



How Roblox can attract more adult players: a case study of a Finnish start-up

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How Roblox can attract more adult players: a case from a Finnish
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The objective of this thesis project was to provide recommendations to a Finnish independent game company, NaDa Studio, for creating its first game on the gaming platform Roblox. The game is intended to attract family players, meaning both adults and young children could play in the game. This is considered a way to attract a more diverse group of players to Roblox and is aligned to the development strategy of the gaming platform. There were three main research objectives in the project: 1) identify the success factors for the game, 2) suggest improvements for specific game features 3) document the learnings during the game development process.

To achieve the objectives and provide recommendations, various benchmarking analyses and primary research using a survey and focus group discussion were conducted. The main theoretical framework for the research is based on previous research in the F2P (free-to-play) game genres and the ARM model (Acquisition-Retention-Monetization), which is a popular framework for game developers to consider when developing and monetizing a freemium game.

The main conclusion of the research was that Roblox is the right platform to develop the new game given its unique fun characteristics and support for independent developers with a low budget. Its latest investment in AI and VR technologies also open new opportunities for further development. However, to ensure success, the game studio needs to carefully consider a targeted promotion campaign to reach the right audience for the game. As for specific recommendations for the game, the game plot should emphasize that the game encourages players to learn in both virtual and physical worlds. The gameplay should be as simple as possible with multiple difficulty levels for players to explore. As for monetization, in addition to in-game purchases which can be quite limited at the beginning, the game can consider alternative channels, such as collaboration with brands well-known to children for product placement within the game and permission to create game characters based on famous cartoon characters.

For future research, the studio may consider expanding the research to be conducted in Japanese in Japan to capture the preferences of players there. This segment represents a large share of the gaming market and market preferences there may differ from Finland where this research was conducted.

Keywords: free-to-play games, DIY games, ARM model, Roblox, monetization

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1 Introduction

This section will lay out the main research question, objectives, and the timeline with which the research was conducted.

1.1 Research question

Like what YouTube has done for video creators, online gaming platforms such as Roblox are enabling millions of users to create games by themselves for others to play. Although some professional gaming studios have joined the platform, most users there are individuals. However, most of them are teenagers from 10-13 years old.

Although teenagers have played a big role in scaling up these do-it-yourself games, the fact that most players are teenagers has affected the platform's image. This has also limited the expansion of this gaming platform to other age groups such as working aged adults who have more purchasing power. Roblox CEO himself has stressed the importance of diversifying the platform audience to other age groups to ensure the platform's development in the long run.

Having witnessed the rise of YouTube from its early days with low quality videos made by teenagers to a huge professional platform for content creators from different backgrounds, the client of this thesis believes in Roblox potential in replicating the same success in gaming. The client also believes that one potential game category that can support Roblox in achieving such a goal is family games which can be a channel to attract more paying adult users. This is the focus for research in this thesis - to understand how to make such a game commercially successful on Roblox.

1.2 Research objectives

Following such beliefs, the client wants to launch a new family game on Roblox during the winter holiday season in 2023. To increase the likelihood for success of such a new game, the client has commissioned this thesis to conduct necessary research and analysis to identify common success factors and what family players expect from such a game. The client also wants to leverage the experience from developing this first game for future games.

Hence, there are three objectives in this research project.

Objective 1: based on the result of benchmarking and other data analysis, identify key success factors for a new game plot that can attract family players.

Objective 2: test the new game with relevant user groups and identify rooms for improvement.

Objective 3: document key learnings and best practices in developing family games on Roblox from the perspectives of adult developers and players.

1.3 Research plan and outline

Due to the need to finalize the findings in time to be incorporated into the game that will be published during the winter holiday season in 2023, the thesis will be conducted in a compressed timeline. The research was officially kicked off in the first week of October, would have the empirical research done by the end of October, final presentation with empirical results presented by the middle of November and submit the final report as well as gather the client's feedback by the first week of December 2023.

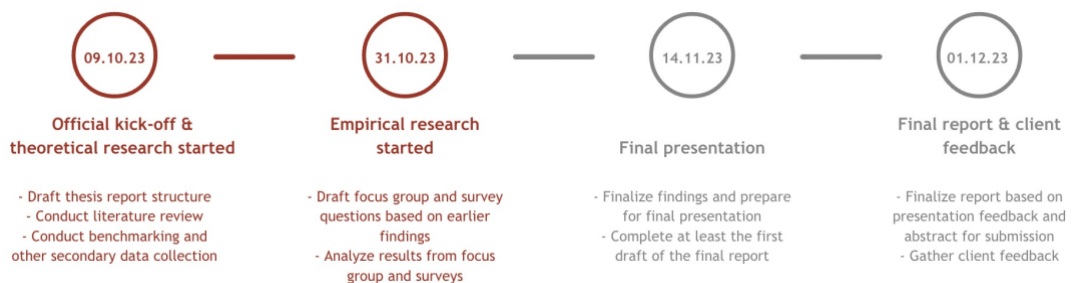


Figure 1: Project timeline

2 Introduction to key concepts

Before delving into what existing literature is saying about the subject under research, some key concepts about the video game industry, the technology platform Roblox and background information about the client will be provided for contextual understanding.

2.1 The video game industry, key players, and emerging trends

Although there are some independent studios, the gaming market is mostly dominated by established professional studios such as Electronic Arts, Nintendo, etc. Other big technology and media players such as Microsoft and Netflix have also joined the gaming industry to capture the potential from the rising share of gaming in people's entertainment activities especially after Covid-19. Another type of players who have grown tremendously during Covid-19 are gaming platforms like Roblox, FlowPlay, Unity Technologies, Epic Games, Mojang, etc... (Craft, 2023), which enables users to not only play but also create and publish games for others to play. Among these platforms, Roblox and Epic Games are the two publicly listed companies with market capitalization over 20 billion USD, followed by Unity Technologies with over 10 billion USD in market capitalization (Craft, 2023).

In addition to the rise of home entertainment, virtual reality technology is another rising trend that has attracted big technology companies to invest in this space as many gaming companies have pioneered here such as SecondLife, Fortnite, Roblox... The ability to merge experiences seamlessly between the physical world and the virtual world brings lots of opportunities for gaming to become more than playing. In the future, playing in the virtual worlds could mean bringing real experiences to people such as experiencing new products and services, going to concerts, traveling to places that no longer exist etc. For example, Nike has recently built its own store on Roblox for people to visit and try their new products there.

2.2 Roblox gaming platform, its technologies and popular game genres

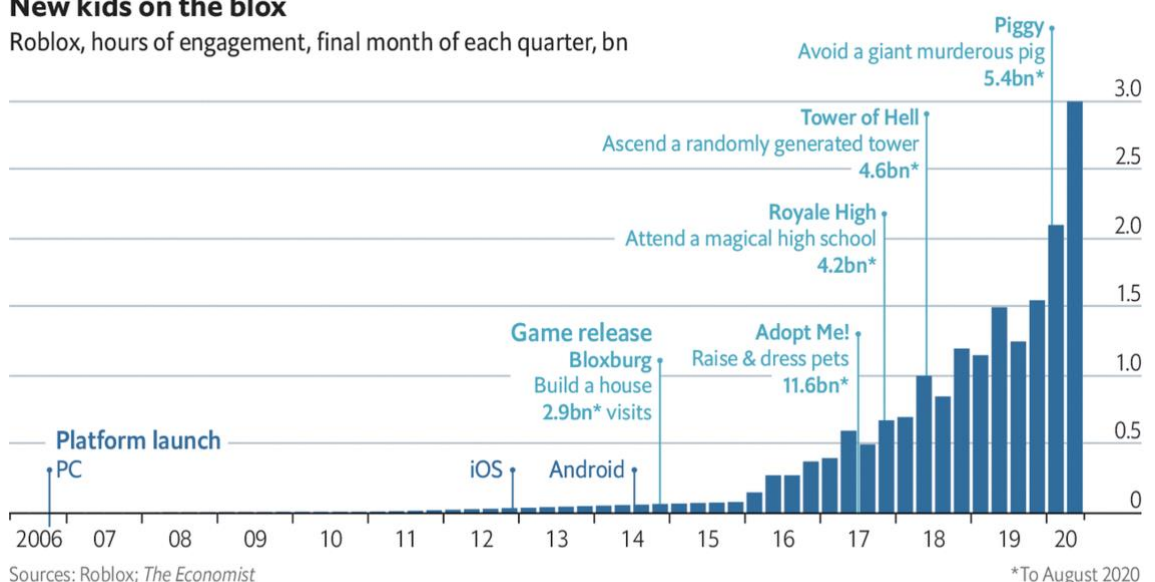
This section will examine more closely a key player in this new space in game & home entertainment: DIY (Do-It-Yourself) gaming platform Roblox.

2.2.1 About Roblox

Roblox stands out in the gaming industry as a dominant player who provides a platform for individuals to easily create games and distribute them. From its establishment in 2006, Roblox now has more than 60 million active users with about 40 million games and 9 million individual game developers. Some professional studios have also joined as developers on Roblox but most of them are individuals, half of whom are less than 13 years old (Ruby 2013)

New kids on the blox

Roblox, hours of engagement, final month of each quarter, bn



The Economist

Figure 2: Hours of engagement on Roblox in the final month of each quarter 2006 - 2020 (The Economist, 2020)

During the Covid-19 pandemic, DIY gaming platforms like Roblox have grown significantly as people were finding different ways to entertain themselves while being locked down at home. In addition to a large active user base, Roblox also already has a functioning “in-game” economy with Robux as the currency to be used for various purchases within the game. Hence, it makes monetization easier.

