Master Degree Project

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Customizable Skill Selection and Player Flow in MOBA Games

A Case Study of *Imagindar*

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Abstract

One of the key challenges in modern game design is ensuring that players experience an optimal engagement of flow, especially when the game mechanics such as skill customization introduce complexity. This thesis project is about looking into the relationship of how customizable skill selection affects the player flow in hybrid Multiplayer Online Battle Arena (MOBA) games. This study describes a qualitative case study using surveys and player feedback from a video game called *Imagindar*, which offers fully customizable skill selection game mechanics.

By investigating these aspects, the project aims to contribute valuable insights for the future game design of customizable skills systems and to an overall experience of flow, a psychological state characterized by deep focus and enjoyment in gameplay.

Keywords: Customisable skill selection, player flow, experience design, game design, MOBA

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1 Introduction

Multiplayer Online Battle Arena or MOBA by short is one of the most popular video game genres to play at all times. They are in an important diverse place with both competitive and casual gaming experiences that are offered to players. Most of these successful online gaming experiences share similar game elements, which are referred to as 'traditional' by players. Popular traditional MOBA like *League of Legends* and *Dota 2* are good examples that offer mechanics that are well-known among players (IGN, 2014). One of the most important mechanics that these games offer is the character selection system with pre-defined skills and their “roles” in gameplay. Despite the success of these traditional elements, the concept of a fully customizable skill selection system remains relatively unexplored, leaving open questions of how they might affect the player experience.

This study investigates the impact of fully customizable skills on player flow. Flow is a critical element in video game design that helps players fully engage with the game and make it a more enjoyable experience. This research seeks to understand whether the freedom of customizable skills enhances or disrupts the player's sense of flow.

This research is focused on a specific game called *Imagindar*, a fast-paced strategic game that has a fully customizable ability selection game mechanic among other features that sets it apart from other games and make it unique in its standards. Analyzing how players react and interact with this game gave valuable data to look upon. It is research about how *Imagindar* influences players’ sense of focus, immersion, and game flow experience, to determine whether this wide customization of abilities in-game enhances the flow or creates obstacles to hinder it.

2 Background

Most traditional MOBA games have similar core game mechanics and game design that set their genre apart from other games, such as user interface (UI), gameplay objectives, and most importantly, unique characters that have predefined abilities. To be successful in this type of game players need to be aware of several important factors like strategic character selection, skills to master abilities of those selected characters, good timings for executing those abilities to gain advantages, a sense of adaptation, and team coordination (Palm and Norén, 2015; Yang et al., 2014).

Traditional MOBAs and most Players versus Players (PvP) games offer a fixed predefined set of abilities for each player to choose however, the concept of a customizable skill selection system is largely unexplored game design area. This wide customization skill system would allow players to choose their abilities as they like and to be able to create unique possible combinations without having a barrier of choosing fixed sets of abilities. This kind of flexibility could offer a more adaptive and personalized approach toward strategic thinking or the opposite, creating a complicated game design for players who might struggle to understand. As a result, the question of whether such a system improves or disrupts a player's flow gaming experience rises.

The concept of flow is increasingly well-known and it was developed by psychologist Mihaly Csikszentmihalyi, who describes a flow state as a deep focus and immersion in that people can lose track of time, external awareness in an activity making people completely committed to the work whatever they are doing. His work and discoveries on flow provide a foundation for this research and it guides on how flow relates to customizable skills selection in MOBA games. Also, research such as Sweetser and Wyeth's *GameFlow* model builds on Csikszentmihalyi's theories and applies them to game design (Sweetser and Wyeth, 2005).

2.1 Flow state

Understanding what is flow and how can a person get into this state of mind is crucial before diving into the case study, *Imagindar's* features, and the research. The flow state is a rich term that is sometimes used consciously in people's lives. Such events could happen anytime and anywhere depending on the environment and the variables that people are in.

2.1.1 Flow theory

Psychologist Mihaly Csikszentmihalyi was a skilled professor who was able to develop the concept of flow through a qualitative study. During his studies, he was able to answer questions like what is the concept of flow, how people are able to get into this state, and how people in this state are able to perform optimally and find satisfaction in what they are doing. To provide this valuable data he has tested hundreds of people in most mediums and professions.

He with his students developed a method called the Experience Sampling Method (ESM). With this method, he was able to test and measure the psychology of flow. His research included 800+ participants who were tested with ESM and thanks to his work, the methodology and results he found became a base reference for this thesis project (Csikszentmihalyi, 1990).

Csikszentmihalyi’s exploration of flow highlighted its broad relevance and significant impact on how people experience and engage with various activities in their lives. As he describes “It helps you to organize, to synthetase, to harmonize the elements of your life” (Csikszentmihalyi, 1990, 4:20) It is a rich concept that enhances the experience of the person’s life and ultimately the activity they are involved in. "The experience of flow occurs when a person’s skills are just sufficient to cope with the challenges of a task, with clear goals and immediate feedback guiding their actions” As he mentions afterward the flow state might highly require several factors to get in that psychology of mind. In his studies, he provided these factors as follows;

1. The sense of clarity of goals and intentions that is to be taken next.
2. Whether performing an action gets you closer to the intended goal or not.
3. Whether the activity you are involved in matches your skill level.
4. The feeling of focus and concentration about the action you take.
5. The awareness of everyday problems fading away or a sensation of escaping reality.
6. The feeling of being in control of your actions and experience.
7. The loss of self-consciousness, the commitment you put your effort into the activity.
8. The feeling of time being transformed, hours becoming minutes.

