



**DIGITAL CAPSULE COLLECTION DESIGN FOR A
VIDEO GAME TO CLOSE THE GAP BETWEEN
PHYSICAL AND DIGITAL FASHION**

ECE ŞAHİN

Master's Thesis

Graduate School

Izmir University of Economics

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ABSTRACT

DIGITAL CAPSULE COLLECTION DESIGN FOR A VIDEO GAME TO MAKING PHYSICAL AND DIGITAL FASHION CLOSER TOGETHER

Şahin, Ece

Master's Program in Design Studies

Advisor: Assoc. Prof. Dr. Arzu Vuruşkan

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Today's biggest change is digitalization in the fashion industry. After the launch of the metaverse, digital fashion became more popular among luxury brands. In addition to that, the gaming and fashion industry's paths crossed thanks to the fashion items. Although fashion garments in the game industry are not a new thing, due to the high fashion brands' attention, it has become more popular than ever. However, in-game cosmetics and real-life fashion garments are quite different in terms of material and style. Due to video game fashion's flexibility and accessibility, digital fashion easily can differentiate itself from the physical fashion. For the research method, a survey was conducted with the participation of 100 people. After collecting data from the participants, the data was reviewed and a sample game was chosen. In this thesis, in order to close the gap between digital and physical fashion, a capsule collection was designed for the game called "League of Legends". Moreover, three pairs of the design were prepared according to the chosen characters. Each pair has both digital and physical versions of it. So that, with the similarities of the designs, the gap can be closed between digital and physical fashion.

Keywords: Digital Fashion, Physical Fashion, Video Games, In-game Cosmetics

ÖZET

FİZİKSEL VE DİJİTAL MODAYI YAKINLAŞTIRMAK İÇİN BİR VIDEO OYUNUNA KAPSUL KOLEKSİYON TASARLANMASI

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Bugün moda endüstrisindeki en büyük değişimi dijitalleşme oluşturmaktadır. Özellikle metaverse kavramının oluşumu ile birlikte, dijital moda lüks markalar arasında daha popüler hale gelmiştir. Buna ek olarak, moda ve oyun endüstrisinin yolları moda öğeleri açısından kesişmektedir. Moda öğeleri, oyun endüstrisi için yeni bir içerik olmamakla birlikte, oyun içi kozmetikler, lüks markaların pazarlama stratejileri arasında yer alarak, oldukça popüler hale gelmektedir. Ancak oyun içi kozmetikler ve gerçek hayattaki moda öğeleri malzeme kullanımı ve tarz bakımından birbirlerinden ayrılmaktadır. Video oyunlarındaki modanın ulaşılabilirliği ve esnekliği sebebiyle dijital moda kendini kolaylıkla fiziksel modadan ayırıştırabilmektedir. Aradaki bu boşluğu doldurmak amacıyla, bu çalışmada “League of Legends” adlı bir oyuna kapsül koleksiyon tasarlanmıştır. Tasarım süreci öncesinde, araştırma yöntemi olarak kullanılan ankete 100 kişi katılmıştır. Katılımcılardan gelen veriler toplandıktan sonra sonuçlar değerlendirilmiş ve “League of Legends” oyunu örnek olarak seçilmiştir. Daha sonra seçilen karakterler için biri dijital diğeri fiziksel olmak üzere üç çift tasarım yapılmıştır. Bu tasarımlar doğrultusunda, dijital ve fiziksel moda arasındaki farka dikkat çekilmiştir.

Anahtar Kelimeler: Dijital Moda, Fiziksel Moda, Video Oyunu, Oyun-içi Kozmetik

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TERMINOLOGY

Capsule Collection: Capsule Collection was used for the first time in 1980 by Donna Karan. The main aim for capsule wardrobe is present the most crucial and influential looks of the collection. Moreover, it generally shows the vision of designer and capsule collection generally focus on key looks.

In-game Cosmetic: In-game cosmetic can be defined as an item that allows the player equipped, changed and modified things look in the game.

Multiplayer Online Battle Arena: MOBA games are referred to as action real-time strategy. Moreover, the very first MOBA games were user-created mods (modifications) of real-time strategy games.

Procreate: Procreate is a raster graphics editor app that allow the users to digital painting. In this thesis during the design part Procreate was used.

Skin: A skin is a cosmetic change to a character that has no effect on gameplay. Many games use skins as a way to entice players to spend money, or as a reward for completing difficult tasks.

CHAPTER 1: INTRODUCTION

1.1. Fashion Industry

The fashion industry is a global sector that focuses on creating, producing and selling garments. Fashion can be defined as the style of clothing and accessories worn by people at any given time. The industry has various subcategories and there are many differences among them. For instance, the runways of Paris are different from mass-produced styles that can be bought in shopping malls. However, all of these subcategories include key features such as design, manufacturing, marketing, advertising, and so on (Major and Steele, 2022).

