to memorize the topics better. One tester also commented that: "The game is better in a board game version than in digital format because the face-to- face conversations are the most valuable feature of this game." As a result the 1st version of the Game Law - Law Game" educational board game was created (Figure 5).

Figure 5: The 1st version of the "Game Law - Law Game" educational board game

4. Findings of the case study

The research question of our case study focusing on the game development context was: How to facilitate 1. The learning of complex legal topics of the gaming business and 2. The training of soft skills by utilizing the principles of design thinking, service design, legal design and game design? We approached our research question by asking the questions presented by Hagan (2019): 1. "How can we better educate and empower young legal undergraduates?" and 2. "How can we make law accessible for ordinary people?"

When developing the board game, service design methods and tools, such as facilitated workshops and prototyping, were utilized. As a result of our research and development process, we were able to answer the research question and to develop the concrete outcome, the 1st version of an educational board game focusing on hard legal skills, such as IPRs, contracts and labour law, as well as future work-life soft skills.

The main focus was in motivating students to learn law through co-creation in game design process and gameplay. Our core findings cover the following two ways of learning: 1. Learning through co-creation and game development process; 2. Learning by playing the board game. According to our observations, both the co-creation process and the gameplay increase students' intrinsic motivation to learn the legal topics and processes relevant to game businesses. Learning through co-creation and game development process is a motivational way for students to learn, because users are integrated in the process as partners and co-creators and there's a possibility to share expertise in agile design sprints and to utilise the strengths of each team member. In brainstorming, prototyping sessions and sprints it's encouraged to challenge each other and to feed each other's ideas:

> *"An utterly mind-numbing legal topic becomes fascinating when you can take the time to discuss about the topics and share opinions and experiences. In the meantime you network with people you've made contact with."*

> *"Co-creating during different project cycles and playing the game with other stakeholders is much more satisfying than cramming from a book for an exam."*

The reflections from the students in their learning diaries and evaluation discussions revealed that the legal contents were easier to grasp through the game development process utilising legal design than in traditional education:

> *"As we focused on the principal goal, which was developing the game, learning happened almost imperceptibly for us. As we were gathering materials for the game, we had to constantly edit and outline the content which made us go over and over the topics."*

> *"The repetition and constant remodelling of the questions really facilitated the learning process instead of just memorising things. You also must focus on making the content relatively clear and easy to understand for yourself. It is impossible to make good question cards about an issue you don't even yourself understand."*

Additionally, our experiences revealed that playing the board game supports peer learning and social interaction, and thus facilitates the learning of soft skills:

> *"The players may also bring their own spice via humour to the learning situation. The topics of the game can also be divided into different sections and levels. In the game the goal is to win by getting more points than other players. As one wants to win he or she might step back to weigh the answer options: Why one answer option would be the right one instead of others? This kind of thinking process compared to memorizing is much more effective when trying to separate essential facts from unimportant ones."*

> *"A quiz game processed utilising legal design is a great learning tool, because law is hard to understand for the majority of students. Game setting enables adding fun and cheerful elements to learning and counterbalancing the toughness of the main topics. It is much less stressful to learn through a game than study these things from a book or on e-courses. Answering wrong in a game once in a while doesn't feel as bad as a failure in an examination."*

5. Conclusions and discussion

At the current stage of the "Chips for Game Skills" RDI project, the 1st version of an educational board game is presented as an intermediary result. The game has been co-created utilising the principles of design thinking, legal design and game design.

The feedback from the game development and testing process provided indications that learning of legal issues happens more efficiently in a game based learning environment. This was demonstrated through the students own reflections during the game development process. Furthermore, the feedback from the players on the motivational and social aspects of learning through a game was positive. This reinforces our belief that there should be further investigation as to the possibilities of scaling up and applying the GDBL model to various other competence areas in our university.

As a next step the game will be further developed in several co-creation workshops together with the game development students and game industry representatives and tested in numerous gaming sessions. The possibilities to utilise different orders of legal design interventions in the board game even more efficiently will be further investigated, additionally the created personas in game development will be utilised in the game. More experiences about the game making the training of soft skills more fun and motivating will be collected and further research is needed about the success of communicating legal information in a clear way through the board game. A target for future development is also to build support tools for measuring the learning outcomes in more detail. However, despite the need for further improvements we are confident that such innovative board game initiatives are the future of educational developments providing inspiration and access to young people and making difficult legal concepts easier to understand.

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