Game Design Document as a tool: Designing mobile puzzle game for room escape company

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Abstract

Game development is a multiphase process, and each project is unique compared to another. Thorough game design helps the development process considerably by setting the frame, base and goal for the development work. Game Design Document is a game design tool used to gather all the necessary information into one. The objective was to design a mobile puzzle game and write a Game Design Document for a commissioner company, WayOut Oy.

Even though Game Design Document is a common tool in the game industry, there are no standards or rules on how to write one. Various articles and books related to game design were studied and a qualitative interview study was conducted to identify the essential sections and elements for Game Design Document. The acquired knowledge was utilized to create a Game Design Document.

The end result was a comprehensive design and documentation for a mobile puzzle game "The Source: Pohjola". The finished Game Design Document were given to the commissioner company in a Google Docs form for efficient sharing and communication in the development process.

Keywords/tags (subjects)

Game design document, GDD, game design, game designer, game development, qualitative interview study

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1 Introduction

Video games have taken their permanent place in the society. Nowadays games are not just for entertainment and having fun; you can learn, develop your skills, improve your personal life and socialize with others. Video games offer new possibilities to all segments of private and public sectors, for example business companies exploring potential markets and reaching new customers. Developing video games is a multi-step process, and each project have unique attributes and goals. Elaborate game design work helps the development process by creating the base and rules for the game.

The key term in this thesis is “Game Design Document”, which is usually shortened to “GDD”. GDD is a documentation tool that describes aspects of a game project, and its goal is to make communication easier between the members of the development team while making sure that the project at hand stays coherent during the development process. GDD is not always used in game development and when it is used, the structure, content and the number of created documents vary between game projects, for each project has its own unique goals and needs. There are no industry standards or rules on how to write a GDD. However, GDD templates can be found online but one base does not fit to all game development projects.

Game Design Document is a shared document created and edited by the game development team. Commonly a GDD is created in document format, but it can be a game design wiki as well. Wiki was originally designed for software companies but has become increasingly popular in the gaming industry due to its ability to manage considerable amount of information through collaborative work and easy browsing. Game developers prefer short, linked pages instead of long documents, making Wiki a useful tool for organizing design ideas. (Learning the Ways of the Game Development Wiki, 2024) Other tools for collaborative design creation are for example Trello, Slack and Notion.

This bachelor’s thesis is a commissioned project to design a mobile puzzle game for WayOut Oy, a room company based in Jyväskylä. The commissioner company is entering the mobile game market, and they needed a design base for creating mobile games that are periodically published in a mobile app. The game is designed utilizing a Game Design Document as a tool. Literature review will be conducted about publications made of Game Design Document to gather a

knowledgebase and to define what a Game Design Document is and why is it useful to have for a game project. Qualitative interview study with thematic content analysis will be used to find out the commissioner company's specific needs for a Game Design Document. As the final product of this thesis project, a Game Design Document will be developed to align with the commissioner company's requirements, based on the findings from the data analysis.

2 Game Design Document for WayOut Oy

The commissioner company of this thesis project, WayOut Oy, has deep knowledge and know-how about how to create live room escape games and immersive customer experiences. WayOut is one of the first room escape game companies in Finland, since they started their operation in 2015 in the city of Jyväskylä. Today, they have operations in Tampere and Hyvinkää alongside Jyväskylä, employing about 25 game masters. WayOut has its own room escape game design team and since 2015 WayOut has designed and built over 20 different room escape games. (Meistä, 2024)

WayOut Oy has background in video games as well. In 2020 they released a digital escape game called "S4MPO – Part 1: Uprising" which was developed in collaboration with a Finnish game development company LudoCraft Oy. "S4MPO" is a story-based web browser puzzle game, and it was created during the covid-19 pandemic for the reason that people could continue playing WayOut's escape games at home as well. Basically, WayOut's team had the idea, soundtracks, and art for "S4MPO" and LudoCraft helped them to develop the idea into a working product. (From Physical Escape Rooms into the Digital – S4MPO for WayOut, 2024)

WayOut Oy continues to evolve as a room escape game company; they are continuously searching new and innovative ways to create mind-blowing puzzle games for problem-solving enthusiasts. WayOut has been considering new ways to offer these exciting experiences alongside live room escape games and mobile game market is something they have been contemplating. With this development work, the goal is to assist the commissioner company in entering the mobile game market and introduce them to a game design tool they have not previously utilized. A mobile puzzle game will be designed using a Game Design Document as a tool and the commissioner company can use this document in the development process of a mobile game and as a base for the next possible mobile game designs.

3 Research design

In this study, the result was conducted through these following steps. The study begun with formation of knowledgebase by producing a literature review utilizing Google Scholar and Janet Finna. This was followed by collection of data by conducting interviews to four representatives of the commissioner company. Data was organized and a thematic content analysis was created and finalized by synthesis. Findings and research questions were refined.

3.1 Research questions

The aim of this study is to find what are the main components for a Game Design Document and how to create an effective GDD for the commissioner company. The research questions are:

1. What key elements and sections are essential for a Game Design Document?
2. How can a Game Design Document be made flexible to handle changes during game development?
3. What are the customer's needs for a Game Design Document for a mobile puzzle game?

In order to answer the established research questions, a literature review was produced to gather a knowledgebase for answering the first two research questions. Alongside the literature review a qualitative interview study was conducted to find out the commissioner company's needs for a GDD. The collected data was analysed using thematic content analysis and synthesis. These methods were chosen because they were appropriate for researching this topic.

3.2 Literature review

Google Scholar and Janet Finna was utilized to search literature to review. In both searches "game design document" was applied as a search term and the publication timeline was outlined to 2019-2024, because the goal was to have relevant information. The same search was utilized without the time limitation, but the search result was immense, at least in Google Scholar. With these more restricted search terms the result was 2160 publications in Google Scholar and 7 in Janet Finna. The search results were inspected and the results with terms "game design document", "game design" and "design document" in their titles were observed. This search could be repeated with the same limitations meaning it has reliability to extent; however, the result might be different depending on whether new publications has been released or not.

All the sources that were gathered from these results were publications. All of them considered the topic of the thesis; creating a Game Design Document or using it as a designing tool, but they also had other aspects in them as well, for example educational or cultural point of view. All of them had been published during the past five years which indicates that they are relevant timewise. Only one of the sources was considered not to be reliable because the author did not use any sources or citations, and their written bachelor's degree work did not have a reference page. Therefore, that source was excluded and was not used in the creation of knowledgebase. In addition, one textbook found outside of the literature search was utilized. This textbook was published in 2014 and for that reason it was inspected critically.

3.3 Methods

As a study method, qualitative methods were chosen because quantitative methods did not fit for this purpose as the goal was to find out the commissioner company's needs and how they think about the topic at hand. The most common data collection methods in qualitative research are interview, questionnaire, observation and data collection from various documents. (Tuomi & Sarajärvi, 2018) Individual qualitative semi-structured interview study was specified to collect the data. Brinkmann (2013) establishes that humans have used communication as the main tool to get information about their peers, therefore it can be used as a tool to collect data:

> People talk with others in order to learn about how they experience the world, how they think, act, feel and develop as individuals and in groups, and in recent decades such knowledge-producing conversations have been refined and discussed as interviews. (p. 2)

3.3.1 Data collection

The main interview question was an open-ended question and if the situation needed, there were four pre-planned additional questions to guide the interview (appendix 1). Brinkmann (2013) argues that semi-structured interview format "can make better use of the knowledge-producing potentials of dialogues by allowing much more leeway for following up on whatever angles are deemed important by the interviewee." (p. 21). The interviews were done individually because in one-on-one interview situations, the interviewer can with less effort guide the conversation to match their research interests. (Brinkmann, 2013, p. 27)

The interviewees received a written explanation of the interview situation, which included for example the estimated duration of the interview and interview language (appendix 2). An info package was written about Game Design Document for the interviewees, because for most of them it was a new concept. Real life examples of Game Design Documents were offered as well as examples of table of contents inside GDDs (appendix 3). Alongside these, the interviewees were given a timetable from which they could choose a convenient time for their interview. The interviewees were informed about recording the interview situations and they were reminded of it in the beginning of the interviews. Google Drive folder was used to share these informative documents and files, because of its familiarity as a collaboration tool for the interviewees.

Four representatives from the commissioner company participated in the interviews: the entrepreneurs and the head room escape game designers. The interviews took place on Thursday 11th of April 2024, and they were held remotely for accessibility. The interviewees were allowed to talk freely in their native language and if there were difficulties in answering, the additional questions were asked or miscellaneous questions from them were answered during the interview situations. Microsoft Teams was used for the interviews because of its useful features, such as sending the calendar invitations for the interviewees, video capture and transcribe features to collect the data. The video captures and transcriptions were recorded in a MacBook Pro computer's hard drive. The data was organized manually and anonymized and recordings were deleted.

Ethics were taken into consideration in this research. Interviewees had voluntary participation, meaning they could choose to participate freely without any pressure. Informed consent was implemented by informing the interviewees about the interview situation and data collection beforehand with the written explanation and they were reminded about these in the beginning of the interview situations where they still could choose to not participate. Since this was an interview study implemented by a video conference, guaranteeing anonymity was impossible. Ensuring confidentiality, all identifying information about the interviewees was removed except the fact, that they are the entrepreneurs and game designers of the commissioner company. The collected data from each interview was handled equally and respectfully.

4 Game design and documentation

4.1 Game

A game is a media created for different purposes, for example people to learn, to have fun or to simulate things. Games help improve motivation, performance and carrying out tasks, mentally and physically. Information technology, especially smartphones and the developing technology behind them, plays a crucial role in modern everyday life and assisting games becoming more popular each day. Games can now introduce cultural traditions and preserve them, particularly by transitioning traditional games to mobile platforms. Digital games can engage young people in traditional gameplay and in this way information technology can be used in preserving traditions and culture. (Rahmadi & Prambayun, 2019, p. 244.)

A game can be defined through the elements it is composed of. Adams (2014) states that "The essential elements of a game are play, pretending, a goal, and rules". When a game is played by the player, they are an active participant making choices and changing the course of events in a pretended reality. A game has a goal, or object, which is achieved by overcoming challenges. The choices made in a game are restricted by the rules, which are definitions and instructions accepted by the player. (Adams, 2014, p. 3-6.) Essentially, a game is a product of the human desire to play. Playing a game is a voluntary activity within a defined environment with rules and goals that keep players engaged. (Beça et al., 2020)

Games can be classified based on their intended function, such as "Game as Game" which is solely created for entertainment, "Game as Media" when the game maker wants to send a certain message, or "Game beyond Game" when the game design principles are applied outside of traditional gaming contexts. The process of creating a game idea and defining its concepts, mechanics and visuals is called "game design". (Rahmadi & Prambayun, 2019, p. 244.)

4.2 Game design

Game design covers various aspects to define before the game development starts. Schell (2020) claims that "Game design is the act of deciding what a game should be". Game design is a string of decision making and it is possible to design a game inside one's head. However, it is more efficient

to write down these decisions and ideas, especially when help is needed from other people with decision making and building the game. Good way to communicate these ideas is in a written form. (Schell, 2020) Throughout the design process, various skills are utilized to produce multiple documents that supports the game development team. Game designers develop detailed plans, transforming abstract ideas into concrete elements. The ultimate goal of game design is to create a cohesive and immersive experience that fulfills the primary objective of entertaining players. (Adams, 2014 p.65-66.)

The game design process plays an important role when making fun and engaging games. Segmentation can help making the design process clearer:

> The process of game design is divided into two main phases that need to be emphasized, namely ideation and conceptualization. Ideation refers to the process of generating creative and innovative game design ideas, while conceptualization is to outline the concept in the form of game prototypes that involve programming, architecture, sound, and interface. (Tap et al., 2021, p. 59.)

Dividing broad concepts into smaller segments helps understanding what is necessary to do to finish the entire project. Tools that enhance team communication are necessary for collaboration between designers and programmers to produce creative and cohesive game designs. (Tap et al., 2021, p. 59.)

Akhtar et al (2021) concludes that ”game development follows four main stages which include concept, pre-production, production, and post-production” (p. 28). Concepting phase defines the business parameters and goals for the game. It is also a phase when the groundwork for the game is built. Concepting stage is significant for a game development project, but its importance might be neglected. Kristjan (2019) comments “this is a crucial phase for the project, but it’s often rushed through as everyone is more interested in getting on with the game” (p. 15). Adams (2014) describes game concept as “a general idea of how you intend to entertain someone through gameplay” (p. 129). A game concept includes enough details to imagine the gameplay and plan the design work needed to develop the game. Game concept should include at least a short description of what the game is about, player’s role or roles, gameplay mode, genre, target

audience, platform, monetization, competition mode, game world and general summary of how the game will progress. These components are included to the Game Design Document. (Adams, 2014, p. 129-130.)

Pre-production phase involves brainstorming while addressing questions related to the requirements of the game. The goal is to establish a solid foundation for the game's development, minimizing the need for rework. (Akhtar et al., 2021, p. 28.) This is the phase when a Game Design Document is created. Production phase involves the implementation of a Game Design Document for development, visual presentation, and validation of the game. Post-production phase focuses on the maintenance of the product, including fixing possible bugs and malfunctions, adding new features or functionalities to the game, or making a different version of the game. (Akhtar et al., 2021, p. 28.)

4.3 Game Design Document

In the pre-production phase, a detailed Game Design Document is created with input from all team members. It is important that the design process is a collaborative effort between designers and developers. (Kristjan, 2019, p. 38-39.) A Game Design Document, which is usually shortened as “GDD”, outlines all aspects of a game, from its story to technical details. It serves as a blueprint, detailing the game’s structure and functionality, creating a way of communication between the development teams by providing a comprehensive overview of the game. (Martins et al., 2019, p. 170.) As Schell (2020) states “Game documents have exactly two purposes: memory and communication” (p. 472). Since documents help with memory and communication, the types of design documents a game project needs are defined on what information must be remembered and shared. Most games require multiple documents rather than just one. (Schell, 2020, p. 473.)

Game designers create GDDs containing written descriptions, illustrations, and diagrams that explains the game's concept, mechanics, artistic direction, and other essential elements. The goal is to communicate their ideas effectively to the development team. The purpose is to provide a comprehensive understanding of the game's vision and direction. By transforming abstract ideas into tangible plans, game designers ensure that everyone involved in the development process is working towards the same goals. This collaborative approach promotes creativity, clarity, and

efficiency, ultimately leading to the successful realization of the game's vision. (Rahmadi & Prambayun, 2019, p. 244.)

4.4 Types of Game Design Documents

In terms of memory and communication each game is different with different needs which must be defined on a project-specific basis. (Schell, 2020, p. 477.) Whether the game project has one Game Design Document or multiple design documents covering different aspects of a game, is purely related on the characteristics of a game project. Both Adams (2014) and Schell (2020) highlight the necessity of clear, specialized documentation in complex game projects. This structured approach enhances collaboration between designers, engineers, and artists, allowing teams to effectively work the challenges of game development. Related to game design document creation Schell (2020) reminds that “the magic template does not exist” (p. 472).