However, the growth has been mostly in the US and in teenager age groups. Its attractiveness and relevance for older age groups and in other geographies are still largely unknown. Also, with the rise of Youtube, Facebook, TikTok and similar social media platforms with user generated content, the phenomena of platform economy and creator economy has been studied a lot in recent years. However, the gaming industry has been still largely dominated by large, well-funded and professional studios. Whether Roblox and the like can reach successes in the gaming area like what Youtube and TikTok have done for video creation is still an open question. That depends on whether the platform can extend its attractiveness to more diverse age groups and make its content more relevant for them. That is the key question that this thesis aims to contribute to answering.

2.2.2 Roblox game development technology

There are also different gaming development platforms for individuals or independent game makers, from low code, drag & drop solutions to more advanced 3D gaming platforms like Unity (Mears III, 2023). However, in this thesis, games developed in Roblox Studio were chosen as the subject of results because of its ease of use, support of various AI features to lower the entry barriers for non-professional developers as well as its seamless connection with the established and highly popular distribution platform Roblox - available both as web and mobile app. The scripting language used to develop games in Roblox Studio is derived from Lua 5.1 - an open sourced, fast and versatile software development language (Lua, 2023). This scripting language is best known for its lightweight and fast performance - the fastest even in some categories. Another feature that makes Lua versatile as a scripting language is that it is easily embeddable into existing programs written in other languages such as C, C++, Java, C#, etc... Recently, to meet the growing demand for performance and quality of the code written, Roblox has developed a new language derived from Lua 5.1 called Luau to cater to not only novice game developers but also professional ones.

A game developed in Roblox Studio is called an experience and the platform has prepared a structured path for anyone aspiring to develop a new game to learn from scratch. There are two main elements in the foundational tutorial. First are Core elements including the basic instructions to build a basic structure for one’s in-game world, script the gameplay or characters’ actions with Luau scripting languages and finally polish the environment with special effects. The second element is Environmental Arts where one learns additional skills to be in control of the game environment you create, including planning, constructing using 3D

objects and optimizing its performance. In addition to these basic tutorials, the training also includes practical use cases and instructions to create common objects such as a neon sign for a store, a user interface such as a score bar, environmental effects such as lighting and sound, character animation etc...



Figure 3: Example of a neon sign creation tutorial (Roblox, 2023)



Figure 4: Example of a score bar creation tutorial (Roblox, 2023)

2.2.3 Game genres on Roblox

The most popular existing genres on Roblox platform are Town & City, Building, Military, Comedy, Horror, Medieval, Sci-fi, Naval, Sports, Western, FPS (First person shooter), RPG (Role-play-games) (Ibrahim 2023). In addition to these established genres, there are also up & coming new genres such as those with virtual realities enabled, racing, survival, puzzles, parktour, stealth etc... Here in this thesis, game genres are understood as the types of challenges built in the games or the main elements of the game play (Gameopedia, 2021). In this context, family games or family friendly games do not belong to one game genre but represent a collection of different game genres / gameplays if they can entertain the whole family, young and old.

Regardless of genres, one key characteristic of Roblox games is that they are Massively Multiplayer Online Role-Playing Games (MMORPG) where millions of online players play and interact daily together at the same time. This kind of game, once it goes viral, can grow its user bases massively very quickly through referral. Roblox games are also free to play games (F2P) - games where players do not need to pay upfront to play, making it easier to acquire new players. Although there is usually no upfront payment to start playing, there are many ways to monetize F2P games later such as purchasing avatars and accessories for players' game characteristics or upgrading their abilities and features, making these games the most profitable ones. These possibilities make F2P games popular among both game developers and players because these games are both easily accessible and profitable.

2.3 About the client and family game

After introducing the industry and technology background of this research, this section of the thesis will give more information about the client company and the potential game opportunity that the client company wants to use to break into the Roblox market by attracting family players.

2.3.1 NaDa Studio

NaDa Studio is a newly established game studio in Finland with a vision to leverage the power of new gaming platforms, technology, and AI to create games for the whole family from adults to children to spend quality time together. The content of the game aims to create a relaxing atmosphere for adults as well as light educational values for the younger players in the family. The founder & CEO of the company has a background in management consulting, having experiences in advising companies in go-to-market strategies and commercialization of software products. The team also has an advisor who has experience in running game operations, marketing & advertising campaigns. Before making further investment, the company is commissioning this thesis to assess the opportunity in DIY gaming more in depth and identify the building blocks for a successful prototype game to be published this year.

2.3.2 Family game as a potential game category on Roblox

Family games are a potential but still largely untapped market: they are more likely to subscribe and spend on in-game purchases, but game categories targeted this user group are still limited. According to research by Game Brand Tracker in 2018, 68% of households with children in the US, France, Germany, and UK have children and adults playing games together. On average, family gamers are also more likely to subscribe than the average gamers. It has also been documented in research that more than half of teen gamers play games with people they know in their offline worlds (family and friends). Since Roblox is already very popular among teenagers, it is highly potential to use this to attract adult players in their family to the platform with new game categories that are appealing to the whole family to play together. Since family gamers are also more willing to pay, it is also more profitable to develop family-oriented games.

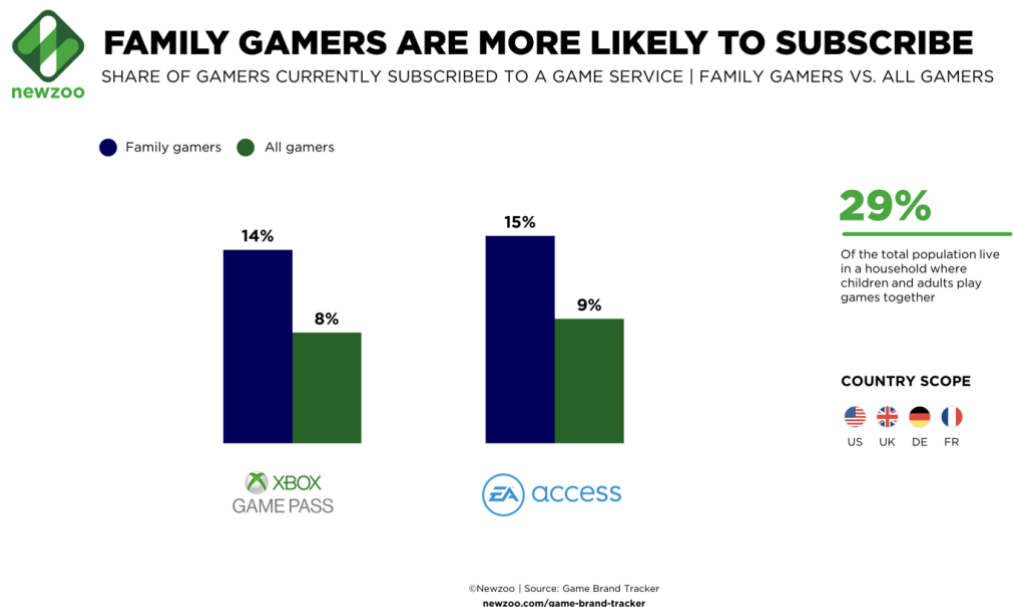


Figure 5: Share of gamers currently subscribed to a game service, family gamers versus all gamers (Elliot, 2018)

Therefore, the client has decided to invest its first game in this game category, hoping to make it a profitable one as well as attract more adult players who play with their kids.

2.3.3 The game “Baby Steps”

The new family game under development as part of this thesis is called “Baby Steps”. The name takes inspiration from babies who make little progress every day to learn important life skills especially in their first year such as scrolling, sitting, crawling, walking... By practicing for a few minutes every day, babies make surprisingly big progress in weeks and months while learning important lifelong skills. Similarly, the game aims to be a tool for parents to interact,

have fun while teaching preschoolers and young children useful life skills in the house such as cleaning, doing laundry, cooking, making beds etc. Originally, the main environment of the game is inside family homes and the main tasks are supposed to be completed virtually. However, these concepts will evolve throughout the research.

3 Literature review

In this chapter, some of the above-mentioned concepts are explored more in depth from the literature. As the key goal of the thesis is to assist the client in creating a new game that is a commercial success, this section will investigate what other researchers have found about the F2P game business model, how to attract and retain players in this type of games and how to monetize them.

3.1 Free-to-play (F2P) game business model and monetization strategy

F2P games are games in which players do not need to pay to start playing. They can choose to pay later by making in-game purchases or choose not to pay at all in some cases but have access to less features or content. In this type of games, developers make money, i.e. monetize, through a variety of ways such as in-game transactions or advertising and paywalls (i.e. subscriptions).

As mentioned above, F2P games are highly popular because of their accessibility and profitability. Let's look at these two dimensions separately.

In terms of accessibility, many researchers have acknowledged the key competitiveness of F2P games in its ability to attract new users versus paid games (Davidovichi-Noora 2013). Lack of or such a lower barrier of entry makes it easier for players to introduce these games to their acquaintances or friends.

In terms of monetization strategy, like mobile apps, The App Solution (2017) have identified different ways to monetize in a F2P game: in-game advertisement, in-game purchases, freemium or paywall subscription or sponsorship. Simon (2017) argues that a combination of some of the strategies will most probably bring the best results.

In-game advertisement can be a quick and easy way to monetize without having to tie it strongly to the game plot and mechanics. However, advertisements can quickly annoy players if not placed in the right place or too much of them can destroy players' experience, lowering the chance for them to introduce it to new players.