Each element is as important to gain the flow state of mind, there is a balance and harmony in the actions people take as it transforms their sense of focus if it becomes active. These factors as Csikszentmihalyi describes, are ways to enhance your overall experience of an activity and its work quality. The balance between challenge and skill is needed to make the actions you take and the activities you are currently in more enjoyable experience than before and also help you grow in your abilities. The people in flow are continually pushing the boundaries of their skills ultimately leading them increasingly to complex activities as they adapt and improve (Csikszentmihalyi, 1990).

"Flow evolves when a person evaluates both the challenges and the skills as being high and in balance. More specifically, this state is referred to as the 'flow channel.' Later, the flow channel model was expanded to a four-channel flow model, which integrates flow and three different emotional states to cognitive challenge-skill evaluations." (Takatalo and Häkkinen, 2014). These channels are explained as flow, boredom, anxiety, and apathy as in shown the example graph below (figure 1). The graph explains that;

1- Apathy: happens when both challenge and skill levels are low, making the person unmotivated or disengaged because neither the task nor their skills are stimulating.

2- Boredom: happens when the challenge is low but skill levels are high, making the person feel the task is too easy for their abilities.

3- Anxiety: happens when the challenge is high but skills levels are low, making the person feel overwhelmed because the task is too difficult for their abilities.

4- Flow: happens when both challenge and skill levels are high and balanced, making the person fully engaged and committed to the task, experiencing the state of flow.

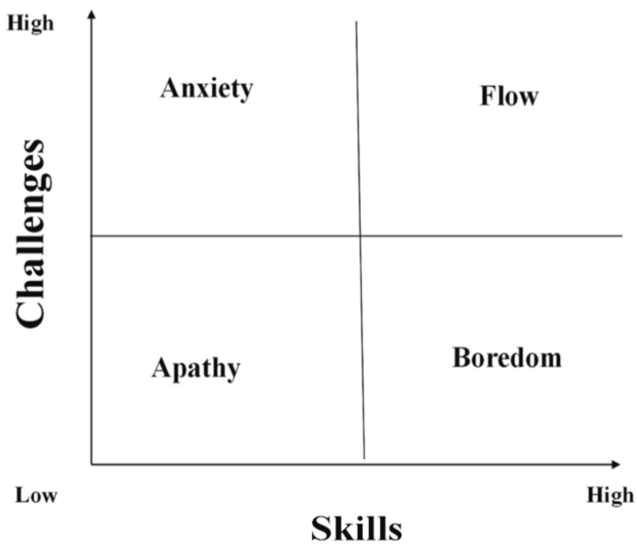

Figure 1 *(Takatalo and Häkkinen, 2014)*

The psychologist Csikszentmihalyi also describes that although these are not mandatory, however, people who have the "5 C's" of complex characteristics have an easier time accessing the state of flow as they process (Csikszentmihalyi, n.d). This list of elements is described as;

1- Clarity: knowing what you want to do as you go through the everyday activities of your life
2- Centering: becoming one with what you are doing.
3- Choice: the understanding that you have possibilities, that you are not forced to do the things you do.
4- Commitment: the ability to care about the activities you are engaged in.
5- Challenge: the setting of higher and higher goals for yourself as you master your current skill level.

Studies by Csikszentmihalyi discuss the "autotelic personality" in detail and these factors seem overall similar to the 8 discovered elements of the concept of flow making it quite sense if, for example, people having a difficult time focusing and committing over work or having a difficult time doing what to do next (clarity of goals), they mostly would have a hard time to gain the state of flow and have the feeling of enjoyment. In conclusion, the flow state is often gained more easily by people who have these complex characteristics, but, it is not mandatory to have them access it. Beyond individual psychological traits, the design and structure of activities, particularly in video games, could significantly influence a person's ability to enter the flow state.

2.1.2 Flow in video games

Does flow state work any differently in video games? It is found that the 8 elements of flow are often mentioned about how they are used in video games. “A challenging but trackable task to complete” (Cowley, 2008) refers to whether the game matches the skills of the player and whether the effort of the player gets them closer to the goal or not. Also, "Flow occurs as the balance between perceived skills and challenges. An increase in skills is due to learning, and an increase in the challenges of performing a task is due to novelty – keeping the two in balance is key to the Flow experience" (Cowley, 2008) as Csikszentmihalyi also described that flow state is indeed making people learn, adapt and overall improve on the task that they are doing.

When people play video games there are different factors depending on the player and the developers about how players want to play the game, and whether the game suits them visually or mechanically, ultimately leading them to a flow state or not at all. Players who play online games like the genres of MOBA or PvP, these games usually have similar types of tasks that help players stay immersed and engaged through the gameplay. With the importance of balancing skill and challenge in mind, it is also worth questioning whether the game itself provides the player with the opportunity to experience the eight elements of flow, making the game 'accessible' for achieving a flow state (GameDesigning.org, 2021; HungryToday, 2024).

Questions to look at and possibly examine how video games can allow players to be fully engaged could be as the list below;

1. Is the goal of the game clear enough to understand?
2. Does performing an action make the player closer to the intended goal?
3. Does the players’ skill level matches with game’s difficulty?
4. Is the player focused and concentrated through gameplay?
5. Does the player seem to focus on any other problem rather than the game itself?
6. Is the player in control of their action in the game?
7. Did the player commit to the game and ultimately lose self-consciousness?
8. Did the player feel that time has been transformed?

More in-depth “GameFlow Criteria for Player Enjoyment in Games” research has been done by Sweetser and Wyeth (2005) which contains several lists of how players should be able to react and interact in a game.