Adams (2014) suggests that Game Design Document can be divided into several individual documents: high concept document, game treatment document, character design document, world design document, user interface document, flowboard, story and level progression document, on-screen text and audio dialog script and the game script (p. 58). All these documents have different purposes and angles related to a game design process. High concept document is a short document which describes the game concept’s key ideas. This document can be used to present the game concept to a possible investor or the game’s marketing and sales team to get a better understanding of it. Game treatment document’s goal is basically the same, but it has broader content, for example business and development details included. Character design document, world design document, user interface design document and story and level progression document each concentrate to a specific part of the game, defining them in detail. Flowboard, comes from the words flowchart and storyboard, documents the structure of a game in visual format with written explanations. On-screen text and audio dialog script contains all the dialogue and narration in the game, and it can be utilized for audio recording sessions as a script. Game script, also known as game bible, encompasses all the previous documents with the addition of rules and core mechanics. (Adams, 2014, p. 58-62.)

Schell (2020) on the other hand has created a list of design documents dividing them into six main groups: design, engineering, art, production, writing and player (p. 474-477). The first group,

design, includes three documents: game design overview, detailed design document and story overview. Game design overview is a short, high-level document, that helps management understand the game's basics and target audience as well as the team to see the overall vision. Detailed design document explains all game mechanics and interfaces in depth, helping designers keep track of important ideas and to communicate with programmers and artists. Story overview is a short document outlining game's key settings, characters, and events for dialogue and narrative creation. (Schell, 2020, p. 474.)

The second group is engineering, which encompasses three documents: technical design document, pipeline overview and system limitations. Technical design document explains the complex systems behind a game, such as graphics and network data, mainly for the engineering team. Pipeline overview is a short document created by engineers for the art team, which outlines how to integrate art assets into a video game. System limitations document helps designers and artists understand what is possible on the game system they are working with, for example how many polygons can be on screen at once. Writing down these limitations can save time and encourage creative solutions. (Schell, 2020, p. 475.)

Third group is art, with two documents: art bible and concept art overview. Art bible is a guide that helps artists to create a consistent look for the game, including character designs, environment samples, colour schemes, and interface examples to ensure visually coherent game. Concept art overview uses images to help the team visualize the game's style and feel. (Schell, 2020, p. 475-476.)

Fourth group is production, which includes three documents: game budget, asset tracker and project schedule. Game budget is a document, usually a spreadsheet, that estimates the total cost of development. It lists all tasks with time and cost estimates, and it is updated throughout development to keep spending on track. Asset tracker monitors the progress and status of everything created for the game: code, levels, art, sound, and documents. Project schedule is a regularly updated document that lists tasks, deadlines, and assigned team members. (Schell, 2020, p. 476.)

The fifth group is writing, consisting of three documents: story bible, script, game tutorial and manual. Story bible guides the game's story, allowing everyone on the team to contribute ideas while keeping the story consistent. Programmers, artists, and designers may suggest changes for technical, visual, or gameplay reasons. Script contains all dialogue in the game, and it is usually a separate document or an add-on to the detailed design document. Game tutorial and manual is essential to keep accurate and updated during development, because video games are complex and if the players do not understand them, they cannot enjoy them. (Schell, 2020, p. 476-477.)

The sixth and final group is players with one document: game walk-through. Game walk-throughs are created and shared online by the players for games they enjoy. Reviewing these can help developers see what players like, what is too hard or too easy. (Schell, 2020, p. 474-477.) This final group and document differ from previous ones in that they are created by someone outside the development team. Additionally, they are not tied to the design process, as they are typically produced after the game's release. However, they can inspire future game development projects by providing valuable insights from players.

4.5 Creating a Game Design Document

Creating a Game Design Document, Schell (2020) suggests starting with a simple list of ideas and as the list gets longer, questions will arise. According to Schell (2020) answering these questions means working on the design and in the end, the list of ideas, plans, questions and answers will develop into a complete Game Design Document. There is no universal template for GDD; each document should be tailored to the specific needs of the game project at hand. (Martins et al., 2019, p. 170.)

Commenting on Game Design Document, Fahme & Khan (2021) argues "there's no concrete rule about which exact components it [GDD] should have, but the idea is to convey the concept of the game and regular updates in it, which can be used as a reference for all parties involved" (p. 87). Key components of a GDD may include summary, genre, target audience, platform, story, characters, features, game world and levels, development ideas, visual examples, mock-ups and aesthetics, gameplay mechanics, sound, team, and marketing and sales plan. Each component contributes to creating a comprehensive overview of the game's vision and development process. (Fahme & Khan, 2021, p. 87.)

Fahme & Khan (2021) underlines that a GDD is a live document and all the members of the development team; developers, artists and designers, will join in creating and editing it. Therefore, when various people work on the game design together, it makes finding and fixing problems easier. Talking about collaborative game designing, Kristjan (2019) concludes that ”brainstorming and communication with other people are key” (p. 15). Since many people need to access and update these documents, Google Docs has developed into a general tool for writing and updating game design documents. (Schell, 2020, p. 473.) Google Docs is accessible to various teams for its features of being free to use and easy to share for non-Google account holders. However, for creating a Google Docs file, one must have a Google account.

Having a shared document with the entire development team brings some risks that must be taken into consideration in the beginning of creation of a GDD. When the development team has access to edit the document, the amount of written information might increase massively, and challenges in data management might appear. Martins et al (2019) argues that when creating a thorough GDD, the final document can become long and hard to read.

5 Results

The data collection and thematic content analysis were done as thoroughly as possible. The results are interpretations of the researcher, based on the previous knowledge and the knowledgebase acquired by the literature review. In the sense of validity, the research results are logical and collected data was based on the truth of the interviewees. However, achieving validity can be compromised if data collection tools, conditions or questions are not appropriate and measuring these factors may appear challenging.

5.1 Data analysis and synthesis

Thematic content analysis is utilized to create explicit verbal description of a research phenomenon. The gathered research data represents the phenomenon and content analysis is used to organize it into compact and structured form without depleting information. (Tuomi & Sarajärvi, 2018) Data driven content analysis was initiated after the data collection, in this case after the interviews. The process begun by listening the interviews and transcribing the answers word to word. The bases of transcriptions were already done by Microsoft Teams; however, the

detection of informal Finnish speech was not successful. The transcriptions of the interviews were studied by reading, making notes and familiarizing them. Common terms, similarities and differences among the transcriptions were inspected and gathered to a new Microsoft Word document. Themes were inspected, the data was organized by found themes and the themes were named.

Five main themes were found alongside 31 subthemes and 44 sub-subthemes by thematic content analysis. Understanding that there were too many themes, a synthesis was done after the thematic content analysis and a better summarisation of the answers was reached. The five main themes were clarified. Synthesis of the subthemes was done by founding common nominators between the sub-subthemes. The result of this interview study and thematic content analysis was five main themes and 15 subthemes that the commissioner company's representatives found important related to the creation of a Game Design Document. The five main themes were:

1. Introduction
2. Visuals
3. Game Design
4. Marketing
5. Content

The main themes were clearly affected by the table of contents of the example Game Design Documents that were provided for the interviewees prior to the interviews. These examples helped them to understand what could be included in GDDs and it guided the themes to form. The interviewees all had project orientated mindsets when entering the interview situations. Almost all the interviewees wanted the Game Design Document to be a "framework" or "guidelines" that anyone who joins the development team could read, follow, understand and implement.

The interviewees were interested in the key components and how to organize the content for logical and effortless handling. Themes from one to four were concentrated in the content and design aspect of the GDD and theme number five was solely focused on how to arrange the content within the GDD. The interviewees used the provided examples to support them during the interview situations because they had little to none experience and knowledge about Game Design Document beforehand.

Figure 1, Synthesis result. Salin, 2024.

5.2 Theme 1: Introduction

Introduction as a theme signifies the part of a Game Design Document where the concept, background and goals are defined for the game and for the entire game development project. Introduction was clearly the most important theme for the interviewees; it had the most subthemes compared to the other main themes. Each interviewee referred to introduction almost immediately in the beginning of the interviews. They cited components such as platform, story, target group, goals and genre to be necessary to define in the document. These components are part of Adams' (2014) definition of a game concept, which is essential to define in the concepting phase of a game project. Interviewees gave remarks about the content for the product of this thesis, for example one of the interviewees stated "the game will be a sequel to an already existing live escape room, so the story is in the key position. Genre will be influenced by the room's genre, there could be changes but I would say that the genre will be the same as the room's genre". The entrepreneurial spirit was distinct in the answers; they were already thinking about how to make a sellable, quality product, which is crucial for any entrepreneur.

The subthemes under introduction can be also called as components of which the GDD will be constituted. These five subthemes, or components, were: platform, story and theme, target

audience, goals and development team. Platform had been decided before conducting the interviews, however it was essential for the interviewees to know more about mobile games and smartphones as a platform. Story and theme are crucial because the mobile game should give more insight about the story of an already existing WayOut escape room, either being situated in time before or after the original story. Target audience impacts the game design and as well as marketing of the game. It was established that the target audience will be the players who have played the physical escape room to which the mobile game is based on. Goals can be used as an indicator how successful the game project has been. The main end goal is to design a functionally simple and short game in duration. Development team as a component would give examples of possible roles in the game development team and as well as what working methods or frameworks to use in the development phase e.g. scrum.

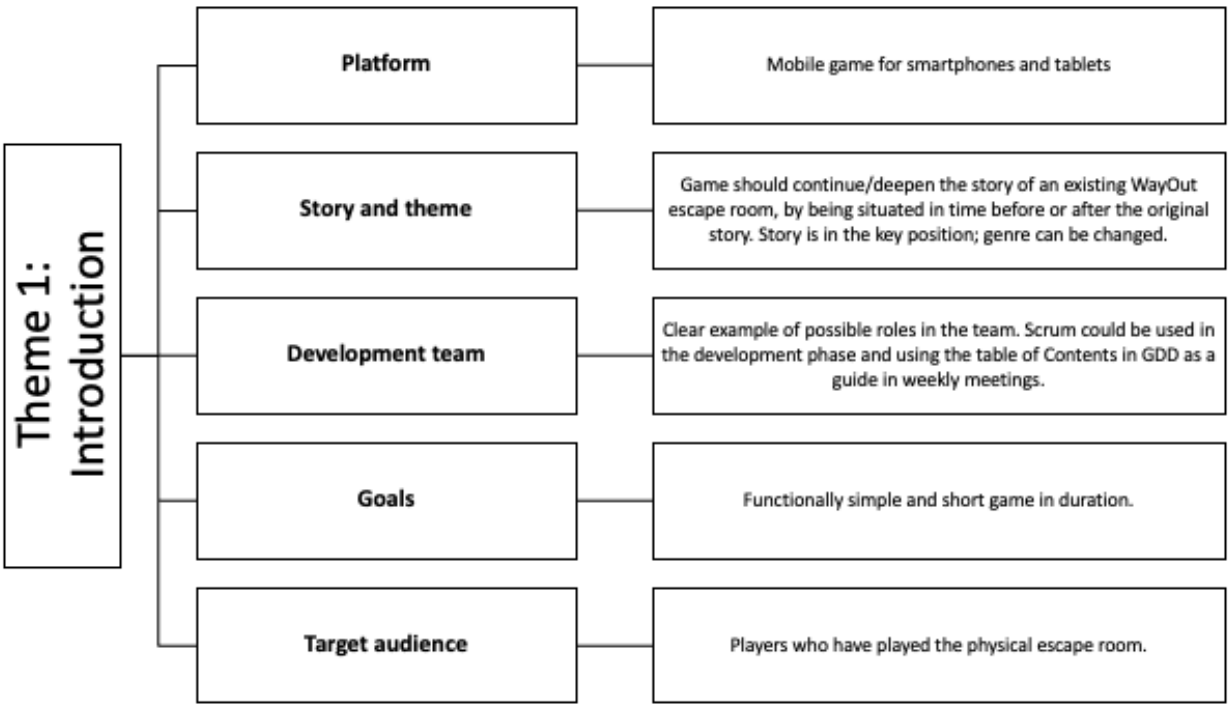


Figure 2, Theme 1: Introduction. Salin, 2024.

5.3 Theme 2: Visuals

Visuals as a theme signifies the usage of visual examples and inclusion of necessary visual designs in the Game Design Document. Interviewees all felt that visual examples are important; they clarify

one's ideas and plans for the whole team. Interviewees agreed that written explanations might get lost in translation and various tools for visualization are necessary when creating visual examples.

One interviewee who does not create visuals for the customer company commented on them: "In my opinion, there must be visual examples so that the one who implements the blocks there knows what is wanted and that there would be a common point of view to the whole project". They also stated: "There must be this kind of quite comprehensive visual side's guide. So that it will be coherent". Other interviewee agreed on the visual examples that they are necessary for communicating ideas, but they also said: "If it does not bring any additional value that kind of visual thing then it is not needed".

The three subthemes of visuals were: visual GDD as a tool, tools to use in visualization and elements to visualize. Visual GDD as a tool implies using visualized examples as often as possible in GDD. This also indicates having a comprehensive visual guide to make the game visually coherent. Tools to use in visualization listed essential tools to use when creating visual examples: mood boards, storyboards, flowcharts and mock ups. Elements to visualize gathers everything that the interviewees felt were required to be presented in visual form: graphic design, visual guide, user interface or UI, game's flow and functionality, and game assets.

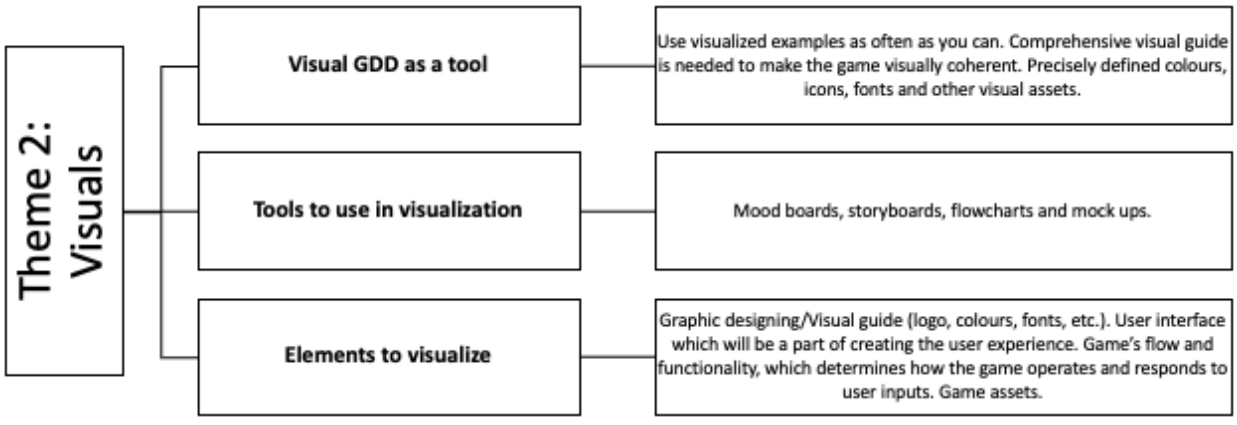


Figure 3, Theme 2: Visuals. Salin, 2024.