In-game purchases refers to purchases made by players for virtual / physical goods or services offered by the game. Examples of such purchases are special avatars or other customization for your game characters, virtual money to buy items in the game, boosters to help players progress faster etc. A study by Abdulrahim Kerim & Burkay Genc in 2022, analyzing more than 17 thousand games, has shown that having in-game purchases increase the game's chance for success. The study found that 88% of the top 100 best rated games have in-game purchases whereas 85% of the worst 100 games do not have in-game purchases. The relationship between having in-game purchases and its success can be explained in the way that having the ability to make purchases to progress through the game faster increases its players' engagement.

Freemium or paywall refers to games that have limited features or content with the free basic version. To access the full version, players need to pay a lump sum or subscriptions. This is another popular monetization choice as it offers players a chance to first experience the game before paying, making the player acquisition experience smoother.

Some of the above strategies may work well together while others do not. Therefore, it is often advised that monetization elements should be considered already during the game designing and development phase (Goncharova, 2017). This is to ensure that these elements are well integrated in the game plot and mechanics. To do so, one should consider the ARM (Acquisition - Retention - Monetization) when designing a game.

3.2 ARM (Acquisition, Retention, Monetization) model

This is a revised framework of the famous sales funnel model popularized by Lewis in 1898, i.e. the steps in a customer's journey from awareness to making a purchase decision. The steps in Lewis's funnel are: Attention, Interest, Desire, Action. In the original model, it is important to understand the conversion rate of potential customers between the steps to optimize your sales and marketing activities to increase such rates.

Similarly, the ARM model is adapted to describe different stages in a customer lifecycle in F2P games (Fields, 2014). It stands for Acquisition, Retention and Monetization. However, it does not only represent a funnel but also has two elements that make it form a unique loop: immediate reinvestment of profit and user virality in acquiring new users. These are the two key distinct features of F2P games - making it especially relevant for the type of F2P games that rely a lot on word of mouth to grow its player base such as MMORPG games that dominate Roblox platform.

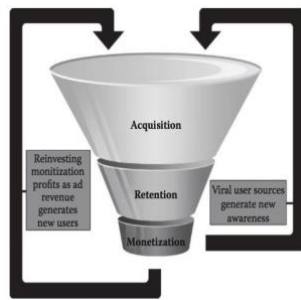


Figure 6: ARM funnel (Fields 2014)

3.2.1 Acquisition

Acquisition describes the first stage in the cycle where a game attracts and acquires new players at as low cost as possible. This is an important stage that defines the success of a game. There are different channels to acquire new users but can largely be divided into viral and non-viral sources. Viral sources refer to the means to incentivize current users to invite others to join the game with them. Such incentives are often in the form of in-game currency and rewards often through social media channels. A key metric to measure the effectiveness of using viral sources is the K-factor which tracks the number of new players acquired through viral sources. On the other hand, non-viral sources such as paid advertisements and promotions incur real costs to game developers. Therefore, it is important to track its effectiveness as well using the Cost per Install metrics (Fields 2014, 118), which is calculated by dividing total advertising spending by the number of new users acquired in the same period.

Because the aim is to acquire new players at as low cost as possible, effectively using viral sources to attract new players is more preferred as it is cheaper (Askelöf 2013, 40-41). Therefore, an implication for this thesis is that during the research phase, the author should find which features of the new game can be used to incentivize current players to invite as many new players as possible using in-game rewards instead of real-world currency.

3.2.2 Retention

The next phase in the funnel is Retention, which can be measured by the frequency players return to play the game. This is also a crucial phase leading to commercial success of a game because the more a player plays, the higher tendency such a player will spend in the game. There are ways for game developers to incentivize players to return to the game often by designing features such as rewards for passing certain milestones, keeping a continuous streak or slight punishment for breaking such a streak, and competing with friends and other players on leaderboards (Fields 2014, 121-123).

Common metrics to measure the success of this phase are daily/monthly number of players who play the game at least once (Fields 2014, 124) as well as the average time players spend per session (Askelöf (2013, 41). The higher these metrics are the better, as it shows that players return to the game often and the game is engaging enough for players to spend more time in each playing session. Therefore, to increase the chance for a better retention rate, this thesis research should select and test which of the retention features recommended by Fields (2014, 121-123) are highly valued by the target gaming audience.

3.2.3 Monetization

After a game acquires new players and engages them to stay in the game, the next step that leads to commercial success is converting non-paying players to paying one, which describes the monetization phase. Non-spending players represent costs to game developers but usually take up most players, up to 95% (Seufert 2014, 154). Therefore, the aim of this phase is to reduce the share of non-spending players while increasing the share of spending-players as well as how much they spend. Since the share of spending players are typically small, to increase the total spending by all users, it is important to keep increasing the base of all players by reinvesting part of the money received by current paying players to attract new ones through either viral or nonviral sources. This reinvestment is the loop in the ARM funnel model that differentiates itself from the traditional sales funnel.

Consequently, there are three key metrics to measure the effectiveness of this phase, namely Average Revenue per Daily Active User (ARPDau), Average Revenue per Paying User (ARPPU) and Average Revenue Per Download (ARPD) (Askelöf 2013, 41).

As mentioned in the previous section about the F2P game business model, it is usually advisable to combine some of the following monetization mechanisms: in-game advertisement, in-game purchases, freemium or paywall subscription or sponsorship (The App Solution (2017). Therefore, as part of this research, the thesis should find out which of the above monetization mechanisms should be combined and built as game elements in this “Baby Steps” game.

3.3 Other success factors

In the same study mentioned above by Abdulrahman & Burkay 2020, they also identified other factors that could affect the success or failure of a new mobile game in addition to in-game purchases, such as genre, number of supported languages, developer profile and release month. These are the factors that were found to have significant statistical effects on the success of a mobile game. In terms of genre, puzzle is the one that has the most potential in terms of bringing success to the game. In addition, having more supported languages, the maturity and experience of the game developers also have a clear contribution to increase the chance of a game success. It is also interesting to note that releasing a new game in July could contribute

to a game's failure. It is possible that in many developed countries' markets, July is the peak summer month where most people spend time outside in nature, which means they would have much less time spent indoors for entertainment.

Interestingly, the study also employed data mining methods to find a correlation between a game's mobile icon and its rating. While other features most likely contribute to a game's long-term success, this is the essential element for a new game to attract initial success as it grabs players' attention among thousands of other games released at the same time.

In more details, in a blog published in 2023 by Juego Studio, the game developer identifies 11 features that can contribute to the success of creating an engaging mobile game if implemented in the way desirable by players. The features are Graphics, Simple Game play & control, Sound effects, Faster Loading time, Compatibility, Leaderboard, Social features, Rewards & Goals, Chat & Multiplayer mode, Updates & New features, and Notification. Most of these features are self-explanatory, for example: eye-catching graphics and high-quality sound effects certainly attract players, simple gameplay and control the game help new players learn to play the game quickly, faster loading time is more preferred by players, compatibility across multiple platforms and easy update is more convenient for players etc. However, some features require further explanation.

3.3.1 Leaderboard

Because many gaming genres are essentially a highly competitive activity, leaderboard is usually an essential feature and, as mentioned earlier, is a key player retention feature (Fields 2014, 121-123). Leaderboards can be best used in competitive games such as racing, puzzles, shooter games etc... Leaderboards can be divided into different types depending on the population it uses to rank players, by event, by country, player vs friends, by certain guild/community or globally. Regardless of the types, it is best that leaderboards can be easily synced with players' social media so that they can easily share their achievements.

3.3.2 Social features

As mobile games can be played instantly by millions of players at the same time, social features are essential in any engaging mobile games. With the availability of the internet, increased speed of internet connection and integration of multiple social media platforms, there are many social features for a game developer to choose from. The blog by Juego Studio (2023) lists five of them. The first one is PvP mode, which is a popular feature allowing players to play with or against each other in real time. The second one is social currency, which is a way for players to earn in-game currency by interacting with each other. The third feature is Send/Ask for help, popularized by the Pokemon Go game, allowing players to collaborate with each other. The fourth feature is social media connection which allows players to share various updates

and achievements from the game directly on their preferred social media platform. And finally, Spectator mode is a fun and engaging feature, which allows players to watch and learn from others' playing.

3.3.3 Rewards & goals

It is quite easy to be distracted while playing games, which is why rewards need to be spaced at the right time in the game to keep players engaged and goals are usually set in a relatively short time frame to prevent players from feeling discouraged because of not reaching a goal too soon. As players usually look to playing games to relax by feeling a sense of achievement, rewards and goals need to be carefully integrated into the game design to ensure players feel motivated and encouraged most of the time.

The above success factors identified by statistical research and recommended by experienced game developers should be considered as guiding principles in designing desirable game elements for "Baby Steps".

4 Methodology

In this thesis, a variety of both secondary and primary data is used to make the necessary benchmarking, quantitative and qualitative analyses to provide recommendations to maximize the chance of success for the "Baby Steps" game.

4.1 Data sources

There are three main types of data sources used for analyses in this thesis: secondary data obtained from public sources for benchmarking analyses and primary data from conducting an online survey and focus group discussion used for testing specific hypotheses about the new game concept to make suggestions to improve it.

4.1.1 Secondary data

According to the World Bank, secondary data is data that is not collected by the researcher him/herself. In this thesis, secondary data such as public market reports and industry expert blogs as well as public game performance data is used primarily for benchmarking purposes. In addition to secondary data, the thesis author also collects primary data through an online survey, complemented by focused group discussion.