2.2 MOBA games

2.2.1 Traditional MOBA games

"MOBA player experience has been identified as being highly frustrating and challenging and cultivating less autonomy than other genres. Interviews with MOBA players identified further themes of competition, mastery, and teamwork as essential aspects of the genre, which exist in concert to motivate further play" (Tyack et al., 2016). Studies show that matching the skills of a player with other players is more likely an appealing factor for those who play MOBA games, finding a sense of challenging difficulty in-game as one of the elements described in the concept of flow.

Most of the MOBA and PVP games contain similar factors regarding to game mechanics that offer players. A team of 2 players is the most popular case, as one team is challenged to fight and win over the opposing team of players with strategic thinking and planning. Game objectives like capturing areas, defeating opponents' bases, or simply defeating opponent players if the games have more brawler sense of style, have seen similar objectives across these types of games. Most MOBA and PvP games have an overall similar structure that helps players to help them make a familiar surrounding to play in and possibly not get lost in the game, searching for what to do or how to play. "Multiplayer Online Battle Arena (MOBA) games are typically played with two teams of five players, each controlling a single character. Unlike traditional real-time strategy games, MOBA games do not involve unit or building construction, focusing instead on character development and cooperative team play during combat. Combat in MOBA games is highly dynamic, requiring players to gain tactical knowledge through experience. The outcome of the game is often determined by combat effectiveness" (Yang et al., 2014). "MOBAs provide both collaborative (within teams) and competitive (between teams) play experiences. Teams that include friends support a wider range of play possibilities socially and competitively than teams of strangers." (Tyack et al., 2016). These games mostly offer teamwork and make players play as a team rather than playing as individuals. This structure has led to competitive play styles, where the focus shifts toward a more serious approach to winning rather than simply playing for enjoyment. In MOBA games, the balance between teamwork and individual character customization plays a crucial role in maintaining player flow and engagement.

The traditional MOBA games offer pre-defined characters to select and play upon. These characters are important as each of the games offers, have their own sets of abilities and skills. Selecting a character means selecting sets of skills and a gameplay style where players can play. These characters have their own sense of values regarding their abilities. For example, if a player doesn't like a character for some reason, it is possible that they are referring that they don't like their sets of abilities instead of how they are visually appealing. In traditional MOBAs players can not change or switch a character's ability from another character which makes it pre-defined classes to begin with. Most traditional MOBA and other PvP games also offer a class and roles system where they have a category of play styles that players can navigate and play through. The most popular classes are known to be Tank, Damage per second DPS in short, and Healer or Support. As they are known by their title, each class has its own play style where if players follow their intended design in-game, they would have more chance and opportunity to possibly win the game. Tank being "Tanking" or trying to collect all the damage the opposing team makes. DPS's goal is to cause as much damage as possible to the opposing team. Meanwhile, the Support class's sense of objective is to help their own team by healing them or similar actions. The name of roles and classes changes depending on the game. In traditional MOBAs classes are typically named Fighter, Slayer, Mage, and Tank, also having roles as Top Lane, Jungle, Mid Lane, Attack Damage Carry (ADC), and Support, making the game a highly structured way to play. The roles mean that players are supposed to be played in certain areas in the level. So traditional MOBAs not only designed to play as a class with pre-defined abilities but with also roles to move and play around (League of Legends Wiki, n.d.; Overwatch Wiki, n.d.).

Games like *Overwatch* have features offering a wide range of characters that have different abilities that some have similar to other classes. For example, a couple of characters in the Support and DPS class have similar abilities to the Tank class but, those abilities are not powerful ability compared to Tank class abilities. These mechanics are done intentionally by developers to try to make players follow a strict line of order. By making a more accessible range of abilities, games like *Overwatch* are somewhat close to having customizable skills in a way if not completely. While these popular games offer some flexibility in abilities across different classes, *Imagindar* takes customization further, allowing players much more freedom of control over their skills and game strategy.

2.2.2 Hybrid MOBA games

A hybrid term generally means that something is made by combining two or more different elements and creating new characteristics from each original part. A hybrid game combines elements, mechanics, or themes from multiple game genres to create a unique gameplay experience. These types of games could bring together features from different types of games, for example, mixing real-time strategy mechanics with role-playing elements to appeal to a broader audience or to offer fresh gameplay (Kurkina, 2023).

One well-known example of a hybrid MOBA game is called *Smite*. This game combines traditional MOBA elements such as team objectives, distinct character roles, and skill-based progression and combines with an action-oriented third-person perspective and WASD controls, similar to shooter or action role-playing games (RPG). Unlike traditional MOBAs like *League of Legends* or *Dota* which use an overhead perspective and mouse-based controls, *Smite* has a different experience by allowing players to directly control their character in a 3D environment (Fanatical, 2023). One other example could be said for a game called *Paragon* which also shares 3D gameplay with different mechanics that also have traditional MOBA elements as well.

2.3 Problem Statement

Mixing such different gameplay factors brings somewhat, if not completely, new experiences that could appeal to a certain player base, however, it could also bring a potential risk for the likeness of the game. When developers combine well-known game mechanics with an unfamiliar setting or control, players may feel confused or disoriented, especially if the game deviates too far from established norms within the genre. For example, traditional MOBA players who are accustomed to the top-down view might struggle to adapt to a third-person perspective, control schemes, and different gameplay overall. Furthermore, this unfamiliarity can blur the game's identity, leaving players uncertain whether it's meant to be a MOBA, an RPG, or an action game, which can reduce player satisfaction. To prevent this, players should be introduced to new mechanics gradually and in a context that could build familiarity without feeling overwhelmed (Gee, 2003).