5.4 Theme 3: Game Design

Game Design as a theme means the part of a GDD where the game's rules, mechanics and functionalities are defined. All the interviewees have game design experience with live escape rooms, however video game design felt unfamiliar to them. The conversations around this theme stayed on the surface level. The game mechanics and how the puzzles work were mentioned during the interviews. The interviewees' background in the escape room business was clear, especially when indicator and feedback sounds were mentioned which are essential in escape rooms. One of the interviewees had a very good point of categorizing the puzzle types in GDD: "There could be established different kinds of puzzle classes, if there's something that requires perception or math skills or something".

The four subthemes under the game design were: game engine, game mechanics and functionality, monetizing model and sounds. Game engine as a component determines which game engine to use. There are various game engines with pros and cons in each. Game mechanics and functionality as a component was unfamiliar to the interviewees and they anticipate thorough design in the final GDD. This component explains how the game and puzzles work; it defines the rules and systems how the game is played and the interactions and behaviours that create the gameplay experience. Classification of the puzzles pertains in this component as well. Monetizing model was mentioned by the interviewees when talking about game design and marketing. It was more suitable component under game design, because it affects how the game works, for example buying more "hint coins" with real money if the player needs more clues. Sounds were either important or insignificant to the interviewees. Those who talked about them felt that indicator sounds, feedback sounds and other sounds that help to create immersive and intuitive game should be defined.

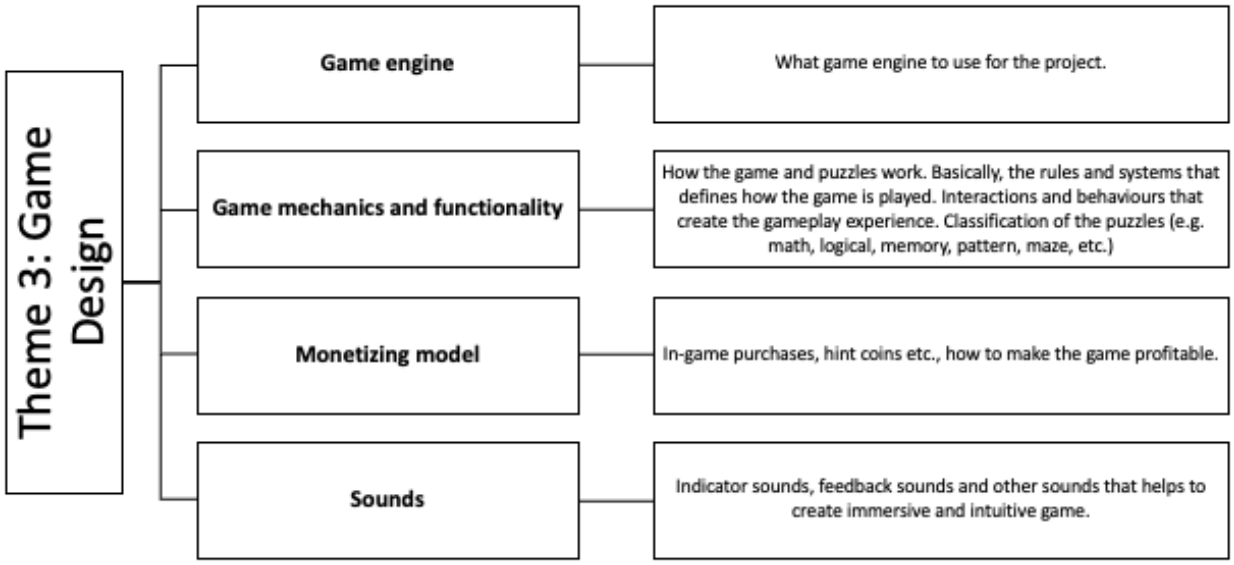


Figure 4, Theme 3: Game Design. Salin, 2024.

5.5 Theme 4: Marketing

Marketing as a theme signifies the part of a GDD where the marketing plan and strategy for the ready game is premeditated. This theme covers creating a marketing strategy and how to make the game project profitable. The customer company is entering to a new market area and the anxiety towards unknown was clear. It was suggested by one of the interviewees, whose main responsibility is in finances, that a market overview would be created for this GDD. Others felt that thorough marketing plan is enough.

There was only one subtheme under marketing, and it was marketing plan. This component is for creating a doable strategy for marketing the product. The main goal is continuation of a quality brand of WayOut to a new market area.

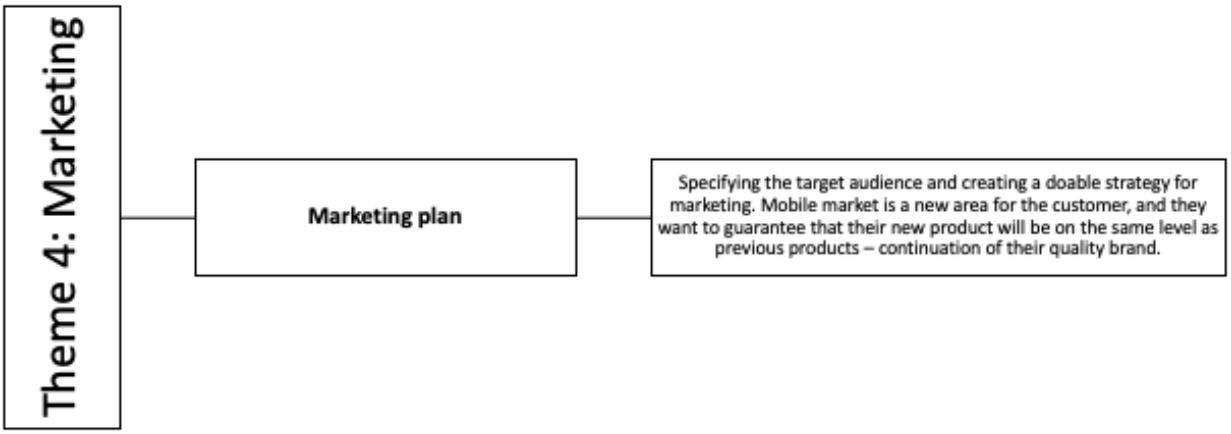


Figure 5, Theme 4: Marketing. Salin, 2024.

5.6 Theme 5: Content

Content as a theme means how the content will be organized in the final GDD. The interviewees all had project orientated mindset which influenced them preferring chronological order for the GDD, starting from the beginning; ideation and introduction, and moving towards the final product and marketing. When having conversation about the content, one of the interviewees stated: “If there is a section, where’s for example just one sentence, which doesn’t really matter in the end, can be left out”. Other one was concerned that the GDD will become too voluminous but was excited about using the table of contents as an agenda in the development team meetings: “It requires table of contents which could be used as a discussion frame. One could give quick comments that this and that has changed, and so on”.

The two subthemes under content were: chronological order and content themes. Chronological order was something that the interviewees requested for the GDD. Content themes encompass the interviewees comments about the GDD’s content, such as defining the agenda, mission and concept in the beginning of the GDD and proceeding to visuals, technical side of the game and ending the document with marketing.

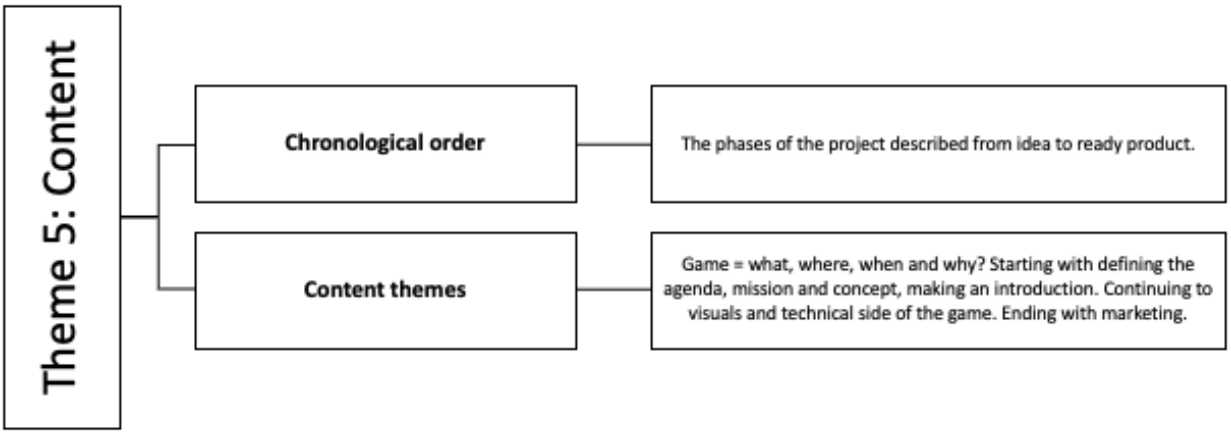


Figure 6, Theme 5: Content. Salin, 2024.

6 The design process of “The Source: Pohjola”

The design process for the commissioned Game Design Document was initiated after the data analysis. Google Docs document was created and according to the results of the data analysis the headings and subheadings were added in the document first. This was followed by inserting the known requirements obtained from the commissioner company, such as platform and target audience.

Subsequently, the empty sections in the document needed to be completed. The next phase commenced with brainstorming the game’s story to meet the requirement of continuing the storyline of an existing WayOut escape room. After the themes and stories of all escape rooms were considered, two options were identified as the most inspiring: “Horizon” and “The Source.” “The Source” was selected after interesting information and mythology related to Finnish springs were found during research. It was decided that the mobile game’s story would serve as a prequel to “The Source” escape room and it would be set in Finland, which lead to the title “The Source: Pohjola”. “Pohjola” as a term does not have word-for-word translation in English, but it has several meanings in Finnish. It is a mythical place in the Finnish national epic “Kalevala”, which inspired WayOut’s first digital puzzle game, “S4MPO – Part 1: Uprising”. Additionally, “Pohjola” can be used as a term when talked about nordic countries. The city of Jyväskylä, where “The Source” escape room physically exists, has also a district called Pohjola.

Information about sources located in Finland and folk lore related to them was gathered into separate document. It was utilized in the story and puzzle creation. The GDD creation proceeded by filling the empty sections. A mood board was created alongside other key components included in introduction section. The introduction was not without reason the most important part of the Game Design Document, as highlighted in the interviews. Defining the game's concept and framework in the introduction assisted greatly in the creation of following sections in the GDD.

The game design section proved to be the most challenging, as there was the least experience in creating it. Without technical skills such as coding, planning and conceptualizing mechanics and functionality were difficult. A game engine could not be selected due to the need for a coder's expertise; therefore, a list of potential game engines was included in the document. Designing puzzles proved surprisingly challenging, as prior experience was primarily in creating puzzles for physical escape room games. It was difficult to envision interactions based on various screen touches, and the limited screen space introduced additional challenges. Despite these difficulties, compiling a puzzle catalogue was an engaging process, as it applied to both physical escape rooms and mobile games. The number of different types of puzzles made categorization complex. The game's narrative and puzzle catalogue were added as appendices to the document. Designing monetization posed difficulties, as there was little understanding of how in-app purchases function in practice. This section proved that game design process should be done as collaborative effort utilizing game development team members with various skills.

The visual section of the Game Design Document was significantly easier to develop, as it aligned well with personal strengths. Creating visual examples was both engaging and rewarding. The story, especially the setting in the year 1998, was particularly inspiring for visual design; incorporating the vintage "Mokia" mobile phone as part of user interface carrying out the narrative was considered the most exciting element to create. Visual examples were added to other sections as well, for example to visualize the game's flow. The marketing section was more familiar due to prior experience, though it may have remained narrower in scope than the commissioner company had hoped.

Overall, the design process of "The Source: Pohjola" provided a valuable learning experience. The most challenging part of the Game Design Document was creating the puzzles, which were

completed as the final element. Although the finalized GDD is 31 pages long, it is likely that some aspects of the game design were not covered. When the production phase begins, there will still be much to plan, design and create.

7 Discussion

The objective of this thesis was to answer questions about Game Design Document: What key elements and sections are essential for a Game Design Document? How can a Game Design Document be made flexible to handle changes during game development? The game industry does not have standards for a Game Design Document, but some common elements were found.

Each game development project is unique with different needs; therefore, it was not possible to define what must be included to a GDD. However, essential sections for a game development project are introduction, game design and visual examples. These sections include defining elements such as story, genre, target audience, platform, characters, game features, game world and levels, aesthetics, gameplay mechanics, sounds, team and marketing. These components define the background, goals, guidelines and rules for the game. Without defining these components, a Game Design Document is defective and cannot be used successfully as a base for a game development project.

Adams (2014) and Schell (2020) presents multiple types of game design documents, each with its own content, purpose and goal. However, majority of the literature utilized in knowledgebase creation did not address this kind of document categorization. Schell (2020) argues that documents are essential part of designing games, but they are different for each game project and for each team (p. 472). Therefore, in each game project the documentation must be done in an appropriate and efficient way for that specific project, whether it includes only one or several design documents.

Creating and editing a GDD in Google Docs makes the documentation flexible for changes, however there is a risk of escalation of information. GDD is a live document, and it should be shared with the entire development team, even though that might lead to the amount of written information increasing tremendously. This might lead to communication deteriorating which is

contrariwise to the purpose of a GDD. Nevertheless, when various people work on the same game design collectively, finding and fixing possible problems becomes easier.

The other purpose of studying this topic and conducting qualitative interview study was to find out the commissioner company's requisite components for a GDD and create a GDD based on these requirements. Analysing the gathered interview data, it became very clear that creating a thorough introduction was the most important element for the interviewees. Other important elements were game design, visual examples and marketing plan, as well as how to organize the content of a GDD in a logical order.

The interview situations were not as successful as they could have been. It was suggested to create a test interview with the main and additional questions before the real interviews, however this was not executed. The interview situations could have been more guided with more specific and various additional questions. One of the transcriptions provided by Microsoft Teams failed because the researcher forgot to change the detection language from English to Finnish. This mistake was not repeated but it cost more time transcribing the failed transcription compared to the succeeded transcriptions. Thematic content analysis was done successfully because common nominators were effortless to recognize, and the collected data was transcribed for easy access. The analysed data turned out to be consistent with the findings of the literature review.