4.1.2 Online survey questionnaire

According to Mills (2021), survey is a tool for researchers to gain more insights about certain topics through a set of structured questions. In the questionnaire, each question is carefully designed to obtain a specific piece of information to explore an aspect of the research question. The questionnaire in this thesis consists of 14 questions, which can be divided into three parts. Part I gathers demographic information of survey respondents such as gender, age and location. Part II collects further information about the profile such as family status and gaming behaviors of respondents, such as gaming frequency, platform, and playmates. Part III, which is the main research part of the survey, presents various information about the “Baby Steps” game to test respondents’ perspectives and reactions toward them such as a summary of the game plot, key features, paying preferences, and the timing of the launch of the new game. The survey ends with an open question asking respondents to share any other feedback to the presented game idea or in general ideas to make fun and educational games for the whole family to enjoy. A full list of questions and how they are formulated is provided in Appendix I.

In terms of data collection method, Google online survey tool is used to collect responses due to its ease of use and wide accessibility. Due to the short timeframe and lack of budget for conducting paid research, the minimum targeted number of respondents is 30. According to Sekaran (2003), as a rule of thumb, a sample size between 30 and 500 is appropriate for most research.

4.1.3 Focus group discussion

Due to the small, targeted sample size, the thesis author also plans to complement the insights received from the online survey with more in-depth insights from a focused group discussion. According to George (2021), focus group discussion is a qualitative research method which gathers a small group of participants with a predefined demographic profile to discuss and exchange ideas about a set of topics. The discussion is moderated by a researcher. In this thesis, the author aims to invite 3-5 parents of young children in Finland - the main target customer group of “Baby Steps” to complete a questionnaire like the online survey, followed by more in-depth discussions on the rationale behind the choices made by participants. The session ends with brainstorming and open discussion with participants on new ideas for similar games. A list of questions used to facilitate the discussion is provided at the end of this thesis in Appendix II.

4.2 Analyses

From the above data sources, three types of analyses were performed to meet the objectives of the research. The first two analyses namely SWOT and Blue Ocean canvas are used for

benchmarking to suggest the general direction the new game should aim at while deductive reasoning was used to make specific recommendations for “Baby Steps”.

4.2.1 SWOT analysis

SWOT analysis is a framework used to analyze the internal and external factors of a company, a project, or an idea (Armstrong & Kotler 2012, 53-54). It has four elements: Strengths & Weaknesses represent the internal factors that support or inhibit the success of the subject being analyzed while Opportunities & Threats represent the external factors that support or challenge such success.

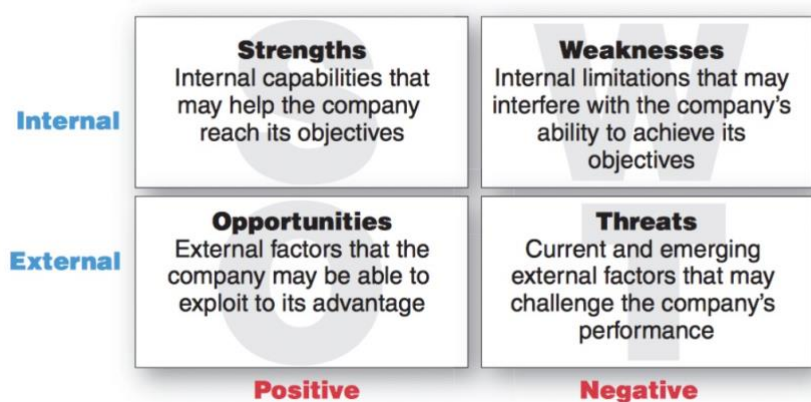


Figure 7: SWOT framework (Armstrong & Kotler 2012, 53-54)

In this thesis, we will use the SWOT framework to analyze the potential of developing and launching “Baby Steps” on Roblox, comparing it with similar yet already established and successful games on Roblox as well as other platforms for the targeted audience - family players. The games included in the benchmarking include popular mobile games on iOS or Android operating system, computer games played on PCs (personal computers), and console games on PlayStation, Xbox, and Nintendo.

4.2.2 Blue Ocean canvas

In addition to the SWOT framework, blue ocean canvas is another useful framework used in new product and service development. It is often used to compare different features of a new product or service compared to other existing alternatives in the market. This strategy canvas was originally developed by Chan Kim and Renée Mauborgne in 2004.

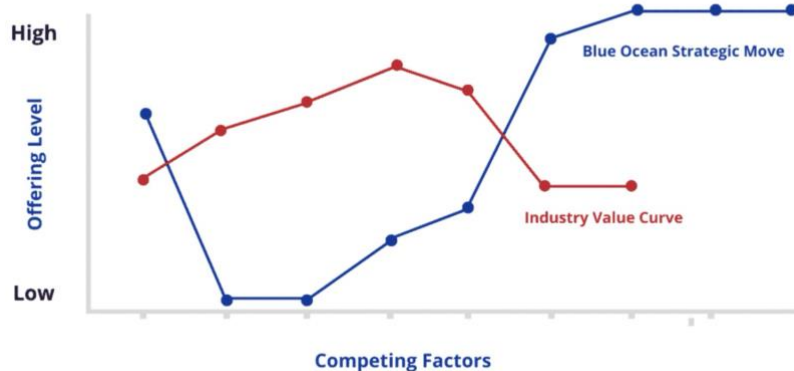


Figure 8: Blue ocean strategy canvas (Kim & Mauborgne 2004)

The canvas can be used both as a diagnostic as well as an action tool because it does not only visually tell what features a certain market is currently competing on, but also where one product / service stands among its competitors and point to potential directions to make investments to create one's own competitive edges. The blue ocean here refers to a group of competing factors where one's own product & service outperforms other competitors or an industry average.

In this thesis, the strategy canvas will be used to take a closer look at the competitive advantages of "Baby Steps" by comparing the game with current hit games on both Roblox on key competing factors. The competing factors are selected from the top features that game developers should consider in developing a successful mobile game, compiled by Juego Studio (2023). The selected features used for benchmarking are Graphics, Game play simplicity, Sound effects, Leaderboard, Social features, Multiplayer mode, Simple Controls, and Notification. Since the game is still under development, the blue ocean strategy canvas will be used more as an action tool to direct the direction of development for the new game rather than a diagnostic tool analyzing existing games.

4.2.3 Deductive reasoning, qualitative and quantitative analysis

In addition to the above frameworks, deductive reasoning is also used in analyzing the qualitative data collected during the research to test the hypotheses about the new family game. Deductive reasoning is a logical process in which one arrives at a specific conclusion by first forming hypotheses about a topic from researching existing theory, then collecting data to prove or disprove such hypotheses (Pritha, 2022).

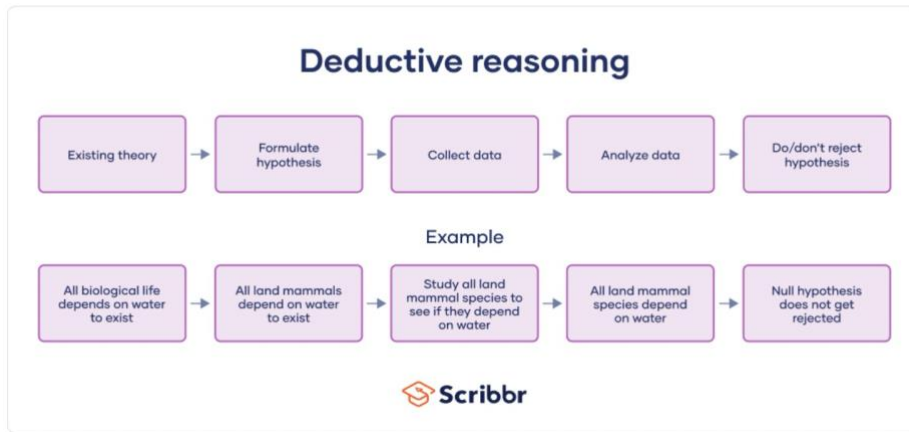


Figure 9: Deductive reasoning steps (Pritha 2022)

In this thesis, the key hypotheses to be tested from collecting primary data through the online survey and focused group discussion are the following:

- The chosen game plot is attractive enough for the targeted audience to start playing and remain engaged.
- The target audience is willing to pay for the chosen features in the game plot.
- Winter holiday season is a good time to release the game for the targeted audience.

4.3 Expected outcomes

Altogether, the above data and analyses are used to achieve the following objectives:

Objective 1: a new family friendly game plot developed incorporating the identified success factors.

Objective 2: rooms for improvement identified for the new game based on user feedback.

Objective 3: key learnings and best practices in Roblox game development documented.

The table below summarizes the methodology that will be used in this thesis to achieve the above objectives.

Data type	Data required	Sources	Analyses	Conclusions
Theory base	How to apply SWOT analysis, blue ocean canvas and ARM funnel Existing articles	Established business journals and reliable online business resources (press,	Summarize Deductive reasoning	Provide the frameworks to guide the collection of secondary and

	related to the topic	articles...)		primary data
Secondary data to solve the problem	Market research data of family games (market size, trends, willingness to pay) Public data of existing hit games (users, performance, reviews, revenues...)	Market research companies' reports Game companies' annual reports and websites Game industry blogs and journals Press articles	SWOT Blue ocean canvas	Identify the success factors for the new game and verify its competitiveness against similar games
Primary data to solve the problem	Gamers' perceptions of the chosen game platform, game plot and monetization strategy Documentation of game development process	Online surveys Focus group discussions or interviews with gamers in the target group Internal company documents	Quantitative analysis Qualitative analysis	Confirm the attractiveness of the selected game in the target user groups Identify lessons

Table 1: Summary of data sources, analyses and expected conclusions in this thesis.