This study aims to answer the research question: How does customizable skill selection affect player flow in hybrid MOBA games? There are multiple aspects to look upon such as balance of player skills and challenge of the game. Also, other aspects include player engagement, adaptability, creativity, and the overall influence of customizable skills to possibly gain and maintain the state of flow.
In *Imagindar*, the fact that players can adapt and the customizable skills make the game unique. Some levels of player skills like creativity and adapting are some of the most critical aspects for players to reach enjoyment in the game and ultimately to gain the state of flow as discussed before with relevant research and studies. "Logistic regression models were used to predict game outcomes, and the results confirmed that the base skills of champions and players, along with player-specific skills, significantly impact the prediction accuracy in MOBA games, specifically in *League of Legends*" (Chen et al., 2017) "Champions" is referred as characters in the game, this research shows that how player skills are important that can even predict game outcomes. However, despite the importance of these aspects, the impact of customizable skills on player flow remains little known in the hybrid MOBA genre.

3 Methodology

The case study for this research, *Imagindar,* was selected due to its unique game mechanics, which allow for playtesting customizable skill selection. A case study offers a focused analysis of how customizable skill selection affects player flow by making it accessible for in-depth exploration of player interactions with specific game mechanics.

The research by Jari M.E. Takatalo and Jukka P. Häkkinen (2014) on "Profiling User Experience in Digital Games with the Flow Model" provided possible methods for measuring flow and its associated channels, which informed the methodology of this case study. Additionally, the foundational study on flow by psychologist Csikszentmihalyi, as well as research related to flow in MOBA games, such as Tyack et al. (2016), were used as reference sources in developing this study's methodology.

Due to limitations, this study used a qualitative approach with online surveys as the primary method of data collection. Participants were given a structured process to follow, which involved downloading the game, completing a tutorial and a practice match, and after completing the playtest a survey was provided for participants to fill their experience in. The communication with participants was held online on multiple platforms including Discord and Zoom. The methodology for this study involved three key components: an interview with the game director of *Imagindar*, a pilot test, and the main study. This study used a deductive thematic analysis method to collect and organize data to allow identify patterns and themes with participants' experiences.

3.1 Case study

Imagindar is a fast-paced video game that has hybrid MOBA elements combined with a more brawler type of PvP game that sets it in its category. In this game, players can play online with their friends, random people, or with bots to practice their game skills. What makes *Imagindar* different from traditional MOBA games are the game mechanics and a different game design that offers to players. This game offers players a fully customizable skill selection system on a singular character that player can control and play. Players have complete freedom to choose whatever ability they like to fit their play style, having full access without any restrictions of game roles or class systems. This feature denies the meaning of class and role system which other games force players to play as intended roles, as mentioned before. As can be seen in Figure 2, in *Imagindar* players have 10+ different categories to select and customize skills upon, some include fire, control, or heal categories so in the end, if a player wants, they can still play the role of “Support” or similar, however, the important factor is that would be completely on the player’s choice and not by the force of the game mechanic. This video game offers different maps with objectives to play with. These objectives contain capture-the-point, team deathmatch, and other possible variables like bots that attack both teams of players. In addition, players could also create their own map by opening the map editor in the game.

***Figure 2** (Imagindar, n.d)*

Character progression is also a different element of this game. Players are not required to defeat a player in order to learn more abilities, instead, a static Experience Points (XP) game mechanic is introduced. This mechanic ensures that all players gain the same amount of XP over time, to spend and learn abilities regardless of how many times a player is eliminated. In video game communities, there is a well-known term called the “snowballing effect” which means that winning is rewarded with even more possibility to win. For example, this could be granting a player extra XP points, or better equipment when defeating or winning a game. As a result, the winning player or team becomes increasingly difficult to stop, leading to a snowballing advantage. *Imagindar* on the other hand does not support the “snowballing effect” and captures the idea of fair and consistent progression for all players. However, the question of whether this game design is a better and fair experience for players or the opposite, if the sense of reward by action fades, arises.

This particular video game that this research focuses on, *Imagindar*, is currently in a demo state, indicating there is a possibility of a chance to have different results when it’s released. However, for the playtesting reasons for this thesis project, the customizable skill selection feature, the game mechanics, and the base level of game design were provided for participants to test, such as level design, bots to play with, and menus to navigate.

3.1.1 Interview with Game Director

An interview with the game director of *Imagindar* provided valuable insights into this research to help understand the game design choices and experience. The purpose of this session was to learn what developers' intentions were in doing this unique freedom of ability customization game design and their possible expectations of players’ experience when they have played the game.

The meeting was held online via Zoom with a time length of almost 40 minutes. A semi-structured interviewing method was used with a total of 5 questions that combined a mix of predefined questions with the flexibility to ask follow-up questions based on the director’s response. The interview was video recorded with the participant's consent for recording and data collection.

The game director explained that given the current definition of traditional MOBA, it does not match the same description of *Imagindar* since it has a different game design and mechanics, however, the literal concept of MOBA itself is fitting with more of a brawler battle arena type of game. He stated that the definition of MOBA is exactly what it is but he can’t use it because it’s considered to be one strict game type He then continued to explain that one unique aspect that sets *Imagindar* apart is the dynamic customizable skill system. The director compared these skill selection systems with other traditional MOBAs on how players might not always find abilities that perfectly match their playstyle due to the limited game design with other games. He indicates that he wants to break this feeling and give players full freedom to choose their abilities in the game (Game Director, 16 September 2024).

The director also emphasized that he doesn’t want anything to be random, this design choice ensures players’ ability to customization, and their skills drive the outcomes, making the game more strategic and less dependent on the chance factor. He then later indicated that there a “starter builds” available in the game that help new players choose a certain gameplay style if they want to, however, he mentions afterward that the started builds are not the intended way of playing the *Imagindar* later on. If a player selects a “role” in the starter builds the customization limits to that selected type of role like the traditional MOBA mechanics.