Based on the data, a single Game Design Document was created. Reviewing Adams' (2014) and Schell's (2020) design document types, the created Game Design Document could be categorized as Adams' game script or Schell's detailed design document. The literature review data considered only Google Docs as a tool for shared Game Design Document, therefore no other formats were regarded in this thesis project. The design process was familiar from previous game development projects, but this was the first game design attempt as a sole game designer. Even though there were established guidelines and requirements from the commissioner company, such as platform and genre, the number of decisions done by one person was extensive. The reason why it is crucial that a GDD is a shared document and used as a communication tool between a team of game designers is that there is rather much responsibility and work for just one person to create a GDD by themself. The essence of a GDD is the game designers, the experts of various design fields, inputting their knowledge and skills into one. It was understood that creating a thorough GDD

requires experts of various fields in game development industry. Also, communication and socialization were heavily needed to solve problems that came upon creating the GDD relating to game design topics, such as puzzle creation, mechanics and functionality. The GDD was done and shared to the commissioner company as a Google Docs document.

8 Conclusion

There were no new discoveries regarding the contents of a Game Design Document. However, the result of the conducted interview study supported the findings of the literature review. These findings support the importance of a thorough design work and comprehensive documentation in game development projects. Since every game development project is unique, the content of a GDD must be customized to fit the specific needs of each project. The scale and characteristics of a game project guides the decision of making one or multiple design documents. The Game Design Document is a valid, flexible, and effective tool for game design, but potential risks must be considered at the beginning of any game development project.

In regards the commissioner company, WayOut Oy, and their future game development projects, some recommendations and ideas were risen. The commissioner company should gather a game development team, and they could utilize the various skills of their current employees. WayOut's game masters and store managers consist of multitalented people, such as visual artists, graphic designers, puzzle creators, narrative designers, game programmers, music and sound designers and social media content creators. The company could employ the gathered team of current employees to design future games with the Game Design Document tool. The team could work using scrum as their development framework and the entrepreneurs could act as the Product Owner, making the final decisions related to the development project. A releasing plan and schedule for the future games is heavily recommended, as well as thorough marketing plan.

Researching Game Design Document could be continued by conducting a larger scale interview study to various demographics. Now that an interview study was conducted to a very specific and small target group who did not have any previous experience in video game design and development, the next study demographic could be for example the video game industry experts in Finland. Being a much larger demographic for a face-to-face video interview situation, the future study could be an anonymous questionnaire shared online. The main study topic could still

be the key elements and sections of a Game Design Document, but extra sections such as “how to make a GDD easy to share and edit”, “what is the most efficient GDD format: a document, wiki or other”, “whose responsibility is to write and edit GDD”, “is communication more efficient with one or multiple GDDs”, “is creating a GDD useful financially for game companies”. Further research could lead to the development of a versatile GDD template, or multiple templates, along with a guidebook on how to create a Game Design Document.

References

Adams, E. (2014). *Fundamentals of game design* (3rd ed.). New Riders.

Akhtar, S., Latif, R., Iqbal, F., & Altaf, A. (2021). 'exGDD: Extended game design document template for mobile game design and development. Int. J. Appl. Eng. Res, 6(2), 1-12.

Beça, P., Aresta, M., Veloso, A. I., Santos, R., Ferreira, E., Jervis, S., ... & Ribeiro, S. (2020). Developing a toolkit to game design: the Gamers4Nature project: from concept to artefact. Proceedings of the 15th International Conference on the Foundations of Digital Games (pp. 1-8).

Brinkmann, Svend. (2013). *Qualitative Interviewing*. Oxford University Press, Incorporated.

Fahme, M., & Khan, T. H. (2021). How to make a game: Go from idea to publication avoiding the common pitfalls along the way (1st ed. 2021.). Apress.

From Physical Escape Rooms into the Digital – S4MPO for WayOut. (2024, June 9). Ludocraft. https://ludocraft.com/s4mpo/

Kristjan, J. (2019). *We deserve better villains : A video game design survival guide*. Taylor & Francis Group.

Learning the Ways of the Game Development Wiki. (2024, September 21). Game Developer. https://www.gamedeveloper.com/design/learning-the-ways-of-the-game-development-wiki

Martins, R. S., Raulino, F., Burlamaqui, A., & Burlamaqui, A. (2019). SGDDEdu: A Model of Short Game Design Document for Digital Educational Games. International Journal for Innovation Education and Research, 7(2), 167-180.

Meistä. (2024, June 9). WayOut. https://www.wayout.fi/meista

Rahmadi, L., & Prambayun, A. (2019). Design of Game Design Document as an Interactive Media to Introduce the Culture of Pagar Alam City. J. Crit. Rev, 6(5), 243-251.

Schell, Jesse. (2020). *The Art of Game Design : A Book of Lenses, Third Edition*. A K Peters/CRC Press.

Tap, R. M., Zin, N. A. M., Sarim, H. M., & Diah, N. M. (2021). Creativity training model for game design. International Journal of Advanced Computer Science and Applications, 12(5).

Tuomi, J., & Sarajärvi, A. (2018). *Laadullinen tutkimus ja sisällönanalyysi* (Uudistettu laitos.). Kustannusosakeyhtiö Tammi.

Appendices

Appendix 1. Interview frame

Haastattelukysymys

- Mitä asiakasyritys (WayOut oy) tarvitsee pelisuunnitteludokumenttiin?”

Ohjaavat lisäkysymykset

- Mitä spesifiä haluat dokumentissa olevan?
- Onko sisällön järjestyksellä väliä?
- Mitä dokumentissa ei todellakaan tarvitse olla?
- Koetko visuaaliset esimerkit tarpeellisiksi?

Haastattelun teemat

- Mikä on tärkeää GDD:ssä ja mikä ei.
- Dokumentin sisällön järjestys/järjestely.
- Dokumentin sisällön visualisointi.

Appendix 2. Cover letter for interviewees

Hyvä (haastateltavan nimi),

Teen opinnäytetyötä, jonka aiheena on pelisuunnitteluun käytettävä työkalu nimeltä Game Design Document. Olemme sopineet WayOut Oy:n Niko Eskelisen kanssa, että teen pelisuunnitteludokumentin yrityksellenne ja tässä seuraavassa vaiheessa tarvitsen teidän apua.

Kokosin muutamat tiedostot yhteen, jotka suosittelisin lukemaan seuraavaksi. Toinen dokumentti kertoo enemmän juurikin siitä, mikä Game Design Document on ja mihin sitä käytetään. Toisessa dokumentissa löytyy alustavaa ideointia, joista olemme Niko Eskelisen kanssa puhuneet.

Opinnäytettyössäni kerron, että mikä on Game Design Document ja lopullinen tuote tulee olemaan Game Design Document WayOutin mobiilipelistä. Opinnäytetyötäni varten teen haastattelun, jossa te olisitte haastateltavana. Haastattelu tulee olemaan noin 15 minuutin pituinen teemallinen haastattelu eli toisin sanoen keskustelemme Game Design Documentin sisällöstä ja mitä te haluaisitte siinä olevan. Vaikka opinnäytetyöni on englanniksi, niin keskustelu käydään suomeksi. Haastattelut tehdään Microsoft Teamsissä, jossa tallennan videokuvan, äänen ja käytän Teamsin “transcribe”-toimintoa. Säilytän nämä tiedostot eli videon sekä litteroidun haastattelun omalla henkilökohtaisella tietokoneellani opinnäytetyön kirjoittamisen ajaksi. Kukaan muu ei tule näkemään tiedostoja, poikkeuksena mahdollisesti opinnäytetyön ohjaaja. En tallenna kenenkään henkilökohtaisia tietoja, eikä ne tule olemaan opinnäytetyössäni. Alla ohjeet, mitä suosittelen tekemään seuraavaksi. Kiitos jo etukäteen!

1. Lukaise jakamani tiedostot läpi.

2. Varaamaan ajan (n. 15 min) haastatteluun.

3. Saapumaan Teams-haastatteluun avoimin mielin.

Ystävällisin terveisin, Sannina Salin

Appendix 3. Info package for interviewees

Mikä on Game Design Document?

Game Design Document (yleisesti käytetään lyhennettä **GDD**) tarkoittaa siis pelisuunnitteludokumenttia. GDD toimii pelisuunnittelun apuvälineenä luoden raamit pelille. GDD kuvaa kaikki pelin rakenteet tarinasta teknisiin yksityiskohtiin. Se toimii pohjapiirroksena, kuvaten pelin rakennetta ja toiminnallisuutta, luoden kommunikaatiokanavan eri kehitystiimien (game development teams) välille tarjoamalla kattavan yleiskuvan pelistä. GDD:llä ei ole yhtä universaalia mallia; jokaisen dokumentin tulisi olla räätälöity peliprojektin erityistarpeiden mukaan.

GDD:hen sisällytetään kirjoitettuja kuvauksia, kuvituksia ja kaavioita, jotka selittävät pelin konseptin, mekaniikat, taidesuunnan ja muut olennaiset elementit, joista peli koostuu. Tarkoituksena on tarjota kattava ymmärrys pelin visiosta ja kehitysprosessista kaikille kehitystiimin jäsenille sekä varmistaa, että kaikki kehitysprosessiin (development process) osallistuvat työskentelevät kohti samoja tavoitteita.

GDD:n avainosia voivat olla:

- peli idean/konseptin yhteenveto/auki kirjoittaminen (summary)
- genre
- kohdeyleisö
- alusta (platform)
- tarina
- hahmot
- ominaisuudet (features)
- pelimaailma ja tasot (game world and levels)
- kehitysideat
- pelin visut (luonnokset, mood boardit, mockupit, värit, UI, logo, fontit, jne.)
- pelimekaniikat (mechanics)
- äänet (musiikki ja ääniefektit)
- tiimi (joko valmiin tiimin esittely tai minkälaisia tekijöitä peliprojektiin tarvittaisiin)
- markkinointi- ja myyntisuunnitelma

Alla pari esimerkkiä Game Design Documentin sisällysluettelosta:

1 Introduction 3
1.1 Background 3
1.2 Description 3
1.3 Key Features 3
1.4 Genre 3
1.5 Story 4
1.6 Platforms 4
1.7 Concept Art 4
1.8 Moodboards 6
2 Visuals 7
2.1 Characters 7
2.1.1 Main character 7
2.1.2 NPCs 8
2.2 World 8
2.3 2D Art (for potential in game stories) 8
2.3.1 Potential Logo designs 9
2.4 Colors 10
2.5 Fonts 10
2.6 UI0/UX 11
3 Game Design 12
3.1 Levels and maps 12
3.1.1 World 12
3.2 Game mechanics 12
3.2.1 Mini Quests / Events 12
4 Technical architectural design 12
4.1 Structure inside Unity project 12
4.2 Naming policies 14
4.3 Main functionalities 15
4.4 Data files 17

1 Introduction 3
2 UI/UX design 3
2.1 Colors 4
2.2 Fonts 4
2.3 Aesthetic 5
2.4 Characters 6
2.4.1 Maija 7
2.4.2 Matti 7
2.4.3 Pyry 7
2.5 Background 7
3 Game Design 8
3.1 Concept 8
3.2 Game mechanics 9
3.2.1 World 9
3.2.2 Minigames 9
3.3 Levels & Maps 10
4 Technical architectural design 11
4.1 Structure inside Unity project 11
4.1.1 Project structure and naming 11
4.1.2 Overall Unity hierarchy structure and naming 12
4.2 Codebase classes, functionalities & scripts 13
4.3 Data files (save/load, randomization, etc.) 14
4.4 Dependencies, APIs & 3rd party software 14

Lisää GDD esimerkkejä:

Doom Bible - https://gamescrye.com//wp-content/uploads/2016/12/doombible.pdf

BooH – pre-production Game Design Document - https://gamescrye.com//wp-content/uploads/2016/12/booh-game-design-final.pdf

Burnt Out Cop Design Overview - https://gamescrye.com//wp-content/uploads/2016/12/BURNT-OUT-COP-Design-Overview.pdf

Game design documentteja: https://gamescrye.com/resources/game-design-documents/

Appendix 5. Game Design Document – The Source: Pohjola

Game Design Document

The Source: Pohjola

Sannina Salin

2024

Introduction

This Game Design Document is created to work as a guide for the visual design and game development of “The Source: Pohjola". This document is created as a customer work for a live room escape game company WayOut Oy by a game production student Sannina Salin. One of the goals of creating this document is that the customer company can use it as a base for the game development as well as for the possible future games.

Concept

“The Source: Pohjola" is an adventure puzzle game with focus on story, puzzles and visuals. This game's function is to give more insight about the already existing live room escape game called “The Source", which has been operational since November 2022 in Jyväskylä, Finland. The game follows the original escape room’s theme with symbolism, secret society and Indiana Jonesque mystery adventure. This puzzle game offers intriguing lore with Finnish mythology and historical facts while traveling across Finland and solving brain-teasing puzzles. The player must solve puzzles in order to progress in the game and gain more knowledge about the story.

“The Source: Pohjola" is a single player 2D mobile game, played in portrait/vertical mode. The playtime is approximately 30 minutes with 10 puzzles. The storyline is linear, and each puzzle leads the player step-by-step to a final revelation.

Story

The story is linked to the escape room “The Source” and the game will give an explanation why that specific room is in Jyväskylä, Finland. The game is set in 1998 Finland.

The story follows Professor Bean, the world-renowned archaeologist who has dedicated his life to study powerful sources all over the world. He has obtained old documents about a source in the North (Pohjola). These documents talk about a Nordic country called Finland and it is rumored to have a powerful source with

healing capacities. Doing his research, professor Bean is unable to determine which source is THE healing source in Finland. Fortunately, he has limited the possibilities to these five sources: Kupittaan lähde, Uhrilähde, Mustalähde, Elävälähde and Haukkalan lähde. To find out which one is the real deal, he must travel to Finland and solve the mystery of the healing source. He must be fast, before the evildoers can abuse the power of this source.

The full narrative can be found from Appendix 1.

Inspiration

Finland has about 32 000 known sources and a common folklore talks about magical healing abilities related to these sources. This folklore has been linked to various sources and there have been variations on how to get the source to heal you. Basically, these sources have been called “uhrilähde”, because you had to sacrifice for example a coin or a needle to the source. It was strictly forbidden to take these needles or coins out of the source. Usually it was believed that a “maahinen”, “haltija”, “vetehinen”, “hiisi” or “näkki” was living in the source and you paid the mythological creature in exchange for them healing you.

News articles, websites and old documents were inspected when researching this as a topic. The game has real historical people mentioned, such as Petrus Magnus Gyllenius and sorcerer Pekka Rissanen. All the sources in the game are real and they were chosen mostly because of their geographical location and because there was interesting information and facts found about them.

Characters

The main character is archaeologist professor Bean, who is located in England in the beginning of the game. The story proceeds by SMS messages sent by his assistant, Murphy. Neither of the characters are fully visible during the game.

Key Features

Puzzle solving: Brain-teasing puzzles which are story related and logical. Encourages the player to think outside the box. Includes series of puzzles of increasing difficulty and gives a sense of achievement with feedback.

Story-based: Interesting story fulfilled with mystery, Finnish mythology and intriguing historical facts. The narrative is implemented by technology appropriate to the year 1998; the player receives and reads SMS messages sent by Professor Bean's assistant Murphy. Also, the old documents that professor Bean has found gives the player more information about these sources and about old lore related to them.