5 Research implementation

The process of conducting the above analyses will be explained in more detail in this section of the thesis.

5.1 Conducting SWOT analysis

To understand the internal and external factors affecting the success of developing and launching the new game on Roblox, a SWOT analysis is performed. The purpose is to check if the new family game has the right elements to succeed in its competitive environment. To do this, various gaming industry blogs' articles were used as a basis for benchmarking the choice of developing "Baby Steps" on Roblox Studio versus other higher end game engine platforms such as Unity or Fortnite as well as launching a Roblox game versus other publishers such as Sony (PlayStation), Microsoft (Xbox) or Nintendo (Switch) etc.

Firstly, about the strengths, Roblox games are known for being highly sociable and their creative and funny, surprising elements embedded in the game, which is why they attract

teens. Being highly sociable means that players are often required to interact and cooperate with other playmates in the game in real time. Such a feature can be found in almost all the most popular games on Roblox (Agapi, 2023). For example, Adopt Me, one of the most popular games on Roblox, allows players to trade the pets they raise with each other. The game attracts on average 500,000 concurrent players as of 2021 and gathers 18.8 billion number of visits (Sant 2021).

It is also easy to learn to play them as the gameplay and control is simple and intuitive, which again makes them suitable for young kids. In addition to simplicity, they are also highly versatile - there are more than 40 million games across all popular existing genres with dozens being launched daily (Garrett, 2023). However, across Roblox as well as other gaming platforms, there is rarely any hit game that is designed for the whole family to play together.

Developing and launching a game on Roblox also comes with weaknesses. Firstly, although Roblox studio supports publishing the game in various formats for various devices (PC, iOS or Android mobile, PlayStation etc.), visual image quality and gaming experience can be different across devices. It is generally agreed that the Roblox PC version works best because the PCs have better graphic cards and processing power to give the best possible visual quality, speed and performance (Emulator PC, 2021). On another hand, a Roblox mobile version can be more accessible to a wider audience but one may need to compromise on visual quality, performance, or player experience to a certain degree. Regardless of versions, the Roblox visual image quality, especially with the ready-made templates, cannot be compared with more advanced and higher budget gaming development studios. In addition to the compromised visual quality to enhance speed, launching a Roblox game may also suffer from its current brand that is strongly associated with teenagers. This strong brand association may put off other serious players or age groups. Therefore, if a game wants to attract a slightly different target age group as “Baby Steps”, the team needs to think of a more proactive and targeted marketing and promotion strategy to leverage the synergies with the current core teen players as well as attract families with young kids to the game.

Given its strengths and weaknesses, developing, and launching a new game on Roblox also comes with new opportunities and challenges. Firstly, despite the variety of game genres, educational games that can entertain the whole family are still rare across platforms, let alone Roblox. Therefore, bringing this gap leveraging the latest technologies is a great opportunity. Furthermore, to lower the barriers for new game developers, Roblox also increasingly introduces new AI (artificial intelligence) features to support solo developers such as AI assisted production of visual and background music for games and an AI-powered chatbot to be introduced by the end of 2023 (Reuters, 2023). Roblox is also enabling AI-assisted translation to make their games accessible to non-English speaking players. In July 2023, Roblox announced its integration with Meta Quest, a leading VR (Virtual Reality) platform developed by the owner

of Facebook, which opens possibilities for a new kind of immersive experiences for players on Roblox (Boreham, 2023).

On another hand, its vast variety of games and low threshold for publishing a user-generated game on Roblox also carry its own risks and challenges. There have been increasing concerns about violent content on Roblox as well as reported incidents of cybersecurity threats from installing and playing Roblox games (Digwatch, 2022). Interestingly, the Roblox 2023 Innovation award ceremony was called off due to safety threats (Skubich, 2023). These recent events may mean that Roblox will need to impose stricter quality control and content monitoring on the games developed and distributed by the platform. It may be more difficult to publish games on the platform in the future, especially by solo developers or small studios with limited resources. In addition, another challenge to solo independent developers is the increasing presence of high budget professional game studios publishing on Roblox, which increases competition (Grubb, 2021). And finally, although it is free to develop and publish games on Roblox, once the game starts making money, Roblox will take up to 75% shares of the earnings from the game. This high fee greatly lowers developers' profitability from the game, which may threaten them to leave for other platforms with a fairer profit distribution. If this happens, it will hurt the Roblox player and developer ecosystem in the long run. There is a positive change expected next year, though, as Roblox recently announced that they will increase the share of earnings creators can keep if they sell items for other developers to use to create their games on the Creator Marketplace (Peter, 2023).

5.2 Benchmarking using Blue Ocean canvas

After playing Roblox top games, especially those most related to parenting, role-playing and simulation games such as Adopt Me, Pet Simulator X, Natural Disaster Survival, Work at a Pizza Place... (Vaz, 2023), the thesis author recommends "Baby Steps" to differentiate and outperform these established games on three main features: graphical design, the simplicity of the gameplay and game control. It means that "Baby Steps" needs to have a slightly cuter, neat, and colorful design to catch the attention of the younger age groups in the family. In addition, due to the short attention span of kids at this age, the game plot must be simple enough for a preschooler (before 7 years old) to understand the task that needs to be done within the first 1-2 minutes playing the game with as little guidance from the parents as possible. Accordingly, how players control the characters and other features of the game must also be intuitive so that the youngest players in the family can participate actively in the game without feeling frustrated quickly for not being able to learn to control the game characters.

Investments to boost the above features may come with a need to compromise on certain features such as leaderboard, chat & multiplayer or notification. Conveniently, these compromised features may even contribute beneficially to such an education game as "Baby

Steps” for young kids. Roblox games are known for being highly social and competitive - Baby Steps should retain some elements of that but need not emphasize too much the aspect of comparing one’s own achievement versus others as too much competition is counter education. Instead, the game should serve as a tool to enable parents to discuss the game’s results with their children. For example, the leaderboard function can give players a ranking among other families they know in real life to promote healthy competition among the kids and give them talking points when they meet in real life. Similarly, as small kids should not spend too much screen time a day, one gaming session should have a reasonable time limit - for example 5-10 minutes a day maximum. Therefore, the multiplayer chat function does not need to be emphasized as the young players should concentrate on achieving that day’s task in the game. There is no need for constant notification from the game during tje day either - but just enough so players keep coming back for daily practice.

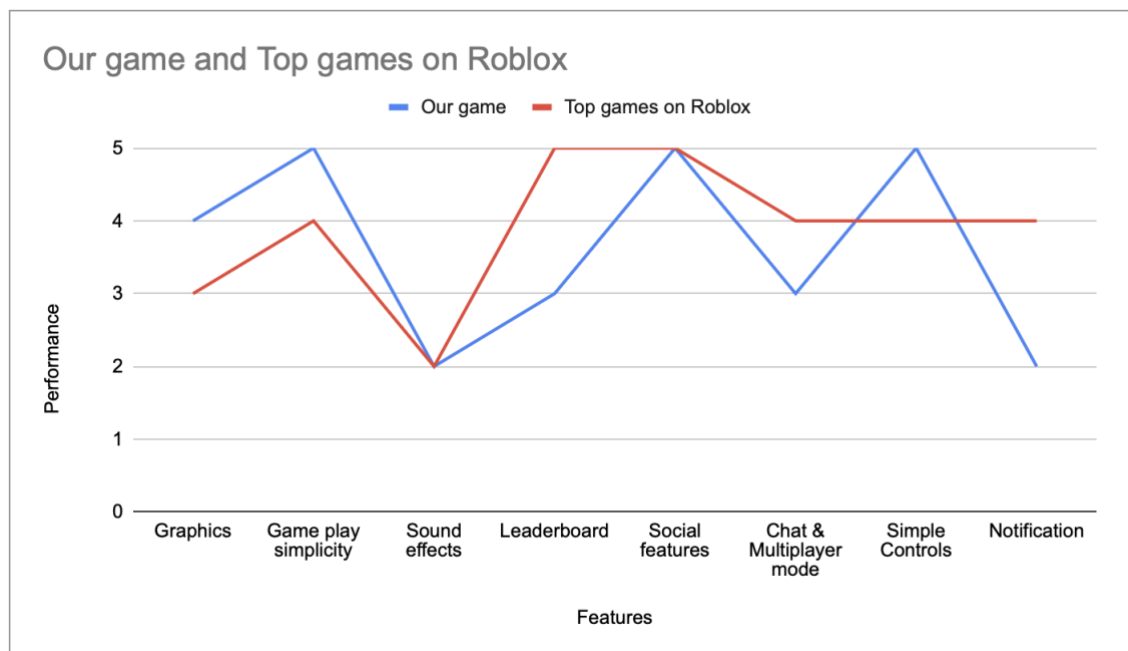


Figure 10: Benchmarking key features of “Baby Steps” versus the most relevant & popular games on Roblox using blue ocean canvas.

5.3 Primary research

Two types of research using primary data were conducted in this thesis: an online survey, complemented by a focus group discussion with selected survey participants. The procedures and findings of the research are presented in the following section.

5.3.1 Results from online survey

There are 14 questions in the survey using Google forms and distributed to Reddit (an online community heavily US based with a lot of gamers) and five Facebook groups for Finnish and expat parents in Finland. The survey was open for answering in one week from 4 - 7 November 2023 and received 35 responses mostly from international families in Finland, which meets the original minimum number of response requirements. The most interesting responses and findings are discussed below. In terms of gender distribution of the survey participants, 20% of the pool are male, the rest are female. Most respondents (60%) belong to the 26 - 35 age group; 37% belong to the 36 - 45 age group - which is the correct demography for the survey.