The game director expressed that he wanted players to be completely creative, referring to choosing their combination of abilities to have more of a strategic game where players outsmart the opponents. He then explained the importance of giving players the freedom to craft their strategies and playstyles, rather than simply using predefined abilities. He said that most players would have more fun by being creative, on his predictions of player experiences when they play *Imagindar*. One of the primary objectives that he wants to ensure is the fun and enjoyment factor when playing the game. He added that he intended to make a fun game where players could relax and have a fun time playing, rather than encouraging a win-at-all-costs mentality. Players don't have to win to have fun, the director stated, indicating his desire to avoid systems like Matchmaking Rating or MMR that focus on competitive ranking. This clarifies that *Imagindar* is not supposed to be played in a serious competitive mindset but to be played as more of an enjoyment, furthermore, it also breaks the definition of traditional serious MOBA gaming style into a more casual hybrid, brawler MOBA style (Game Director, 16 September 2024).

The director also highlighted the importance of creating a sense of fairness. He explained that every time a player dies in a game, they either feel that was fair, or they feel that was not fair, and they couldn't do much. As he expressed his goal was to design a video game where players would consistently feel in control of their actions, even in difficult situations in the game. He noted that in other games if some player on the opposing team starts a snowball effect, players have no chance against them. In contrast *Imagindar*, even playing as a support "role", players still have the potential to make a significant impact. With this approach, the director seeks to make players feel fair and responsible for their performance as he indicated that when a player loses at chess, they know 100% it's their fault, referring to the fairness he wants to achieve in *Imagindar*.

The game director pointed out that *Imagindar* is a completely different game from traditional MOBAs. While it's difficult to determine whether previous video game experience is essential, he explained that the fast-paced design might give advantages to experienced players in general. He then indicates it is not mandatory to have MOBA experience but rather an overall video game experience. This explains that the target audience that the director thinks players would have a better time playing this game is, players who had general video game experience beforehand but it's not mandatory to have it as MOBA experience. The comments from the director also point out that newly introduced players might have a difficult time adapting to the fast-paced and complexity of the game (Game Director, 16 September 2024).

To summarise, the insights gained from the interview with the game director of *Imagindar* gave a strong focus on player creativity, fairness, and enjoyment. The director's vision to prioritize these elements aligns closely with the concept of flow. Removing random events and giving players complete control, maintaining a balance between challenge and skills is one of the key factors in achieving flow.

3.2 Pilot Test

A pilot test was created to improve the clarity and effectiveness of the survey questions and gather initial feedback on the gameplay experience. By testing these instruments with a small group of participants before the main study, potential issues were indentified and addressed. This process ensures that the main study is built on a solid foundation, allowing for a more accurate exploration of player experiences.

A total of 6 participants took part in the pilot test, with ages ranging from 19 to 36. Most of the participants played video games frequently, although they were only somewhat familiar with MOBA games. The participant selection process was done from personal networks, which made it easier to coordinate their involvement in the study.

Participants were instructed to download *Imagindar* which was on a PC platform, play through a tutorial, and play a practice match to familiarize themselves with the gameplay mechanics. The tutorial provided a guided introduction to the game, covering core mechanics such as movement, skill selection, and the objectives of the game. When finishing the tutorial, participants were asked to play in a practice match to fully engage with the game without instructions from the game. The setting of the practice match was completely of their choosing which, included a selection of map, difficulty level and type of bots, allowing them to tailor the experience to their preferences. After the playtest session, participants filled out an online survey designed to assess their experiences with customizable skills and questions of flow. The survey included both open-ended and close-ended questions to capture a range of feedback. The entire pilot test process took approximately 20 minutes however, the time depended on the participants as much they wanted to playtest as they were comfortable.

Feedback with mixed methods of quantitative and qualitative data from the pilot test provided several areas for improvement both in the survey questions and in the structure. Some of the participants indicated repetition of questions, and some indicated the length of the survey itself. To address these identified issues, the feedback was analyzed to identify specific questions that required clarification, revisit, and removal. As a result, for the main study, the format of questions was transformed into open-ended questions to encourage more detailed responses and provide participants with the freedom to express their thoughts more fully.

3.3 Main Study

3.3.1 Participant recruitment and sampling

The procedure of the playtesting structure in the main study was the same as the pilot test. Participants were asked to download the game, complete the tutorials of *Imagindar,* and then play a practice match with the settings of their own choosing. Playtest sessions were conducted online, with participants' own time to play. Invitations for playtesting were sent through social platforms such as Discord and WhatsApp, where participants received the necessary information to set up the game and complete the survey at their convenience. The survey method was chosen due to various limitations, however, this method also allowed for efficient data collection. By using open-ended questions, the survey encouraged players to reflect on their experiences and it may helped participants to feel more comfortable sharing honest feedback that provides richer data directly relevant to the research. Moreover, this method was similar to Csikszentmihalyi's study of flow as referenced (Csikszentmihalyi, n.d). The data collection process also followed the same structure as the pilot test, with participants playtesting and then completing the updated survey immediately afterward. The survey included an acknowledgment question at the beginning to inform participants that their responses would be used for research purposes in the thesis project anonymously.

The participants for the main study were selected more broadly than in the pilot test with personal networks. This approach aimed to gather more diverse perspectives on gameplay experiences. With a number of 7 different participants, the survey was conducted a qualitative method with 12 open-ended questions.

3.3.2 Survey structure

The questionnaire focused on elements such as difficulty, skill customization, player engagement, and more to analyze player flow in *Imagindar*. To illustrate the type of questions asked in the study, here are a couple of examples;

Q: How often do you play video games?