Enjoyable graphics: The game is visually pleasing to the eye, with simple but beautiful 2D graphics. The UI will be straightforward and intuitive, without any excessive masses of text. Puzzles will be understandable without unnecessary instructions. The game will use animations from time to time, to carry out the narrative.

Free-to-Play: The game is free-to-play (F2P), meaning it is free to download. There will be In-App Purchases (IAP) where the player can buy more hints (vinkkikolikko). The player will have x amount of hint coins in the beginning of the game and can use them when doing the puzzles; either to get help or possibly to bypass the puzzle at hand.

Simple gameplay mechanism: The gameplay mechanism will be simple with intuitive controls. The controls will match the players' instincts and will give them a sense of control while creating immersion.

Target audience

The main target audience are those room escape enthusiasts who have already played "The Source" in Jyväskylä. This game explains the settings in "The Source" and is for those who are already invested in the story and know who professor Bean is. Because "The Source" is in Jyväskylä, the target audience is Finnish speaking

players. The target audience, room escape and puzzle players, might be seeking stress relief, a sense of accomplishment or just something to do in their spare time when playing mobile games.

The mobile game's story takes place in time before the happenings of the live room escape "The Source" and it doesn't give any spoilers about it, so the mobile game is playable also for those who haven't played the escape room beforehand.

Platform

"The Source: Pohjola" is a mobile game, meaning it is a digital game played by a smartphone or a tablet. The game will be playable in WayOut app, meaning player downloads the app and this app will act as a platform for this game and the upcoming other WayOut mobile games.

The WayOut app does not exist, therefore the game development project cannot happen before the app has been developed. Though, these projects can be developed simultaneously, with the end result of having a playable game when the app is launched. This design document doesn't include designing the app.

Goals

The goal is to create a coherent game with pleasing visuals and simple in function. The ultimate goal can be divided into smaller sections:

1. To create a working mobile game
2. To have a simple gameplay mechanics
3. To have visually pleasing graphics
4. To have enjoyable puzzles with logic
5. To have intuitive and straightforward usability
6. To fit the WayOut brand

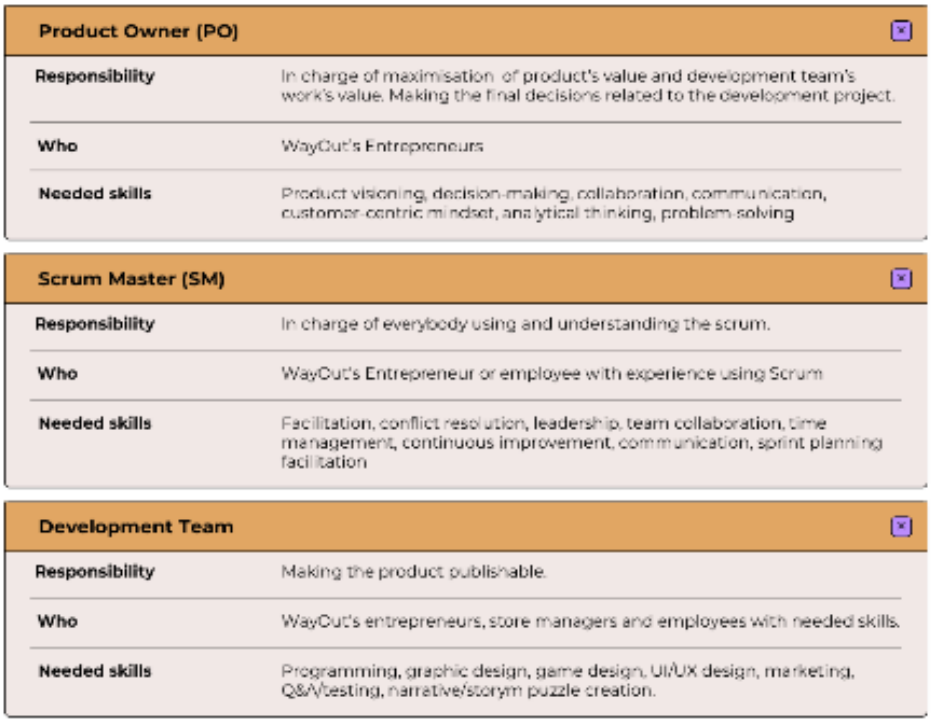
Development team

This game project needs various talented people for the development. WayOut Oy can easily utilize the skills of their current employees. WayOut's game masters and

store managers consist of multitalented people, such as visual artists, graphic designers, puzzle creators, narrative designers, game programmers, music and sound designers and social media content creators. The company could employ the gathered team of current employees to design future games with the Game Design Document tool.

I suggest using “Scrum” as the development process. Scrum is an agile team collaboration framework which breaks the work into smaller goals which will be completed in “sprints”. Sprint’s length can be agreed with the scrum team, but usually it is from two weeks to one month. The team meets regularly in short “daily scrum” meetings and at the end of a sprint team meets for a “sprint review”.

Scrum team consists of a Product Owner (PO) who oversees maximization of product’s value and development team’s work’s value, Scrum Master (SM) who is in charge of everybody using and understanding the scrum and Development Team which consists of professionals with various talents, the whole team oversees making the product publishable.



Product Owner (PO)	
Responsibility	In charge of maximisation of product's value and development team's work's value. Making the final decisions related to the development project.
Who	WayOut's Entrepreneurs
Needed skills	Product visioning, decision-making, collaboration, communication, customer-centric mindset, analytical thinking, problem-solving

Scrum Master (SM)	
Responsibility	In charge of everybody using and understanding the scrum.
Who	WayOut's Entrepreneur or employee with experience using Scrum
Needed skills	Facilitation, conflict resolution, leadership, team collaboration, time management, continuous improvement, communication, sprint planning facilitation

Development Team	
Responsibility	Making the product publishable.
Who	WayOut's entrepreneurs, store managers and employees with needed skills.
Needed skills	Programming, graphic design, game design, UI/UX design, marketing, Q&A/testing, narrative/storym puzzle creation.

Mood board

Mood board was collected with Finnish mythology, symbols and color usage in mind, and it will act as an inspiration for the game's visuals. Adobe Stock and finna.fi were utilized in image collection.

Game Design

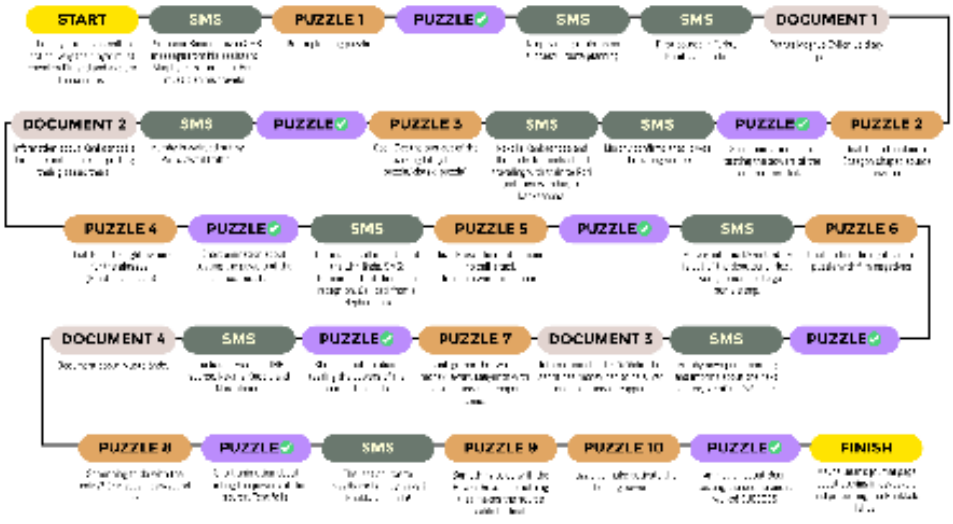
The goal is to create an engaging, puzzle-centric experience that seamlessly blends with the narrative delivered through SMS messages and documents. The puzzles

are intuitive and challenging, and the touch-based controls make for an immersive and accessible experience. The narrative is integrated into the puzzles, pulling players deeper into the game's world.

The primary challenge lies in implementing responsive and intuitive touch mechanics, coding the logic for the puzzles, and ensuring the narrative unfolds smoothly through animations and interface interactions. The integration of the hint system with in-app purchases requires attention to detail, as does the need for performance optimization on a variety of devices.

Game flow

Game flow visualized below. You can read the full storyline in the Appendix 1.



Game mechanics and functionality

Game mechanics are the rules, elements and processes that define a game. In this story-based mobile puzzle game, the mechanics and functionality are crucial for delivering a captivating and immersive player experience.

Problem-Solving and Puzzle Design

The heart of the game lies in its strategy mechanics, where players solve puzzles that require critical thinking and creativity. The puzzle-solving process will be designed to challenge the player's problem-solving abilities progressively, with increasing difficulty as they advance in the narrative. Each puzzle should feel like a meaningful part of the narrative, driving the player further into the mystery. Each puzzle will have a distinct set of logic rules.

The programmer is responsible for coding the underlying logic for puzzles, ensuring they behave consistently and provide appropriate feedback when solved, such as: highlighting incorrect moves. displaying success animations or unlocking new SMS messages when puzzles are completed and ensuring that the game's feedback loop (positive reinforcement when solving puzzles) works properly.

Touch-Based Controls

The game's puzzle-solving mechanics take advantage of touch-based interactions, offering various ways to interact with the game environment. The touch-based mechanics (tapping, swiping, dragging) need to be mapped to intuitive touch gestures, ensuring they are responsive and work seamlessly across a variety of mobile devices. Players may need to: tap to select or interact with items, swipe or drag to arrange or move pieces in a puzzle. The controls must be simple and easy to grasp without a steep learning curve.

Hint System (IAP Integration)

To make the game accessible and less frustrating, a hint system is integrated. Players start with a limited number of hints that they can use when stuck, either for guidance or to bypass particularly challenging puzzles. The hint system requires careful implementation, especially with the IAP functionality. The player should be able to access hints from the main interface without interrupting the flow of the game. Additionally, handling transactions for buying more hints needs to integrate securely with platform-specific app stores (Google Play, App Store). The programmer will integrate In-App Purchases for hints, while balancing the F2P mechanics so that

non-paying players can still enjoy the game without feeling stuck. Secure API calls to platforms for purchases, as well as safeguarding the game state in case of network errors, are critical.

Narrative System

The narrative unfolds through SMS messages and old documents creating an atmospheric and immersive storyline. The design of these text-based interactions aims to evoke the feeling of using a retro "Mokia" phone, establishing a unique sense of time and place. The programmer will need to build an interface that mirrors this retro phone, with readable text and interactive elements that trigger story progress based on puzzle completion. A simple document reader with zoom and scroll functionality needs to be implemented.

Aesthetic and UI Design

The user interface (UI) will be coded to ensure it is user-friendly and quick to navigate, without overburdening the player with unnecessary complexity. The focus will be on clean navigation between puzzles, SMS messages, and old documents. The UI must be clean, straightforward, and intuitive, ensuring players can navigate the game easily. The minimalist approach to text and instructions helps keep the focus on the puzzles and story.

Animations will appear occasionally to enhance the narrative or show transitions between puzzles and story events. The game will give feedback when puzzles are solved, rewarding the player with a sense of achievement. This feedback loop is essential to keeping players engaged, giving them a sense of progression. Programmers will implement smooth animations and transitions to enhance the storytelling and puzzle-solving experience, for example animated SMS messages arriving on the phone and visual effects indicating puzzle success. These animations should be optimized for performance, ensuring they do not disrupt the flow of gameplay on lower-end mobile devices.

Data Management and Save System

The game will likely include a save system to track the player's progress through the narrative and puzzles. This system needs to be flexible and ensure that players can pause and return to the game without losing their place in the story or puzzle progression.

Modular game design

Modular Game Design is a method where a game is divided into small, independent parts, or modules, that can be easily changed, replaced, or modified. This approach allows developers to create a more engaging experience for players while reducing costs, making the design more flexible, and speeding up development. It also helps overcome design limitations, giving developers more creative freedom.

New games will be published through updates to the app. UI and the base code will remain the same in these games. Visual assets can be changed (backgrounds and other visual assets related to the game) and puzzles will be updated according to the story of a new game. Developing pre-made puzzles (puzzle library) makes this process even more effortless.

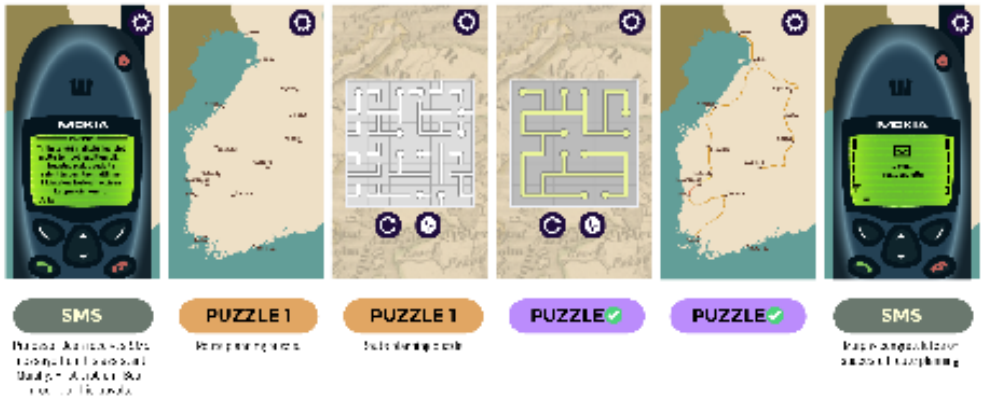
Game puzzles

A thorough puzzle catalogue can be found from Appendix 2. The catalogue was gathered to help future game development projects as well as this one.

Puzzle 1: Travel plan

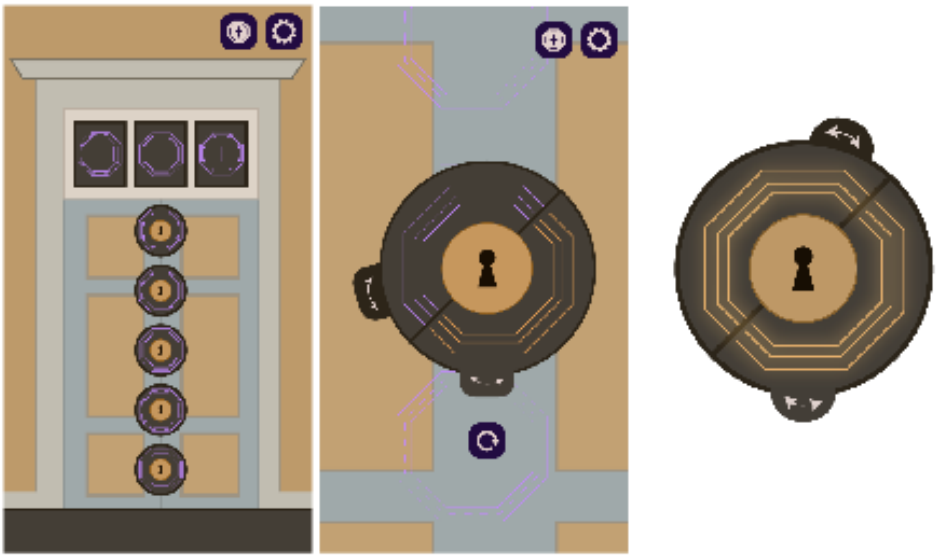
Level	Easy
Goal	Professor Bean must plan his expedition trip to Finland. He must find a route through each city.
Puzzle	Pipe puzzle, meaning the player has to spin/rotate the "pipes" or in this case the route into the right direction and connect "cities" or dots in this case.