However, most of the participants are not hardcore gamers but only play games a few times a year (49%) or a week (17%). Only 14% of respondents play games daily. Another interesting fact about the game playing behavior of the respondents is that they are equally divided in two groups: nearly half play games alone (44%) while the other nearly half play games with immediate family and relatives. Only 9.4% of respondents play with their physical friends in real life.

How often do you play computer or mobile games?

35 responses

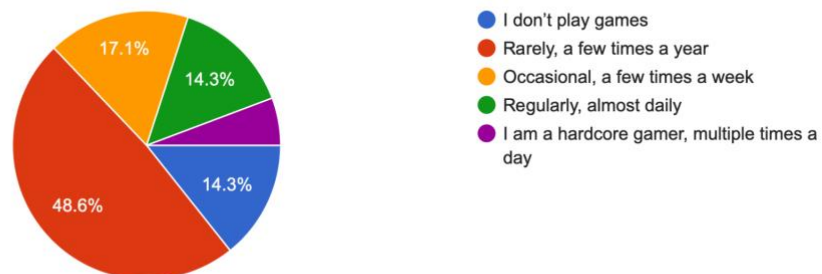


Figure 11: Frequency of playing games among survey participants

If you play games, who do you usually play games with
32 responses

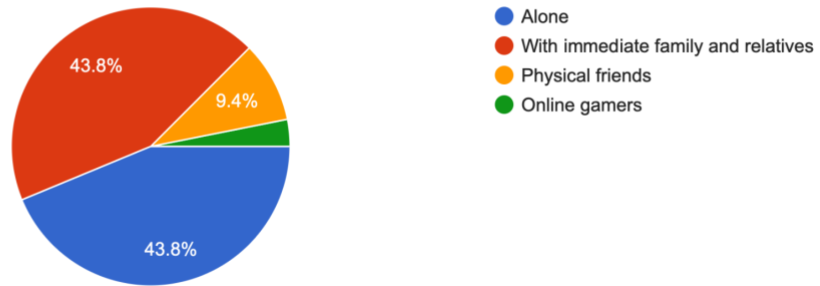


Figure 12: Online game playing mates among survey participants.

Most of the respondents have at least once children, which represent nearly 91% of the sample; half of which have only 1 child. Most of the respondents have the youngest child in the right target age group below school age: 19% under 3 years old and 66% 3 - 6 years old. For those having more than 1 child, 53% of them are between 3 and 6 years old. This means that the survey respondents have kids in exactly the targeted age group of the game.

How many children do you have?
35 responses

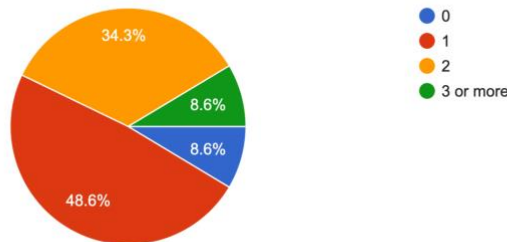


Figure 13: Number of children by each survey participant

If you have at least one child, how old is your youngest one?
32 responses

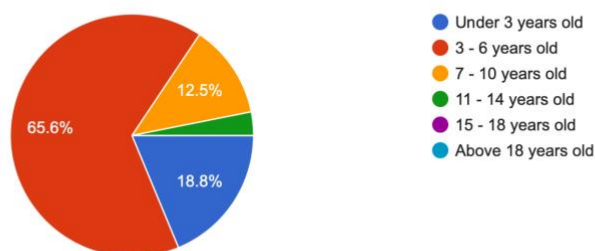


Figure 14: Age of the youngest child in each survey participant’s family

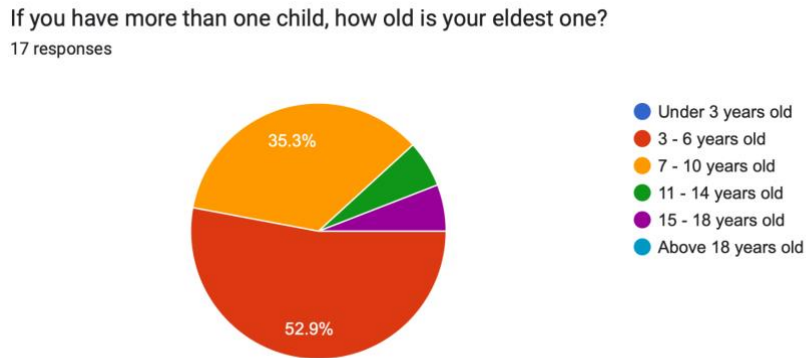


Figure 15: Age of the oldest child in each survey participant’s family

The last four questions of the survey focuses on testing various hypotheses about the game with the respondents, such as the game plot summary, different features, willingness to pay for certain features and the timing of the launch.

Doing house chores such as cleaning the floor, picking up loose items, doing laundry, making the beds, putting the dishes away can be important skill...house while teaching the kids such real life skills?
35 responses

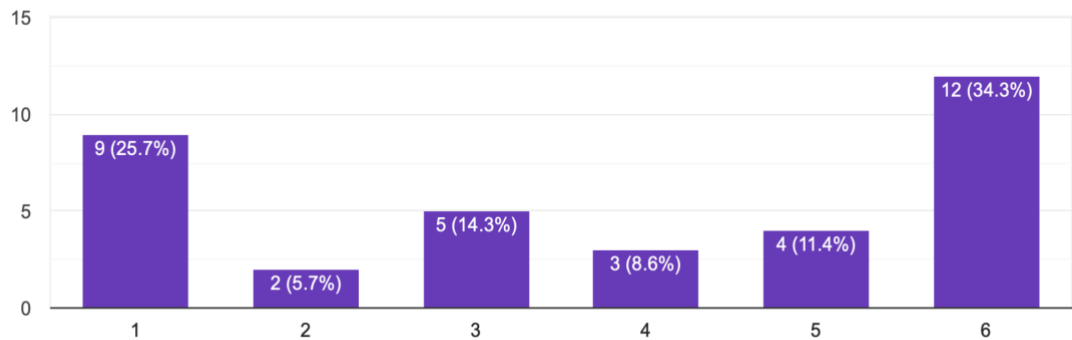


Figure 16: Willingness to try the described “Baby Steps” game, 1 being highly unlikely, 6 being highly likely.

There is an interesting response to the first question about the game plot as we can clearly see two opposite types of reaction: 26% of respondents are not interested at all while 34% are highly interested with a few others in between. The open comments in the survey show that it is more likely that the ones who expressed no interest in the game thought that playing the game will take time away from the kids from doing the actual household chores or other useful activities

in real life. Some also express frustration with the fact that parents need to do household work anyway in real life, so they do not want to do the same in the virtual world. On another hand, the ones who express a high interest in the game immediately assume that the game combines virtual and physical activities and the game serves as a promotion tool for the kids to do and learn similar skills in real life. This finding is interesting because it means that the way the game plot is written really has a big impact on how it is perceived and understood by players and their potential interest.

The next question takes a closer look at individual features that may increase the appeal of the game to new players as well as retain them in the game. Here, it confirms the hypothesis that having a variety of difficulty levels suiting different skill levels is important and highly appreciated by respondents (69% of respondents). The next valued feature is the ability of the game to set an automatic time limit so that kids can only play for a certain amount of time (49% of respondents value this). It is also interesting to see that the hypothesis about the low need for competition in this kind of educational game for young kids is also confirmed as the competition between group of players is the feature least valued by respondents (only 26% of respondents expressed interest in them) while the other more educational features such as having tutorials, simulated scenes and cooperation are more value (roughly 40% of respondents supporting each feature).

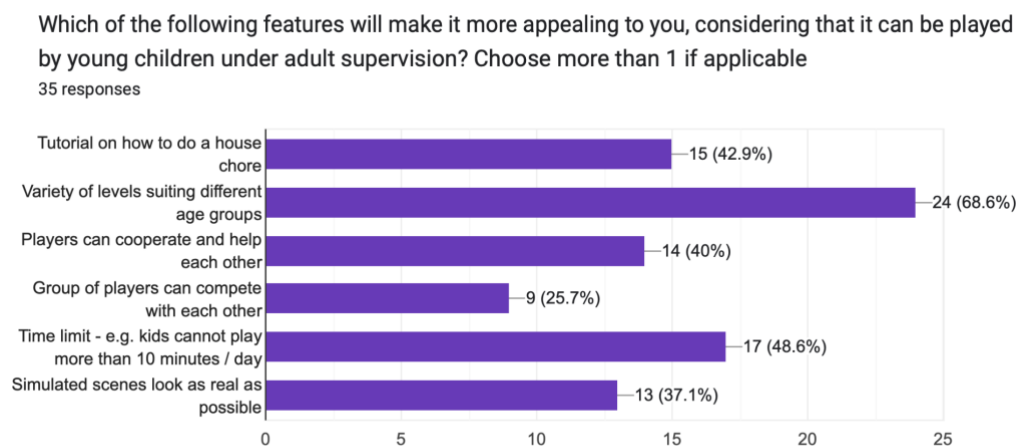


Figure 17: Appeal of each selected game features selected by survey participants.