A demographic question to determine the participant information and the importance of whether the previous gaming experience makes a significant impact as the game director mentioned (Appendix A, Q1).

Q: Did your gameplay skills match the game's difficulty?

One of the questions of flow, to analyze one of the important aspects from Csikszentmihalyi's study on the concept of flow (Appendix A, Q5).

Q: Did customizing your skills keep you engaged during gameplay?

A direct approach to determine the player's engagement experience with the freedom of choices in-game. Whether was the mechanic distracting, complex to understand in the fast-paced game, or otherwise (Appendix A, Q7).

The questionnaire is designed to establish a smooth progression, starting with two demographic questions, followed by two cognitive-focused questions, and concluding with seven questions centered around player flow. The demographic questions provide essential background on participants, such as gaming experience, to help contextualize their responses about familiarity with similar games. The cognitive questions were included to explore player's mental engagement with game mechanics. The questions of flow focused on elements such as engagement, control, and difficulty, which are key elements of Csikszentmihalyi's flow theory.

An optional closing question was also included to allow participants to share any additional insights. Based on insights from the pilot test, the main study questions were adjusted and optimized. While the structure and focus of questions remained consistent, the pilot test helped to confirm the suitability of the open-ended format for capturing more in-depth player feedback. The complete list of main study questions is provided in Appendix A.

4 Analysis

Responses to demographic questions showed that participants were a diverse group with various gaming experiences and it showed some level of familiarity with MOBA games. Most participants stated that they played video games regularly with responses as “A lot”, “daily”, “every two days”, and “weekly”. This regular engagement with video games suggests a base level of experience and familiarity with gaming mechanics was available, and also, it checks out with the intended experienced player base from the game director of *Imagindar*. Furthermore, most participants were familiar with MOBA and PvP games. Responses ranged from “I played *League of Legends* for 3 years” indicating a highly experienced MOBA player to “Yes, but not a big fan” or “Not too familiar”, indicating varying levels of enthusiasm and experience with the genre.

A deductive thematic analysis method was used to analyze the findings of flow-centered survey questions. This method was selected to identify the key patterns across the participants’ responses, which were then grouped into recurring themes that revealed insights into how the game design of customizable skill selection influences player flow. These defined themes were then compared to Csikszentmihalyi's concept of flow to better understand how game design elements such as clear goals, focus, control, and difficulty affect the flow experience.

The coding process, with an example of participant response such as “Yeah, I always understood how to win.” was converted into the code “Clear objectives” and other similar responses like “The tutorial helped me understand the goals” or “I knew exactly what I needed to do,” were also given the similar code, focusing on participants’ understanding of their goals and objectives. These related codes were then brought together to form a group to represent a shared experience. Once the grouping was concluded, these sets of similar codes were refined into broader themes.

The analysis from the main test produced six themes as follows;

4.1 Understanding goals and objectives

According to Csikszentmihalyi's flow theory, having clear intentions of action is crucial for maintaining player flow (Csikszentmihalyi, Chapter 2). This theme explores how well players understood the game’s objectives and, to put it briefly, if they knew what actions to take next.

Most participants reported the game’s goals were quite clear and easy to understand. To add, a participant said, “Yeah, I always understood how to win” Similarly, another participant mentioned “Yes it was tutorial does it's job” which suggests that with the help of tutorials, objectives were well designed. These related responses were grouped under the same code, clear objectives that represent a shared experience of understanding goals and objectives in *Imagindar*. While most participants’ responses about clear objectives were positive, a small part of the playtesters raised concerns about specific aspects of clarity. One of the participants who faced some problems with clarity was a highly experienced MOBA player. Data shows the responses of, “Not really. There is still lack of indictions in the game” and “Not always, the goals didn't seem fit for how many people were playing.” Also, another participant commented “I wasn’t sure what the victory condition was besides waiting for the 20-minute match timer. It became a repetitive cycle of killing respawning enemies” These responses suggest the clarity of what action the player wants to take next seems not always clear but rather confusing. The responses show the majority of them were positive, on the other hand, the negative responses indicate that when the objective or the actions players intend to take are unclear, it can disrupt player engagement, focus and ultimately achieve the flow state.

4.2 Engagement through customization

Skills customization is one of the key aspects of player engagement in *Imagindar* and a focus of this research. This theme covers a direct approach to whether the playtesters were engaged through the skill customization and whether this mechanic kept them focused during gameplay.

Data from the main study showed that there were many positive responses such as, "Yes, it helped me create strategies." and "I did. Gameplay has a good flow" and there were many participants who responded positively. These results suggest that customization played a significant role in keeping players engaged and allowed them to tailor their strategies to suit their own playstyles. Some of the participants said that they were focused for a brief time due to limited time during playtesting sessions, but, they said they were excited and responded positively about focus and engagement. On the other hand, a few participants highlighted challenges in staying engaged through customization due to certain gameplay mechanics. For example, one participant stated, "Not that much, seemed very spammy at times depending on what build you chose." While another noted, "Only when it was not chaos" suggesting that the chaotic feeling is due to the game design being more of a brawler game rather than traditional MOBA, which, might interfered with their ability to focus on customizing their skills. The customizable skill selection system was generally seen as engaging, but its early stage of complexity presented a challenge for new players. Suggesting that a more accessible system or a guided introduction could help retain newly introduced players.

4.3 Control complexity

This theme explores one of the core flow elements from Csikszentmihalyi's concept of flow, about how participants felt about their ability to control their actions (Csikszentmihalyi, Chapter 2). It examines whether players felt confident about managing and controlling their actions, and how the game's complex mechanics influenced their sense of control during gameplay.