Hints	Hint 1: Connect the cities with a single route. Hint 2: Highlights one pipe square that needs rotating.. Hint 3: Solves the puzzle for the player.
Other	Custom Pipes Puzzle



Puzzle 2: Kupittaan lähde, Turku

Level	Easy/medium
Goal	Professor Bean has found the octagon shaped "lähdepaviljonki" in Kupittaa park, but its doors are closed. Prof. Bean must get the doors open in order to test if this is the healing source of the legends.
Puzzle	The doorframe has a clue for the right order. There are 6 locks with different symbols (maybe runes or versions of octagon). Player must tap the right lock to open it and proceed to the next right lock according to the symbol order above.
Hints	Hint 1: Look closely at the door frame. Hint 2: Rotate the layers to complete the symbol. Hint 3: Solves the puzzle for the player.
Other	Example of the lock mechanism: Top 25 Best Puzzle Games so Far (Android/iOS)



Puzzle 3: Pori's parking lot

Level	Easy/medium
Goal	Professor Bean is traveling from Pori to Kankaanpää by bus. The bus is trapped, and you must help the bus driver to get out of the parking lot.
Puzzle	Rush Hour puzzle (Sliding Blocks / Klotski / Huarong). Slide the cars away one by one and clear the way for the bus to exit the parking lot.
Hints	Hint 1: Start sliding the x piece. Hint 2: The puzzle is possible to solve with x amount of moves. Hint 3: Solves the puzzle for the player.
Other	Solving Rush Hour, the Puzzle July 2018

Puzzle 4: Uhrilähde, Kankaanpää

Level	Medium
Goal	Find the right owner for each eyeglass.

Puzzle	Drag the right eyeglass to the right owner. There will be visual clues in the eyeglasses and in the pictures of the owners, such as colors, shapes, styles and for example eye distance.
Hints	Hint 1: Look closely at the eyeglasses and owners. Hint 2: The x eyeglass belongs to owner x. Hint 3: Solves the puzzle for the player.

Puzzle 5: The telephone box

Level	Medium
Goal	Professor Bean has no signal on his phone, so he must call a taxi using the telephone box. Bean enters the box, but there is no phone book, so he doesn't know the number. Luckily, somebody has written on the wall: "If you need a taxi, **a friend** will help. 02-_ _ _ _ _ _ _".
Puzzle	Cipher puzzle. Player must decode a word to a series of numbers. There is a phone's number pad visible with numbers and letters. The player must tap the right phone number to solve the puzzle.
Hints	Hint 1: Did you notice the writing on the wall? Hint 2: How could "friend" be transformed into numbers? Hint 3: Solves the puzzle for the player.

PUZZLE 3

Goal: Get the car out of the parking l... (finish this puzzle)

PUZZLE 5

Goal: Press the right numbers to call a taxi. Decode a word to numbers.

PUZZLE 6

Goal: To find the right cabin number.

Puzzle 6: Night train to Kemi

Level	Easy/Medium
Goal	Professor Bean's train ticket has faced some damage. He must find out which is his night cabin in the train.
Puzzle	Number sequence puzzle. There are numbers on the windows of the train and professor Bean must solve the number of his cabin. 35 8, 21 ?, 91 10, 72 9 (3+5=8, 2+1=3, 9+1=10, 7+2=9)
Hints	Hint 1: Think in pairs. Hint 2: Maybe basic math would help? Hint 3: Solves the puzzle for the player.

Puzzle 7: Elävälähde, Kemi

Level	Medium
Goal	Professor Bean must gather all the brass and copper coins away and leave all the silver coins, because the maahinen of Elävälähde only accepts silver coins as payment.
Puzzle	There is a labyrinth which has silver and brass/copper coins. Professor Bean must gather all other coins away and leave silver ones and find the route through the labyrinth. The labyrinth is octagon shaped.
Hints	Hint 1: Start by going x direction. Hint 2: The next coin is highlighted. Hint 3: Solves the puzzle for the player.

Puzzle 8: Mustalähde, Kuopio

Level	Medium
Goal	You have a page of sorcerer Pekka Rissanen's spellbook. There is one word you must say to the Vetehinen before you give them slivers of silver coins. You have to find out the word by looking at the page

Puzzle	Hidden word puzzle. By looking at the page Professor Bean must find the letters that are written in capitals or bolded and combine them into a word.
Hints	Hint 1: Examine the page properly. Hint 2: Look carefully for divergences. Hint 3: Solves the puzzle for the player.
Other	Example: SET LIST 1. To the beat 2. Onwards and ravewards 3. rave the night away 4. I am the master 5. legend 6. always Let the music play 7. garden of England 8. bang it like a headbang 9. party in T-wizzle Solution: TOILET

Puzzle 9: Haukkalan lähde, Jyväskylä – part 1

Level	Hard
Goal	Professor Bean is certain that this is the healing source, but how to get it to reveal its secret? Bean must look at the Haukkalan lähde Hawk statue from a different angle to get the instructions to engage the healing capacities of the source.
Puzzle	Stretched text on hawk's wing. The player must tilt their phone to be able to read the text. The text gives the player instructions, for example "press beak flip the wing".
Hints	Hint 1: Maybe the Hawk is the key. Hint 2: Would a different angle help? Hint 3: Tilt your phone and look from the charging port.
Other	Tilt-to-read

Puzzle 10: Haukkalan lähde, Jyväskylä – part 2

Level	Medium
Goal	To make the source to heal Professor Bean must draw a magic symbol that was revealed underneath the Hawk's wing.
Puzzle	One line / one stroke puzzle. Player draws one line through each point of the symbol. It could be "kannuksenpyörä" (octagram) or "hannunvaakuna" (looped square).
Hints	Hint 1: Start from point x. Hint 2: Show three first movements. Hint 3: Solves the puzzle for the player.
Other	1 Line 1 Touch - One-stroke puzzle game

Sounds

The sound effects and music will complement the visuals and narrative, helping the player feel immersed in the world while receiving clear, auditory feedback for their actions. They should balance between subtlety and effectiveness, enhancing the player experience without being overly intrusive.

Sound effects

Puzzle interaction and feedback

- **Puzzle solved**: A rewarding sound when the player successfully solves a puzzle, such as a triumphant chime or a soft but satisfying "ding."
- **Incorrect attempt**: A subtle but distinct sound for a wrong answer or failed attempt, like a soft "thud" or error buzz.
- **Hint usage**: A calm sound indicating the player is using a hint, like a gentle shimmer or coin sound to reflect the in-app purchase system.
- **Puzzle pieces movement and item interaction**: A sound for picking up, moving, or placing items during puzzles, like a subtle "click" or "pop."
- **Puzzle reset**: A soft whoosh or "reset" sound if the player chooses to reset a puzzle to its original state.
- **Game over or restart**: A subtle, non-frustrating sound indicating the player must retry or return to a puzzle.

Storytelling and narrative

- **SMS notification**: A retro text message alert sound (reflecting 1998 technology) for incoming SMS from the assistant Murphy.
- **Document examination**: A gentle paper rustling or flipping sound when opening or examining old documents found by Professor Bean.
- **Lore reveal**: A mystical or soft, magical sound when uncovering key pieces of Finnish mythology or historical facts.

UI sounds

- **Button clicks**: A soft but clear click sound when interacting with the game's UI, such as navigating menus, selecting options, or confirming actions.
- **Hint coin collect/spend**: A coin-collecting sound when receiving or spending hint coins, like a soft "chime" or coin drop sound.
- **In-App Purchase confirmation**: A distinct but non-intrusive sound to confirm a purchase of hint coins, like a satisfying chime.
- **Key cinematic transitions**: When transitioning into a story-related animation or cutscene, an atmospheric sound cue to emphasize the shift.
- **Mystical events**: Any supernatural or mystical elements could have their own sound effects, such as ethereal sounds, magical pulses, or ancient chants.

Music

In a mobile puzzle game, the use of background music plays an important role in enhancing the player experience without becoming a distraction. The soundtrack should seamlessly blend into the game environment, creating an immersive atmosphere that complements both narrative elements and puzzle-solving moments. The goal is to create a soundscape that enhances the gameplay experience: inviting players into the world of the game while allowing them to concentrate on the tasks at hand.

Mystery ambience: Soft, eerie background ambiance that sets the mysterious tone of the game, potentially including faint wind, distant echoes, or soft rain.

Forest sounds: Light forest ambiance like rustling leaves, bird chirps, or distant animal calls to enhance immersion in certain scenes.

Monetizing

Mobile games can roughly be divided into three revenue models: paid games (premium games), games that earn money through ads and free games (freemium/F2P) that are free to download and include microtransactions. Free-to-play games usually have In-app purchases (IAP). The advantage is that the game developer controls their own sales, and the game remains free to download. Players can even pay to remove ads. In-app purchases can be divided into four categories:

1. **Consumable items:** The most common IAP format in mobile games. They often appear as in-game currency, boosters, extra lives, or other enhancements. These are single-use items that players can buy more of at any time.
2. **Non-consumable items:** These can be cosmetic items, characters, game levels, or other things that players keep after purchasing.
3. **Auto-renewing subscriptions:** Players gain access to some kind of premium content. In mobile games, subscriptions often come as daily gift packages or an exclusive version of the game.
4. **One-time subscriptions**: Limited subscriptions that the user must manually renew as needed.

Other ways for players to spend money in games is to pay to unlock levels and purchase “hint coins” or some other non-coin concept, for example just “hints”, within the game. There usually is a limited amount of “hint coins” available and more can be earned by completing levels, challenges, puzzles or just purchasing them. Access to in-game currency should be controlled and limited so that the player gets a taste of the premium game experience to learn the true value of it. When hard currency availability is restricted, players will seek new ways to gather more: either work hard to earn the currency or take a shortcut and pay for it.

Monetization plan

“The Source: Pohjola” will be a free-to-play game, allowing players to download the WayOut app and play without any upfront cost. Monetization revolves around a hint

coin system, where players can either earn hint coins gradually through gameplay or purchase them via IAPs. These hint coins provide an optional layer of convenience by allowing players to either get hints for difficult puzzles or bypass them entirely. The “hint coins" could be the octagonal shaped coins and these coins could be the same in the other future WayOut mobile games as well.

Hint coins serve as the game’s premium currency. Players use them to unlock hints or bypass puzzles that are too challenging. Players start with a limited number of free hint coins, encouraging early usage and showcasing their value. Players can use a small number of hint coins to get help when solving puzzles and if the puzzle is too difficult, they can spend more hint coins to skip the puzzle entirely and progress in the game. The game offers ways for players to earn free hint coins to create a balanced experience and avoid “pay-to-win" frustration, for example if the player logs in daily they will receive a small amount of hint coins (1-3).’

Core currency: Hint coins	
Hints	Players can use a small number of hint coins (1-3) to get incremental hints that help them solve puzzles without revealing the entire solution.
Bypass puzzle	If a puzzle is too difficult, players can spend more hint coins (5-10) to skip the puzzle entirely and progress to the next level.
Daily rewards	Players receive a small amount of hint coins (1-3) for logging in daily, encouraging retention.
Puzzle completion rewards	Upon completing certain milestones (every 5th or 10th puzzle), players earn a small number of hint coins.

Different tiers of IAPs are created to suit various player spending preferences. Offering packages with better value for higher tiers will encourage bulk purchases.

Bonus coins act as a “gift” for larger purchases, encouraging players to invest more upfront.

IAP Packages for Hint coins

Package name	Hint coins	Price (EUR)	Bonus coins	Total coins
Starter Pack	10 coins	0,99€	None	10 coins
Small Pack	25 coins	2,99€	2 Bonus coins	27 coins
Medium Pack	60 coins	5,99€	5 Bonus coins	65 coins
Large Pack	150 coins	9,99€	20 Bonus coins	170 coins
Mega Pack	400 coins	19,99€	50 Bonus coins	450 coins
Ultimate Pack	1000 coins	49,99€	200 Bonus coins	1200 coins

Game engines

Game engine is a video game development software with tools and features for developing games. There are several game engines that could be used in this game development project. The final decisions should be made by the project's programmers because they have the most experience of using these engines and usually a programmer wants to use a specific game engine due to its features and familiarity. Here is a list of game engines that are used the most in game development and especially in mobile game development.

Unity

- Free
- Recommended for 2D game development
- C# programming language
- Unity Personal is free. The Made with Unity splash screen will become optional for Unity Personal games made with Unity 6 when it launches later this year.
- Unity Pro will be required if total annual revenue and funding are more than $200,000 USD.

Unreal Engine

- Free
- Recommended for 3D game development
- Works also for 2D
- Visual script
- 5% royalty once the lifetime gross revenue from that product exceeds $1 million USD.

Construct 3

- Business: 429€ + VAT per year
- Startup Business 155,99€ + VAT per year
    - Your business must meet all the following requirements to buy these plans:
        - Less than $50,000 USD annual revenue or forecast revenue
        - Less than $100,000 USD assets
        - 3 or less employees
        - If you do not meet all these requirements, you must purchase the normal business plans.
- Recommended for 2D game development
- Behaviours
- JavaScript programming language

Godot Engine

- Free and open source
- 2D game development
- GDScript: own programming language, similar to Python
- Supports also C++ and C#

GameMaker

- 99,99$ One-time purchase
- Recommended 2D game development
- Programming language:
    - GML Visual: Visual Scripting method that uses blocks of actions which are chained together to create your game's logic
    - GML Code: Easy-to-use programming language with powerful features (Functions, Methods, Structs & Constructors, etc.).

Defold

- Free
- Recommended for 2D game development
- Lua as a programming language
- Supports C++ as native extensions
- Supports C# as community support

GDevelop

- If revenue over 50 000$ per year -> Pro membership (payment 30€ per month or 309€ per year)
- No-code: uses a logic system based on conditions and actions ("if" and "then")
- Behaviours
- Extend with JavaScript

Scratch

- Free
- Programming blocks

Visuals

The game's visuals are crafted to create an immersive and engaging experience, These visual elements work together to enhance the storytelling and gameplay, drawing players into the game world. Currently, the artwork is in the concept stage, serving as examples and inspiration for the final design. These concepts capture the intended style and tone, guiding the development of a cohesive and visually appealing game environment.