Regarding the willingness to pay, it is again confirmed that having multiple difficulty levels is the one with the highest monetization potential as they have the least number of respondents who absolutely do not want to pay them. The other listed features here all have a high number of respondents who do not want to pay for them - this means that these features most likely need to be included in the free standard packages. The respondents are not willing to pay for even the feature to increase speed, which is quite a common monetization feature among

online games. This type of reaction may be again due to the educational aspect of the game as parents appreciate more the fact that kids take the time needed to learn the skills they need and there is no need for rushing.

How likely are you willing to try such a game during long holiday season such as winter or summer holidays?

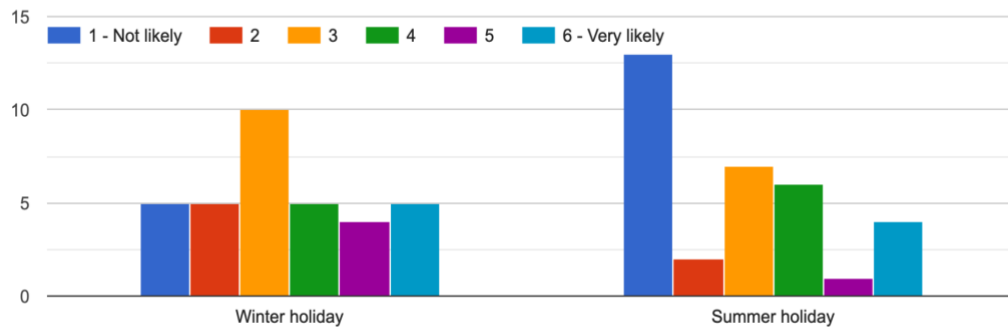


Figure 18: Willingness to try the “Baby Steps” game - Winter holiday versus summer holiday.

The hypothesis that the winter holiday season is a better time for launching the game is also confirmed by the survey as summer holiday has a much higher number of respondents who are not likely to try them. This is because in Finland, summer holiday is the season of the year where people are most likely spending time outside physically, so they are not willing to try a new online game.

5.3.2 Results from focus group discussion

The thesis author found more in-depth insights about the above questions by conducting a discussion with a group of three families with preschooler kids in Finland. The families were asked to answer the survey first, then the author asked further exploring questions to understand about the reason behind their answers and to find more suggestions. Again, here, it is confirmed that parents value the link between physical and virtual activities - meaning that the kids must do the chores also in real life to progress in the game. One parent suggested that the game can be used as an activity calendar for the kids to accumulate points for both in-game and real-life rewards as they complete virtual and real-life tasks. Many parents also emphasize that the rewarding aspect of the game needs to be fun and meaningful to keep the kids interested in the game. Another interesting suggestion from another family is that the game should expand the activities included beyond household chores and include hobby activities outside the home such as how to dress for certain weathers, what to prepare for a camping trip or when to go fishing/mushroom picking. These suggestions really reflect the value

of Finnish parenting which emphasizes the needs for children to be outside and close to nature often.

5.3.3 Game development process in Roblox studio

As mentioned earlier in the background section, Roblox studio uses Luau language as a scripting language but drag and drop options can already give you many possibilities to customize the items. Below are a few screenshots from the process of creating the environment for the game in Roblox studio.

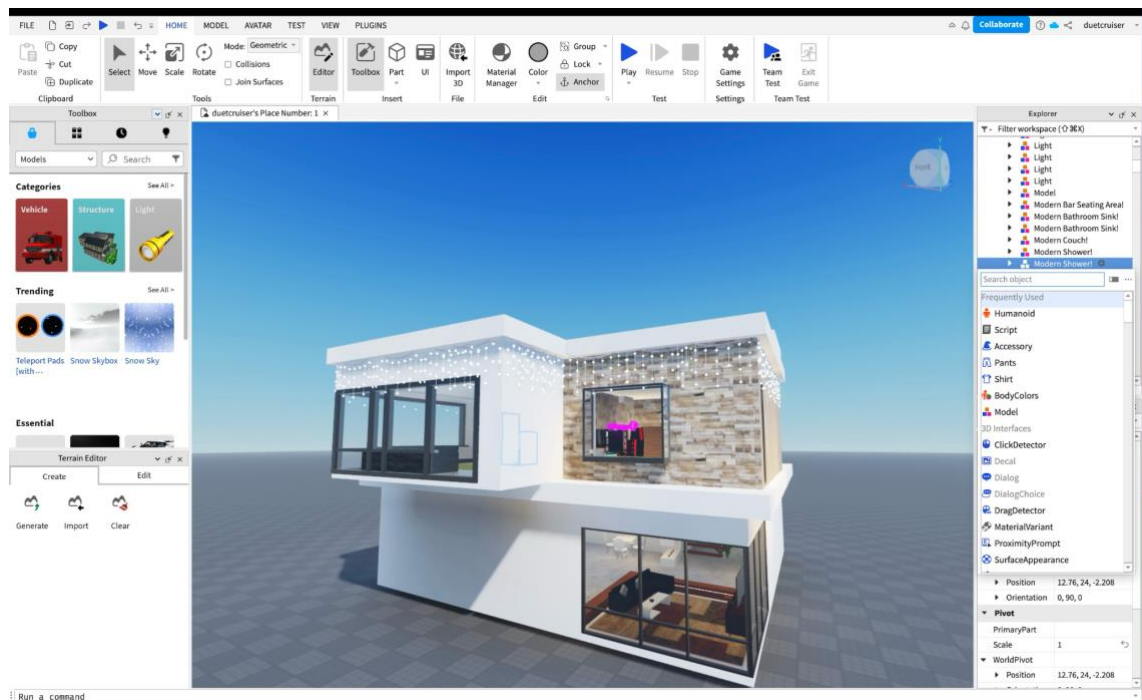


Figure 18: Creating an external house environment in Roblox Studio

For example, the above is an example of what a house can look like in the game - which provides the first setting for the game. Here, it must give players different options to customize their environment, which is also a common comment from the survey and focus group discussion. Here, while Roblox ready-made template libraries already have a lot to offer, it may still require a lot more manual scripting to create unique items or decorations that are characteristic of the game and memorable to players.

Similarly, Roblox ready-made templates also provide abundant choice to decorate the interior environment for the game, but more scripting is needed to create items that make the scenes have the intended look and feel as we want: for example, messy, clustered, and dirty that need to be cleaned. In fact, creating interesting, fun, and memorable items can also be used to sell to other game developers - which can also be another revenue stream for the game, in exchange

to other items other game developers have developed. In this way, the game development can be expedited as one studio does not have to create all the items by themselves.

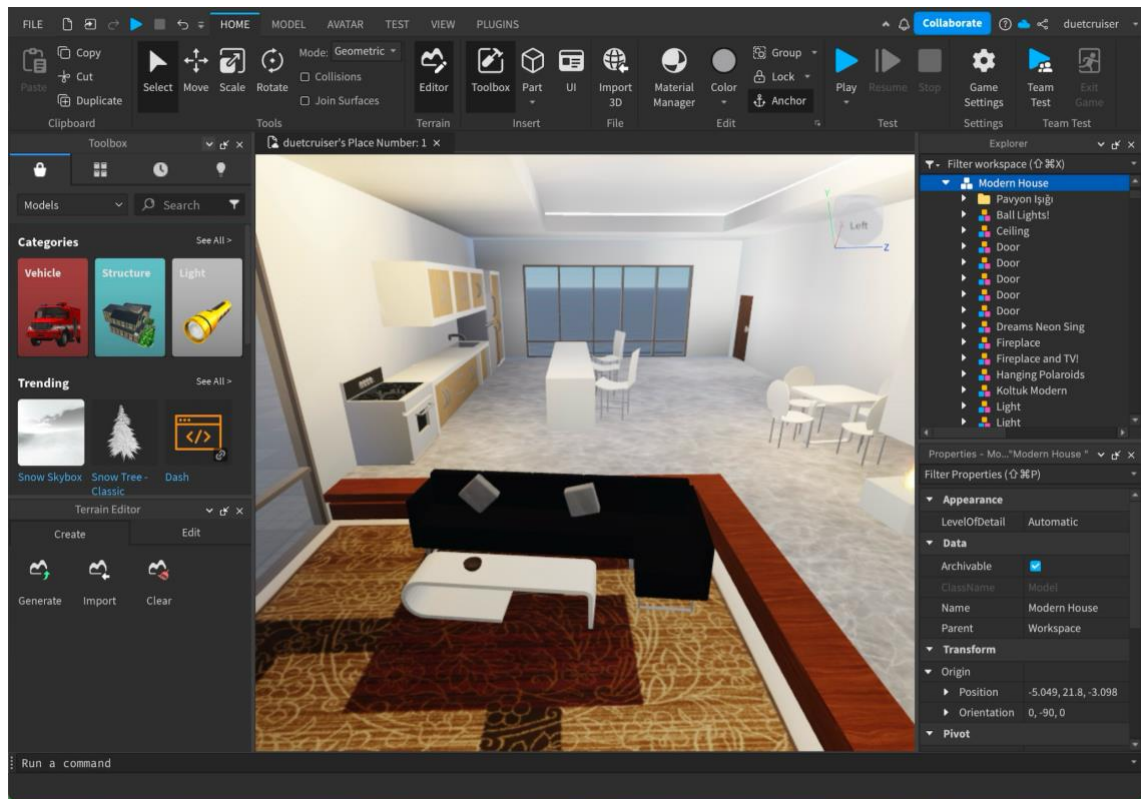


Figure 20: Example of the interior design in the game

However, when testing the above look and feel of the environment to the focus group participants, it is commented that the way it looks now may be more suitable for teenagers and young adults rather than small kids below school age. For them, the look and cute should be brighter, more colorful and cuter. This can be mitigated by creating funny characters in the game that resemble their favorite characters from cartoons. However, to do this, the game studio needs to contact and collaborate with the cartoon brands to get the permission to make characters according to their cartoon. This also presents an opportunity for another revenue stream as brands also pay game developers on Roblox to place their products in the game as a promotion channel.