Many participants felt they had full control over their actions during gameplay. Four playtesters answered with a clear "Yes" indicating confidence in managing the game's mechanics. Two participants expressed partial control with one remarking "Mostly, yes" suggesting that there might have been some confusion but participants were in control most of the time. One response came from a highly experienced MOBA player, who reported no control, stating, "Not at all, It is too chaos" This suggests that the complexity, particularly in fast-paced moments or early versions of game design, impacted their ability to manage the gameplay effectively. Many participants felt control of their actions followed by some playtesters who found the complexity overwhelming at times, this suggests a familiar sense of the previous theme, that the complexity of the game design may deter players who are new to this type of game as they are trying to learn thus' the control sense might be challenging.

4.4 Difficulty and skills matching

This theme addresses how participants reacted to the balance between the game's difficulty and their gameplay skills. The focus was on whether players felt their abilities matched with the game design of *Imagindar*. This theme also aligns closely with one of Csikszentmihalyi's elements of flow (Csikszentmihalyi, Chapter 2).

Many participants indicated that the difficulty of *Imagindar* did not align with their gameplay skills, particularly when playing against bots. One participant said, "No, the difficulty level I played in was easy for my skills" indicating that the difficulty was too low which suggests it may lead to boredom factor rather than flow (Takatalo and Häkkinen, 2014). Another participant also mentioned, "Well, I chose 'easy' for the difficulty level in the practice match, but it turned out to be too easy for me," further highlighting the issue of insufficient challenge playing with bots. Meanwhile, other playtesters felt the difficulty was more appropriately matched to their abilities. For example, a participant commented, "Yes, it wasn't hard to control and good to play with," indicating a well-balanced experience and a couple of participants expressed that difficulty aligned with their skill levels. With the participant's experiences with difficulty mixed, this feedback highlights that difficulty settings needed to change to match varying skill levels, which is one of the key factors for balancing challenge and maintaining flow.

4.5 Time transformation

This theme aimed to explore whether participants experienced any time transformation during gameplay, a potential indication of immersion and one of the core elements of the concept of flow (Csikszentmihalyi, Chapter 2).

This particular theme showed much negative responses compared to other themes with only one participant expressing time loss during gameplay. Meanwhile, other participants stated no loss or partial loss during their playtest sessions. Participants with partial time losses stated, "A little bit in the tutorial" and another stated a technical issue that specific participant couldn't play too long. A couple of participants mentioned "Not really", also "No" indicating there was no sense of time loss at all for playtesters. The majority of participants did not experience any time transformation, with one playtester noting they were consciously tracking the time during play, saying, "I kept checking the timer." These results indicate that, for most players, *Imagindar* did not lead to a strong sense of time transformation during their play sessions. This suggests that in the game there might have been factors like game design or complex mechanics that keep the engagement broken such as the difficulty of playing with bots. Although it is not certain what the exact problem was, however, some participants having a limited time in playtesting could also considered to be a break in flow. Limited playtesting suggests that a lack of challenge may lead to boredom, causing players to leave early.

4.6 Player experience and satisfaction

With this section, the theme summarizes participants' overall impression and satisfaction with their gameplay experience playing in *Imagindar*. This section also includes whether the intentions of the game director match with the player's feedback. While previous themes discussed specific aspects like customization and control, this section reflects broader expressions of the game as a whole.

Some participants found the game enjoyable and met their expectations, one participant stating "It was better than I expected, it was wonderful," while another participant shared a similar comment, "Pretty satisfying.". Some of the participants had more mixed or neutral impressions with some saying "Mixed" and others mentioned "A bit unbalanced but in a funny way" and with more similar responses, suggesting a generally positive, if less enthusiastic, experience. The majority of participants responded positively about the fun factor of the game which also somewhat, if not completely, aligned with the intentions of the game director. The responses to the enjoyment factor ranged from "Absolutely" to "Kind of". Some participants had more nuanced feedback, with one participant stating, "It was fun for the first 20 minutes, but then it got a bit boring." Suggesting that while the game was initially engaging and achieved a fun factor at the beginning, it struggled to maintain long-term interest flow.

Participants also provided additional insights in the open-ended questions at the end of the survey. The highly experienced MOBA player stated that customization is more suited for experienced players rather than new players, the playtester also expressed some issues with game mechanics complexity such as unbalanced skills and choice of different level design compared to traditional MOBAs. This comment aligns with the director's intention of targeting experienced players. One other participant commented "The customization is too complex, I wish i had small mission to help me explore the different possibilities of customisation" suggesting the complexity of the freedom of choices that could be leading to confusion. With many participants having generally positive experiences, other participants pointed out frustrations with the complexity of customization and mechanics. This suggests that *Imagindar* offers a potential engagement, but may need adjustments and improvements to appeal to a broader audience.

5 Conclusion

5.1 Summary

The results of the study demonstrated that the freedom of the customizable skill selection feature contributed to increased engagement, particularly for more experienced players. Knowing that the *Imagindar* was on the demo stage, the participants had various positive, negative, and natural responses across the questionnaire which indicated some aspects of the game mechanics have room for improvement. The responses show the potential areas that might need revisits. For instance, the current design of the skill selection system shows that it might need a more detailed introduction to new players to give a proper introduction to make it more smoother process to understand. Suggesting that a newly introduced game mechanic could become a complicated task to learn if there is no previous reference that players are familiar with.

While the game director commented that previous MOBA experience is not mandatory, the results of the main study show that the participants who had the most experience with traditional MOBAs had more issues compared to other participants who had less. This could be because experienced players have ingrained expectations and habits from traditional MOBA mechanics, making it harder for them to adjust to the new customization system in *Imagindar*. In contrast, players with less MOBA experience may have approached the game with more flexibility and openness, allowing them to adapt more easily to the new mechanics. This suggests that players who have some level of familiarity with a genre of video games are highly important if new game mechanics are introduced.