Aesthetic

The game's aesthetic draws strong inspiration from traditional Finnish symbols and ornaments, including designs like the "Hannunvaakuna", also known as "Käpälikkö", and "Kannuksenpyörä". These symbols help give the game a unique cultural feel. The look of the game also reflects some influences from the year 1998, adding a nostalgic touch. Another goal is to ensure that the visual style aligns with WayOut's brand. Below is a mood board that highlights both the 1998 influences and WayOut's brand elements, helping to guide the overall visual direction.

Logo

The game's logo combines the original logo from "The Source" escape room with the word "Pohjola" underneath. Below are some examples showing different placements and color options for the logo. One idea was to add a northern lights effect to the word "Pohjola," as the northern lights are a well-known symbol of the Nordic countries. However, there is a concern that using too many stereotypical elements could make the logo feel tacky.

The font used in the word "Pohjola" is called "Dirtyline 36Daysoftype 2022 Font". The font is free for personal use only. It was used to portray the vibe of the logo.

Fonts

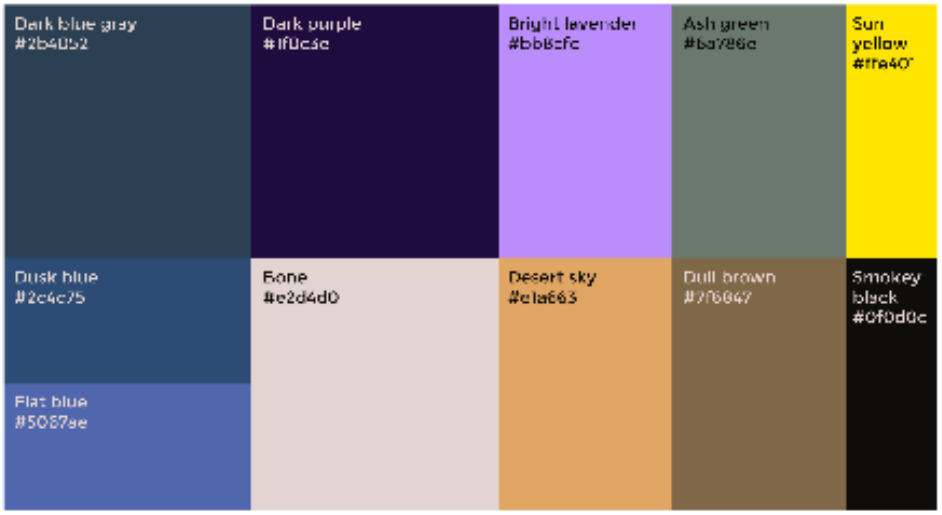
The fonts used in the game must be thought through accessibility ensuring effortless reading experience for the players. The old documents and SMS messages are in an important role carrying out the narrative, therefore those must be easy to read. However, aesthetics must be taken into consideration when choosing the fonts. Font usage in game:

- Game menu and Hint coin store
- SMS messages: pixel font inspired by old cell phone fonts.
- Old documents: different font in each document (handwritten diaries, notes, etc.)
- Hints: clear font for effortless reading.

Colors

The color palette takes inspiration from both the mood board and WayOut's brand colors. "Sun Yellow," WayOut's highlight color, can be used to draw attention to key elements like call-to-action (CTA) buttons. While these colors have been applied in visual examples, they are not final. Before deciding on the palette, several accessibility checks are needed. This includes testing for color contrast to ensure

readability and making adjustments if any colors have low contrast. The colors will also be checked in color blindness simulations to ensure they work well for all users.



UI/UX

The game's UI (user interface) will have a minimalist design inspired by Finnish folk art, traditional symbols, and the aesthetic of 1998. Since the game's story unfolds through SMS messages from Murphy on Professor Bean's "Mokia" cell phone, this retro device plays a central role in the interface. The UI will be easy to navigate, with clear icons, simple text, and well-placed buttons for a seamless experience. Accessibility is also a priority in the UX (user experience) design to make the game enjoyable for all players. The aim is to create a smooth, engaging interface that supports gameplay without being distracting.

Assets

Here is a list of all the visual assets that are needed in the game development.

Documents

- ☐ Petrus Magnus Gyllenius' diary page
- ☐ Document about Uhrilähde
- ☐ C. A. Gottlund's notes about Elävälähde
- ☐ Pekka Rissanen's diary/spellbook page about Mustalähde

Puzzles

- ☐ Kupittaan lähteen paviljonki's door, symbols and locks
- ☐ Pori's bus station parking lot, busses and cars
- ☐ Eyeglasses and their owners
- ☐ Phone booth and its number pad, text on the wall
- ☐ Kemi's night train, train ticket and number input asset
- ☐ Brass, copper and silver coins, labyrinth
- ☐ Mustalähde, spellbook page, text input box
- ☐ Haukkalan lähde 1, Hawk statue and stretched text
- ☐ Haukkalan lähde 2, one line puzzle octagram or looped square symbol
- ☐ Fail animation
- ☐ Success animation

UI/UX

- [ ] Title screen
- [ ] Game menu
- [ ] Options (sound effects & music buttons or sliders)
- [ ] Other UI (buttons)
- [ ] Cell phone and it's buttons
- [ ] Hint system
- [ ] Hint coin
- [ ] Hint coin store

Marketing

Marketing plan

The marketing plan for "The Source: Pohjola" focuses on promoting the game as an extension of the popular "The Source" escape room experience in Jyväskylä, Finland. The goal is to engage room escape enthusiasts, puzzle gamers, and fans of Finnish mythology through a multi-channel approach. This plan utilizes social media, local advertising, influencer partnerships, and cross-promotion with the live escape room to reach both new and existing audiences. By emphasizing the game's connection to Finnish culture, history, and brain-teasing puzzles, the campaign will build excitement.

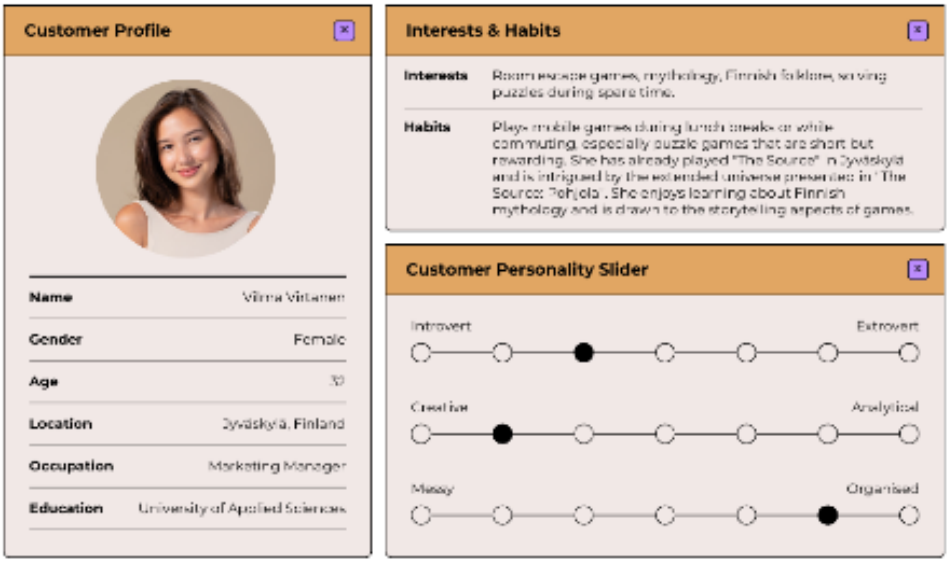
Objectives

Awareness: Create buzz around "The Source: Pohjola", particularly among escape room enthusiasts and puzzle game players in Finland, with a focus on building on the existing player base of "The Source"

Engagement: Drive downloads and active gameplay by emphasizing the connection to the "The Source" escape room and the rich mythology and story-driven puzzles.

Revenue: Increase cross-promotion opportunities between "The Source" room escape and the mobile game, possibly through combo ticketing and direct game purchases.

User persona



Segmentation

Given the audience of puzzle games and room escape enthusiasts, the marketing strategy will segment audiences into three key categories:

Segment 1: Room Escape Enthusiasts	
Demographics	• Age: 18-45 • Location: Primarily Finnish cities, especially Jyväskylä. • Language: Finnish speakers • Education: University students and young professionals
Psychographics	• Enjoys puzzles, critical thinking, and immersive storytelling experiences. • Likely to participate in group activities such as live escape rooms and board game nights. • Seeks a sense of accomplishment and problem-solving satisfaction.
Behavioral	• Regularly participates in room escape games. • Might have already visited "The Source" in Jyväskylä and be familiar with the existing lore. • Willing to explore complementary experiences, such as mobile games, that deepen their immersion in the escape room's narrative.

Segment 2: Casual Puzzle Gamers	
Demographics	• Age: 25-50 • Location: Nationwide (Finland) • Language: Finnish speakers • Gender: Slight skew toward women • Income: Middle to upper-middle class, access to mobile gaming devices.
Psychographics	• Plays mobile games as a means of relaxation or to pass time during short breaks. • Enjoys intellectually stimulating games that aren't overly complex. • May not have visited the escape room but is drawn to puzzle-solving for stress relief and personal achievement.
Behavioral	• Downloads mobile games frequently but with shorter engagement spans. • Prefers short, bite-sized gameplay that offers quick bursts of enjoyment. • Open to trying new puzzle games, especially with strong visuals and stories.

Segment 3: History and Mythology Enthusiasts	
Demographics	• Age: 30-55 • Location: Finland • Language: Finnish speakers • Education: Higher education, interest in culture, history, and mythology.
Psychographics	• Strong interest in Finnish mythology, historical narratives, and folklore. • Enjoys content with educational value, especially if it is packaged in an interactive, fun format. • Tends to gravitate toward games and experiences that connect to cultural heritage.
Behavioral	• May not be avid gamers but will be drawn to the Finnish mythology and historical elements embedded in the game. • Plays more for learning and storytelling rather than gameplay mechanics. • Could be reached through cultural or educational platforms.

Marketing strategies

Social media marketing

The game will be promoted on WayOut's social media channels: Facebook, Instagram, and TikTok. It might be beneficial to dedicate a new Instagram page exclusively for WayOut's mobile game content. On these platforms, behind-the-scenes footage, game visuals and references to Finnish mythology will be shared to build excitement. Short video clips featuring in-game action will help engage potential players. Partnerships with Finnish gaming influencers, especially those focused on room escape games, puzzle games, or mobile gaming, will be key. Micro-influencers from Jyväskylä could be particularly effective in reaching a local audience.

Players are encouraged to share their experiences on social media and tagging the game. Offering small prizes for the best posts and user engagement can boost participation. A video series exploring Finnish mythology, the history behind the game, and the connection between the room escape and the mobile game will appeal to mythology enthusiasts and history fans. Collaborations with Finnish mythology podcasts or puzzle-game content creators can help discuss the game's lore and development, broadening its reach.

Cross-Promotion with "The Source" escape room

A discount will be offered to visitors of the physical "The Source" escape room who download or have already downloaded the WayOut app. The mobile game and WayOut app will be advertised in the escape room lobby and on the website to directly reach the existing fanbase. In-game hints or codes will be provided, offering players discounts for the live escape room experience.

Email marketing

The target audience includes previous visitors of "The Source" escape room and puzzle game enthusiasts. A special newsletter will be sent out promoting "The Source: Pohjola" as a prequel to the live room escape.

App Store Optimization (ASO)

The focus will be on Finnish-language keywords such as "pakopeli", "puzzle", “pulmapeli", "seikkailu", "mytologia" and "Pohjola." Compelling screenshots and a short teaser video will be used on the app store page, highlighting the connection to Finnish mythology, the engaging story, and the challenging puzzles.

Local advertising in Jyväskylä

Flyers and posters will be placed in cafes, libraries, and tourist spots around Jyväskylä, highlighting the connection to the popular escape room. Collaborations with local businesses, such as Fantasiapelit, will help extend the promotion. Partnerships with local news outlets and radio stations in Jyväskylä will focus on covering the game, emphasizing its ties to Jyväskylä, Finnish culture and the room escape experience.

KPIs (Key Performance Indicators)

Downloads: Track the number of downloads within the first three months of release.
User engagement: Monitor in-game engagement metrics such as IAPs and total playtime.
Cross-promotion success: Track how many "The Source" players download the mobile game.
Community growth: Monitor social media engagement, hashtag usage, and user-generated content.

Appendix 1. Narrative for “The Source: Pohjola”

Professori Bean, maailmankuulu arkeologi, joka on omistanut koko elämänsä tutkiakseen voimakkaita lähteitä ympäri maailmaa, on saanut käsiinsä vanhoja asiakirjoja, jotka kertovat lähteestä pohjolassa. Nämä asiakirjat kertovat maasta nimeltä Suomi, jossa huhutaan olevan voimakas, parantavia ominaisuuksia omaava lähde. Tutkimustensa aikana professori Bean ei kuitenkaan onnistu selvittämään, mikä näistä Suomen lähteistä on juuri SE parantava lähde. Hän on rajannut vaihtoehdot viiteen suomalaiseen lähteeseen: Kupittaan lähde, Uhrilähde, Elävälähde, Mustalähde ja Haukkalan lähde. Selvittääkseen, mikä näistä on oikea, hänen täytyy matkustaa Suomeen ja ratkaista parantavan lähteen arvoitus. Hänen on toimittava nopeasti ennen kuin pahantekijät ehtivät käyttää lähteen voimaa väärin.

Tekstari 1: Yritin tehdä matkajärjestelyt, mutta tehtävä osoittautuikin haastavaksi. Joudutte selvittämään itse reittinne!

Puzzle 1: Beanin matkasuunnitelman/matkareitin tekeminen.

Tekstari 2: Hienoa, reitti on suunniteltu!

Tekstari 3: Ensimmäinen tutkimuskohde on Turussa, Kupittaan lähde, joka on vanhin ja kuuluisin pyhä lähde Suomessa. Kupittaan lähde on todennäköisin vaihtoehto Parantavan lähteen sijainnille. Onnea tutkintoihin!

Bläckäri ja kuva vaihtuu Turkuun. Professori Bean saapuu Turkuun, jossa hän menee tutkimaan Kupittaan lähdettä. Kupittaan lähde on todennäköisin vaihtoehto Parantavan lähteen sijainnille. Professori Bean tutkii Turun akatemian opiskelija Petrus Magnus Gylleniuksen päiväkirjaa. Päiväkirjasta selviää, että nuoriso kokoontui Kupittaan lähteelle viettämään juhannusta vuonna 1649. He uhrasivat lähteeseen, leikkivät sen äärellä ja polttivat tulia. Lopulta kaupungin vartijoiden piti tulla pysäyttämään juhlat, koska niitä pidettiin epäsopivina

Doku 1: Ensimmäisenä visuna on Petrus Magnus Gylleniuksen päiväkirjan sivu vuodelta 1649.