6 Outcomes & Recommendations

The above findings from the research are discussed in the following section to give recommendations for the client company according to the original research objectives: 1) general success factors for “Baby Steps”, 2) specific recommendations to improve the game plot and design, and 3) lessons learnt from developing the game in Roblox Studio.

6.1 Key success factors for “Baby Steps”

From the SWOT analysis, it is clear that Baby Step has a high chance to make a decent debut on Roblox and it is the right platform to start a low budget game development project due to its support for independent game developers and its fun elements which appeal to young players. In addition, AI and VR supported features really bring endless possibilities to create interesting game experiences for young players which suit the game target audience. However, the game studio needs to pay attention to creating targeted promotion campaigns to acquire new players with the right demographics in the first place because right now Roblox's main audience is still largely teenagers.

6.2 Recommendations to further develop the game.

Based on the findings from the online survey and more in-depth focus group discussion, I made the following specific recommendations to increase the chance for the game to be a success. The recommendations are structured according to the ARM framework.

6.2.1 Acquisition: Making the first impression.

The game plot summary and the icon representing the game is an important feature to make the first good impression with new players among thousands of new games available on the platform a day. The primary research shows that the plot summary needs to highlight the fact that the game aims to encourage young players to learn and participate in real life tasks and activities, not only in the virtual environment. The choice of the design also needs to be colorful and catchy to the youngest player in the family. There is also a suggestion to have two different looks and feels - one custom for adult players in the family and one for the smallest kids. The studio also needs to focus on making the first version of the game available already during this coming winter holiday season in 2023 - otherwise it must wait for another year to launch.

6.2.2 Retention: Elements to engage and retain players in the game

To retain and engage players, the primary research suggests that having a variety of different difficulty levels to suit different ages is key. Players should also have the possibility to cooperate and help each other especially if they can connect with their real-life friends on the platform. The tasks should be as intuitive as possible, broken down to small steps to help even the small kids understand. This can be done in the format of a fun tutorial or a simulated scene by a well-loved cartoon character to catch the attention of the young players. The game also needs to make clear that the youngest players need to play the game under the supervision of an adult. And to minimize screen time and prevent game addiction, which is not healthy especially at this young age, the game must set an automatic end time after 5-10 minutes or after the player has completed the task of the day, whichever is later.

6.2.3 Monetization

Although the primary research has not found many features which respondents are willing to pay for, it is known at least that the options to unlock more difficulty level is highly appreciated and can be used as one of the first monetization channels. Perhaps, the other features should be included in the free and standard package while the game studio can find other venues for revenues through exchanging created items with other game developers and offer product and brand placements with famous brands.

6.3 Lessons learnt from developing the game on Roblox

Drag & drop provides the basic functionalities and design elements - developers can already create a lot with this. But to differentiate and finetune the look and feel of the game to appeal to the youngest minds in a family, further coding experience is required to make such customization. AI & VR features should be explored in parallel to shorten the time needed to develop the game in time for the winter holiday. Due to the short time frame, an agile methodology should be adopted - the studio should make the first minimum viable version available during this winter holiday and collect user feedback based on this launch. After that, the studio can accumulate more experience and improve the game based on such early adopters' feedback instead of waiting for another year to develop a full version. Because technologies and preferences in this gaming space changes very fast, it is more advisable to try fast, fail fast and iterate than following the traditional waterfall product development methodology method.

Given the agility approach, maintaining a well-documented game documentation from the beginning is very important to keep track of the changes and various versions. For the thesis, Google docs and sheets have been used to document various game documents but for the future, a more targeted tool for collaboration and systematic document storage such as Notion can be considered to better support collaboration between different stakeholders in the game studio as the team expands.

7 Conclusions

In this final section of the thesis, how the findings and recommendations can be applied are discussed. In addition, limitations of the research designs and suggestions for further study to improve the reliability and widen the applicability of the findings are mentioned.

7.1 Application of the findings and recommendations

The findings are highly relevant and timely to the on-going development process of Baby Steps, which can be considered already right away for the first launch of the game in December 2023. It is encouraging that many of the original hypotheses of the game were confirmed during the secondary and primary research, which means that there is a real gap in the market for online games designed to attract the whole family waiting to be filled in this space. And Baby Steps can be one of the ways. The thesis author believes that this kind of family games can be used as a channel for Roblox to attract more adult players by leveraging the current teenager player base.

More interestingly, the findings of the research need not to be limited to a specific game Baby Steps in this thesis. Due to the way the questionnaire is structured, and the generalized nature of the features included in the game, the findings can be used to develop other family and child-friendly games on Roblox as well as other platforms as well. This expands the applicability and usefulness for the findings. The thesis also reinforces the usefulness of the ARM framework in the context of game development, and it proves to be relevant already in the concepting and designing phase.

7.2 Limitations

One key limitation of the research is the size and diversity of the sample in the primary research. Although the sample sizes passed the minimum required number of participants of 30, more respondents up to 200 will make the findings more reliable and repeatable. In addition, as most of the respondents are international families living in Finland, the answers may be biased to a certain way of living and parenting of the Nordics - which is more child-led, encouraging children to do chores and physical activities as well as emphasizing bonding and active communication between parents and child. The Nordic culture also emphasizes play as a way of learning - which is well aligned with the intended game studio. However, this way of thinking may not be applicable in other regions of the world such as Asia where learning is more understood as classroom based with more serious learning activities and goals. Therefore, the gaming studio needs to consider the region where they will target their promotion activities first after launching the game. The region should have similar values and ways of parentings as the Nordics, which is where most respondents live.

7.3 Suggestions for future research

As mentioned above, the sample size and diversity of the research is limited so the client company can expand the research by promoting it to more audiences in different markets, considering doing it in multiple languages instead of being limited to English. Japan has always been a big market for gaming with a different approach to parenting and education to Finland

- doing such research in Japanese in Japan may bring valuable insights. The research can also be enhanced by playing demos of the game in focus groups instead of just describing the game to them in texts and verbally. This can give the chance for participants to try the game and provide instant feedback to the game developers. This type of research can be done by bringing the game to relevant parents and child meet-up or gaming conferences.

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Appendix 1: Online survey questions

What is your gender *

Choose

Which age group do you belong to? *

- Under 18
- 18 - 25
- 26 - 35
- 36 - 45
- 46 - 55
- 56 - 65
- Over 65

Which country are you living in? *

Short answer text

How often do you play computer or mobile games? *

- I don't play games
- Rarely, a few times a year
- Occasional, a few times a week
- Regularly, almost daily
- I am a hardcore gamer, multiple times a day

If you play games, on which platform do you play most often?

- PC
- PlayStation
- Xbox
- Nintendo
- Roblox
- Other...



If you play games, who do you usually play games with

- Alone
- With immediate family and relatives
- Physical friends
- Online gamers

How many children do you have? *

- 0
- 1
- 2
- 3 or more

...

If you have at least one child, how old is your youngest one?

- Under 3 years old
- 3 - 6 years old
- 7 - 10 years old
- 11 - 14 years old
- 15 - 18 years old
- Above 18 years old

If you have more than one child, how old is your eldest one?

- Under 3 years old
- 3 - 6 years old
- 7 - 10 years old
- 11 - 14 years old
- 15 - 18 years old
- Above 18 years old

⋮

Doing house chores such as cleaning the floor, picking up loose items, doing laundry, making the beds, putting the dishes away can be important skills to teach young children. They can also be an excellent way to relax your mind after hours of work/study. How likely will you play such a virtual game simulating such a chore with your family & friends, imagining the satisfaction you get of getting a chore done and a shiny clean house while teaching the kids such real life skills? *

- 1 2 3 4 5 6
- Not interested Yes, I am very eager to try

Which of the following features will make it more appealing to you, considering that it can be played by young children under adult supervision? Choose more than 1 if applicable *

- Tutorial on how to do a house chore
- Variety of levels suiting different age groups
- Players can cooperate and help each other
- Group of players can compete with each other
- Time limit - e.g. kids cannot play more than 10 minutes / day
- Simulated scenes look as real as possible

How likely are you willing to pay for the following features? *

	1 - Not likely	2	3	4	5	6 - Very likely
Ability to customize avatar / setting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ability to increase speed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ability to play and compete with others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Options to unlock difficult levels	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How likely are you willing to try such a game during long holiday season such as winter or summer holidays?

	1 - Not likely	2	3	4	5	6 - Very likely
Winter holiday	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Summer holiday	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Do you have any other suggestion for making such a game more appealing to you, especially in families with young kids?

Your answer _____

Appendix 2: Focused group discussion questions

In addition to answering the survey, the answers are discussed more in depth with three families with one to two kids under school age. The following questions were discussed in depth to generate new ideas.

- Why did you make those ratings in the last 4 questions of the online survey?
- What do you think about the described game plot summary? How do you relate to it as parents with preschoolers? How do you think your children will react to it?
- In addition to the game features included in the survey, what are other features do you think would be relevant to explore? Why?
- In your mind, what is the top feature that must be included free of charge and why?
- In your mind, what is the top feature that you are willing to pay for and why?
- About the launch timing, do you have any specific preferences between winter and summer holiday seasons and why? Any other time period do you think would be a suitable time to launch the new game?
- What are your new ideas for similar games with the same goal inspired from this discussion?