Some of the director's intentions for *Imagindar* were positive outcomes, such as enjoyment and being creative. The game's customization system allowed players to have creative strategies, making them engaged with it. Fairness, in terms of balancing skills and control mechanics, were areas that some participants felt needed improvements.

In terms of Csikszentmihalyi's flow elements, there were several aspects that aligned with the player experience. Clarity of goals, control over actions, and creativity through customization were the themes received well by the majority of participants. On the other hand, difficulty and skill matching, time transformation, and several factors lacking in game design indicated a disruption of flow. The challenge seemed easy for most playtesters' gameplay skills and because of the lack of challenge in the game, it indicates that game might lead to boredom instead of flow (Takatalo and Häkkinen, 2014). The sense of time transformation was another aspect that was not alligned that might caused playtesters to not access the state of flow. The research suggests that the reason for the broken time transformation could be the participants' negative reportings in the main study, such as an easy challenge, an early design of the game, and technical issues that some participants had.

5.2 Discussion

One of the key findings was that many participants did not reach a full state of flow. This suggests that the balance between player skill and challenge, as well as the experience of time transformation, was not fully achieved. While *Imagindar* is still in its early stages, this highlights the need for a more dynamic difficulty system that can adapt to players' varying skill levels. Sweetser and Wyeth's (2005) *GameFlow* model also emphasizes the importance of balancing challenge and player skill, which was not successfully accomplished in this case. Results also showed that experienced MOBA players struggled more with the game compared to newer players. This finding suggests that players who are used to traditional MOBA mechanics may find the skill customization system unfamiliar or difficult to navigate (Schell 2008). For *Imagindar*, this might mean refining the tutorial or providing clearer guidance for first-time players of the customization system.

This study also brings other important aspects. Making *Imagindar* enjoyable for players with different skill levels shows respect for player diversity. A clear tutorial or any way of introduction, such as a gameplay trailer, could allow both new and experienced players to enjoy the game smoothly. Additionally, *Imagindar's* customization options can encourage creativity and thoughtful gameplay. However, too many choices might overwhelm players. By focusing on a design that accommodates various types of players, *Imagindar* has the potential to create a more engaging experience for a wider player audience.

One notable limitation of this study is that the playtest sessions were conducted offline with bots, rather than in an online multiplayer environment with real players. Since *Imagindar* is designed to be a multiplayer game, the absence of human opponents might have influenced the overall gameplay experience. Interactions with bots tend to lack the social dynamics that are inherent in online play, which may impact factors such as difficulty, challenge, and the player's sense of agency. Despite the offline nature of the playtest, valuable insights were still gained. Testing with bots allowed for a more controlled environment, making it easier to isolate and assess specific gameplay mechanics, such as the customization system. When participants were in the setting of the practice match after the tutorials, they had a full option to choose and change the type of bots that they would be playing against so the participants could focus more on the core mechanics. Playtesting offline also eliminated potential network or latency issues that are common in online play and this setting allowed participants to explore the game at their own pace, which is particularly beneficial for analyzing newly introduced features. While the offline tests were insightful for evaluating the core mechanics, further research in a multiplayer environment might be essential to fully capture the complexities of player experience in *Imagindar*.

5.3 Future Work

The next step for this freedom of customization game design as discussed, could be to experiment and analyze the playtest sessions in an online environment with real players. While the current study provided valuable data into how the core mechanics function, playing against human opponents might introduce new variables such as unpredictability, teamwork, and real-time strategy. In addition to understanding the difference between playing with bots and real players, online playtest results also might give ideas about analyzing how player behavior and decision-making have evolved.

While the game director's primary goal for *Imagindar* is to create an enjoyable and fun experience rather than a highly competitive one, it would give valuable data to explore how more competitive elements could influence player engagement and challenge. Introducing with a more serious mind, high-stakes gameplay scenarios may appeal to players who enjoy intense competition and strategic depth. Future work could investigate how elements from competitive MOBAs, such as ranked modes or higher difficulty levels, could enhance flow and appeal to a broader range of players while maintaining the fun, creative aspect of the game.

Another direction for future work could involve comparing *Imagindar*'s customizable skill system with more traditional, predefined character classes seen in other MOBA games. This comparison analysis might show how each system affects player engagement, creativity, challenge, and flow. Predefined classes typically offer a more structured, straightforward experience, where players master specific characters, while full customization provides greater freedom but may introduce complexity that could disrupt flow for some players. By conducting playtests with both systems, future research could determine whether one approach better supports player engagement, or if different player types prefer one system over the other. This idea of comparison research might be particularly useful in assessing how much freedom is optimal for maintaining flow without overwhelming players.

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Appendix A: Main study questions

The main study survey consisted of 12 open-ended questions: Questions 1-2 focused on demographics, 3-4 on cognitive aspects, 5-11 on elements of flow, and question 12 provided an optional space for additional feedback.

1. How often do you play video games? (e.g., daily, weekly, occasionally)
2. Are you familiar with MOBA and/or PvP games? (e.g., *League of Legends*, *Overwatch*)
3. How was your overall experience with *Imagindar*?
4. Did you find the game fun to play?
5. Did your gameplay skills match the game's difficulty?
6. Were the objectives and goals in the game clear and easy to understand?
7. Did customizing your skills keep you engaged during gameplay?
8. Did you feel focused through the gameplay?
9. Did you feel like you lost track of time during gameplay?
10. Did you feel you were in control of your actions in gameplay?
11. Did your actions help you achieve your goals/objectives in the game?
12. Is there anything else you would like to share?