Tämän jälkeen alkaa seuraava puzzle, joka liittyy vuonna 1824 Charles Bassin suunnittelemaan kahdeksankulmaiseen lähdepaviljonkiin. Ovi täytyy saada auki, jotta pystyy testaamaan onko Kupittaan lähde legendojen lähde.

Puzzle 2: Lukot pitää avata oikeassa järjestyksessä. Symbolit näkyy jokaisessa ovessa olevassa lukossa ja pelaajan täytyy avata kolme lukkoa oikeassa järjestyksessä. Oven karmissa vinkki symbolien oikeaan järjestykseen.

P1 valmis: Välianimaatio lähteen voimien testaamisessa (toistuu jokaisen lähteen kohdalla samannäköisenä). Professori Bean heittää kolikon lähteeseen ja kastaa kätensä lähteeseen.

Tekstari 4: Harmi! Kupittaan lähde ei ollutkaan tarujen Parantava lähde. :-(

Tekstari 5: Seuraava tutkimuskohde on Kankaanpään Uhrilähde. Reittisuunnitelman mukaan matkustat junalla ensin Poriin ja siitä bussilla Kankaanpäähän.

Seuraavaksi Professori Bean suuntaa Kankaanpäähän, ottamalla ensin junan Poriin ja Porista bussilla Kankaanpäähän.

Puzzle 3: Pakene bussilla Porin parkkipaikalta (Rush hour puzzle).

Tekstari 6: Olipas Porissa kummallinen liikenne. Turvallista matkaa Kankaanpäähän!

Doku 2: Visuna dokumentti, jonka professori Bean lukee ennen puzzlea:
"Kankaanpään Uhrilähde on yksi Hämeenkankaan näyttävimmistä lähteistä. Lähdettä on pidetty pyhänä, ja sille on entisaikaan osoitettu myös uhreja, kuten ruokaa tai arvoesineitä. Uhrilähde on saanut nimensä siitä, että sieltä on aikojen kuluessa haettu parannusta mm. silmäsairauksiin ja samalla on heitetty uhriropo lähteen pohjattomaan silmäkkeeseen. Kristallinkirkas vesi ja hiekka pulppuaa vedenpinnan yläpuolellekin paikkaa vaihtaen. Perimätiedon mukaan on lähteestä moni saanut avun vaivoihinsa ja silmälasejakin on "unohtunut" lähteen reunalle."

Puzzle 4: Täytyy löytää oikeat silmälasit oikealle omistajalle.

P4 valmis: Välianimaatio lähteen voimien testaamisessa (toistuu jokaisen lähteen kohdalla samannäköisenä). Professori Bean heittää kolikon lähteeseen ja kastaa kätensä lähteeseen.

Uhrilähde on katvealueella, eikä prof Beanin kännykkä toimi, jotta hän voisi soittaa taksin.

Tekstari 6: (Tullut aiemmin, kännykässä ei signaalia) Muista, että Kankaanpää on katvealueella eikä kännykkäsi toimi! Kun tarvitset taksin, tee puhelu puhelinkioskista.

Puzzle 5: Bean menee puhelinkoppiin, mutta siellä ei ole puhelinluetteloa. Kopin seinässä kuitenkin lukee: "Jos haluat taksin, **ystävä** auttaa hädässä. 02- _ _ _ _ _ _." Oikea koodi/puhelinnumero täytyy näpytellä ruudussa näkyvään numeronäppäimistöön: 02 978282. Pura kirjaimista koodi numeroiksi numeronäppäimistön avulla.

Tekstari 7: Olet tainnut päästä katvealueelta pois, hienoa! Seuraava kohde on Kemi, muista saada unta yöjunassa!

Taksin tultua Professori Bean suuntaa Parkanoon, josta nousee junan kyytiin Kemiin.

Puzzle 6: Yöjunassa: Bean vaunun/kopin numeron päättely

Tekstari 8: Huomenta professori Bean, toivottavasti sait nukuttua! Tänään tutkimuksen kohteena on Kemin Elävälähde.

Bean saapuu Kemiin. Kemissä menee Elävälähteelle.

Doku 3: Dokumentti näkyvissä, jossa seuraavat tiedot: "Kyseessä on kirkasvetinen, 3 x 4 metrin kokoinen lähde, josta paikkakuntalaiset hakevat lähdevettä. Lähdettä on pidetty muinaisena kastepaikkana ja vedellä uskotaan edelleenkin olevan parantava vaikutus. Museoviraston 19.10.1972 antaman

lausunnon mukaan lähde oli mainittu C. A. Gottlundin muistiinpanoissa vuodelta 1858 uhrilähteenä ja on siis katsottava kiinteäksi muinaisjäännökseksi ja näin ollen rauhoitettava. Haastatelluista ainoastaan kaksi kertoi Elävän lähteen olevan uhrilähde. Toinen kertojista, rva Karppinen (s. 1904) os. Kemi Ristikangas, kertoo lähteeseen heitetyn vasemman olan yli rahoja, mutta rahojen tuli olla hopeaa, maahinen ei pitänyt messinki-eikä kuparirahoista. Lähteen vedessä uskottiin olevan parannusvoimaa, ja lähdettä käytettiin toivomuslähteenä varsinkin juhannuksen aikaan, jolloin lähteellä saatettiin tehdä muitakin taikoja."

Puzzle 7: Täytyy kerätä messinki sekä kuparikolikot pois ja jättää hopeakolikot. Labyrintti, jossa hopea ja messinki/kuparikolikoita, täytyy mennä labyrintti metallinpaljastimella ja kerätä messinki/kuparikolikot pois ja jättää hopeakolikot paikoilleen.

P7 valmis: Välianimaatio lähteen voimien testaamisessa (toistuu jokaisen lähteen kohdalla samannäköisenä). Professori Bean heittää kolikon lähteeseen ja kastaa kätensä lähteeseen.

Tekstari 9: Voihan harmi, sekään ei ollut oikea lähde! Seuraavaksi matkaat Kuopioon tutkimaan Mustalähdettä.

Kemistä Professori Bean jatkaa matkaansa junalla Kuopioon. Kuopiossa on kohteena Mustalähde.

Doku 4: Dokumentti on savolaisen tietäjä Pekka Rissasen loitsukirjan / laulukirjan sivu. Saa selville seuraavat asiat: Kuopion Mustalähde on vanha uhrilähde, josta kerrotaan monia tarinoita. Lähteeseen tiedetään uhratun vielä 1900-luvulla ja sen vettä on käytetty kansanparannuksessa. Lähteen haltijalle eli »vetiäiselle» vuoltiin hopeaa kiitoksena parantavasta vedestä. Kuuluisan savolaisen tietäjän Pekka Rissasen kerrotaan hyödyntäneen Mustalähteen vettä omissa parannustöissään. Mustasta lähteestä "ostettiin" pesuvettä, jota käytettiin sairauksien parantamiseen. Maksuksi vuoltiin lähteeseen hopeaa, esimerkiksi kolikon reunasta. Mustassalähteessä on siis asunut vetehinen eli vetiäinen jo satoja vuosia viettäen rauhanomaista rinnakkaiseloa

Tuovilanlahden asukkaiden kanssa, jotka Pekka Rissasen tavoin ovat osanneet lahjoa haltioita viemällä lähteeseen näille mieluisia esineitä. Uhrilähde sijaitsee Tuovilanlahden kylässä pienen supan pohjalla. Supan pohjoisreunaa kulkee Mustalähteentie, jolta laskee polku lähteelle. Supan rinteessä kasvaa paksuja mäntyjä ja koivuja. Sen pohjalla on rehevää aluskasvillisuutta, mm. pihlajaa, saniaista ja nokkosta. Lähteen pohjalla vesi purkautuu useista kohdista. Vesialueen halkaisija on noin 20 metriä ja syvyys noin 20 senttimetriä. Lähteen pohja on harmaata hiesua ja sen päälle on muodostunut eloperäinen punaruskea, tomumainen kerros. Lähteestä laskee pieni voimakasvirtainen puro Tuovilanlahteen. Puroa on käytetty myllyn voimanlähteenä. Lähteeseen tiedetään uhratun vielä 1900-luvulla.

Puzzle 8: Laulukirjan sivulta täytyy löytää oikea sana, joka sanotaan ennen kolikon vuolemista.

P8 valmis: Välianimaatio lähteen voimien testaamisessa (toistuu jokaisen lähteen kohdalla samannäköisenä). Professori Bean heittää kolikon lähteeseen ja kastaa kätensä lähteeseen.

Tekstari 10: Olin jo aivan varma, että Mustalähde olisi ollut oikea! Toisaalta tämä tarkoittaa sitä, että seuraava ja lähteistä viimeinen, Jyväskylän Haukkalan lähde täytyy olla parantava lähde!

Kuopiosta Professori Bean jatkaa junalla matkaansa Jyväskylään tutkimaan Haukkalan lähdettä. Haukkalan lähde on kuin onkin taianomainen parantava lähde, mutta lähde ei paljasta voimiaan kaikille. Jotakin täytyy tehdä, että lähde on parantava!

Kaksiosainen puzzle

Puzzle 9: Ensimmäinen puzzle on venytetty sana Haukka-patsaan siivessä, joka antaa ohjeet miten lähde saadaan parantavaksi.

Puzzle 10: Haukan siipi on nostettu nyt ylös ja se paljastaa symbolin, joka täytyy piirtää yhtä viivaa käyttämällä. Tämä aktivoi lähteen taian.

P10 valmis: Animaatio lähteen voimien testaamisesta ja vihdoinkin tällä kertaa lähde toimii. Voitto!

Lopullinen visu Beanin päiväkirjasta, että hän jää Jyväskylään suojelemaan Haukkalan lähdettä ja rakentaa artefaktivarastonsa sinne, jotta kaikki hänen keräämänsä vihjeet ympäri maailmaa pysyisivät turvassa.

Appendix 2. Puzzle catalogue

Puzzles can be categorized for example by the skills that are needed to solve them. These skills are problem-solving, lateral thinking (thinking outside the box), creativity, pattern recognition, logical reasoning and memory skills. The following list of puzzle categories and puzzle examples considers these skills.

Logic puzzles

Sudoku: Fill a grid so that every row, column, and region contains distinct numbers.

Logic grid puzzles: Use clues to determine relationships between people, places, or objects (e.g., seating arrangements, schedule puzzles).

True/false statements: Players deduce the correct answer based on logical consistency.

Switchboard puzzle: Activate the correct combination of switches/levers to unlock something.

Truth-teller and liar: Determine who is telling the truth from a set of statements.

River crossing puzzle: Solve the challenge of moving people or objects across a river without violating rules.

Einstein's puzzle: A complex logic puzzle involving clues to deduce relationships (e.g., who lives in which house, owns which pet, etc.).

Pattern recognition

Sequence puzzles: Identify the next number, shape, or symbol in a sequence.

Tiling puzzles: Arrange tiles in a specific pattern (e.g., sliding tile puzzles).

Matching symbols: Find and match symbols across different elements in the room (e.g., matching colors or shapes on different objects).

Morse code patterns: Identify a message encoded in flashing lights or sound patterns.

Reflection puzzle: Use mirrors or reflectors to direct a beam of light into a specific location.

Word puzzles

Crosswords: Solve clues to fill in a grid with correct words.

Anagrams: Rearrange scrambled letters to form a word or phrase.

Word search: Find hidden words within a letter grid.

Letter substitution cipher: Decode a message where each letter is replaced with another.

Word lock puzzle: Find a word to unlock a combination lock based on clues.

Number puzzles

Algebraic equations: Solve simple equations to get a combination or code.

Magic square: Fill in a grid with numbers so that every row, column, and diagonal adds up to the same total.

Prime numbers: Identify prime numbers in a sequence to solve a puzzle.

Counting objects: Count items (e.g., books, shapes) in the room to get a key number.

Weight puzzles: Use scales to balance objects and determine correct weights.

Physical manipulation puzzles

Jigsaw puzzles: Assemble pieces to create a picture or reveal a hidden code.

Tangible locks: Open a lock by manipulating a physical key, turning a knob, or aligning objects.

Hidden compartments: Solve a puzzle to discover a hidden compartment or secret drawer.

Magnet puzzles: Use magnets to move objects or trigger hidden mechanisms.

Mechanical puzzles: Align gears or rotate objects in the right combination to unlock something.

15 puzzle: A sliding puzzle where numbered tiles are arranged in order by moving them within a grid.

Klotski: A block-sliding puzzle where the goal is to move a specific piece to a target position.

Sliding puzzle: A broader category that includes puzzles like the 15 puzzle and Klotski, where pieces are moved within a confined space.

Rubik's cube: A 3D combination puzzle where players rotate layers to align colors on all sides.

Cipher Puzzles

Caesar cipher: Decode a message where each letter is shifted by a fixed number of positions.

Pigpen cipher: Decode a message using a simple substitution cipher where letters are represented by symbols.

Vigenère cipher: Use a keyword to decrypt a message with a polyalphabetic cipher.

Numeric code puzzle: Use clues to solve a numeric code for a lock (e.g., 4-digit combination).

Binary or morse code: Convert binary or Morse code to a readable message.

Hidden object puzzles

Find the key: Search the room for a key hidden in an unusual place (e.g., under furniture, inside objects).

Spot the difference: Compare two similar images or scenes and find hidden differences that give clues.

Hidden numbers/letters: Discover numbers or letters hidden in the environment (e.g., inside paintings, under objects).

Invisible ink: Use UV light or heat to reveal a hidden message on paper.

Hidden compartment: Find a hidden compartment by manipulating objects or solving another puzzle.

Sequence puzzles

Button sequences: Press buttons in the correct order based on a clue (e.g., colors or symbols).

Simon says puzzle: Repeat a sequence of lights or sounds to unlock a door or mechanism.

Lever/knob order: Pull levers or turn knobs in a specific sequence to solve the puzzle.

Chronological event: Arrange historical events or story elements in the correct order.

Sound sequence: Listen for a series of tones and reproduce them to unlock something.

Logic maze: A pathfinding puzzle where players navigate a maze while adhering to specific movement rules, often requiring players to find the correct sequence of moves.

Riddles

Classic riddles: Solve traditional verbal riddles that hint at an answer or object in the room.

Story-based riddles: Find the solution based on elements of the narrative, often requiring lateral thinking.

Visual riddles: Solve puzzles that require interpreting ambiguous or abstract images.

Puzzle locks: Answer a riddle correctly to open a lock or reveal a hidden clue.

Sound puzzles

Musical sequence: Play the correct musical notes on an instrument or device to solve the puzzle.

Echo or whisper clues: Pay attention to audio clues (e.g., voices, echoes) that provide hints.

Sound matching: Match sounds to specific objects or actions in the room.

Environmental sound: Listen for subtle sound cues (e.g., wind, water, creaks) that lead to a clue.

Audio code: Decode a series of beeps, taps, or other sounds to reveal a number or word.