Statistics about the fashion industry show that the apparel and textile sector is the fourth biggest sector in the world. More than its mere size, the sector hosts a lot of job opportunities for the people. The value of the labor force of the sector corresponds to 2% of the world's total GDP (Gross Domestic Product). In the industry, fashion designers are the highest-paid workers and they fulfill creative needs (Vilaça, 2022). 2020 and 2021 has not been spectacular years for the fashion industry. The industry faced a 20% revenue loss over that period. However, while the fashion industry has been having a hard time due to the global pandemic, it is still one of the top-performing sectors throughout the world (Amed et al., 2022).

Fashion industry is not only one of the most significant sectors of revenue, but it also creates a lot of job opportunities and therefore a crucial sector for the world.

In late 2019, the world started to be challenged by the Covid-19 pandemic. Due to that, a lot of places started to shut down and the lives of the people changed. Because of these unexpected changes, fashion brands' and customers' behavior started to shift. In addition to that, digitalization became more important and with the help of enhanced technology, 3D visualization became more useful in commercial space. Even fashion education was affected by the increasing digitalization process. For fashion design education interaction between students and tutors is crucial for the learning process. However, with the help of computer aided design (CAD) programs and other digital tools, education could remain effective. Therefore, a lot of universities around the globe, implement CAD programs into their curriculum. Moreover, the introduction of CAD to the curriculum leads digital fashion to expand and grow more (Lee, 2021).

1.2. Definition and Purpose of the Study

With recent changes, it is seen that the fashion industry transforms into a digital medium through different digital platforms. For instance, fashion easily finds a place for itself in the metaverse. However, when we talk about mediums, there is a difference between digital and physical fashion. Video games are one of the most appropriate platforms for bringing digital and physical fashion together; there are lots of video games that present fashionable items. Even though these games' main goal is different than fashion, fashion's role cannot be underestimated.

This research aims to highlight the gap between digital and physical fashion, and by designing a capsule collection for a video game, it is aimed to close this gap. Although some brands have collaborated with enormous video game companies, the biggest differences will be the usage of digital garments in the real world. By considering fashion as a whole and instead of adding simple prints on the garment, we could create a feeling of integration to the digital world for the gamers.

1.3. Methodology

Closing the gap between the physical and digital fashion includes challenges that require a deep understanding of players' behaviors, habits, and ideas. Moreover, the limitations of digital fashion and physical fashion are different than each other, thus grasping those crucial elements and unique characteristics is needed to bring these two worlds together.

To create a baseline for the research, a literature review was done. Important topics such as digital fashion's role and its future were examined throughout this stage. After that, three video games were chosen as case studies to analyze. Analysis was done according to their respective genre and the usage of fashion design in the game.

While they are different from each other in terms of fashion usage and genre, they help us to draw meaningful conclusions.

Fashion design is only meaningful when there is an audience for it. Therefore, understanding the audience (in our case players) is one of the most important steps for this research project. In order to understand players' behaviors and habits, the survey was designed. The data was collected through online channels to reach more diversity among the participants. Moreover, there were some conditions to participate in this research to ensure the accuracy of the data. In order to be eligible to answer the survey, the participants must play video games and at least hear about the skins before this research. Since, without the basic knowledge of knowing the existence of the skins in

video games, the survey could become ineffective. Lastly, the survey is created on Google Forms and distributed with the link through personal networks.

Since this research is about digitalization, most of the survey was conducted online. Moreover, the location was not limited to a single location due to the universal nature and general norms of the video games. After collecting the data from the users, insights were drawn out from the data and combined with the information that was gathered through the literature review. Final insights were used to design a capsule collection proposal.

CHAPTER 2: DIGITAL FASHION

2.1. Definition of Digital Fashion

The fashion industry contains different sub-categories and those categories are shaped by economic and cultural conditions. However, the most definitive distinction in the industry is the difference between the physical and digital fashion. Since physical fashion is a conventional fashion practice that is around for centuries, its definition remains the same as fashion in general. On the contrary, digital fashion is a fairly new practice that emerged after the creation of computers and digital media. Digital fashion can be defined as the visual representation of garments and accessories that are created with computer technologies and various software. Digital fashion can be used as a tool in the different segments of physical fashion such as design, marketing, and communication. In addition to that, it can be used as a primary and only medium of fashion in some areas such as in video games and cultural heritage preservation (Salamone, 2019). Moreover, the digitalization of fashion creates many opportunities for designers and customers. For instance, with the help of big data, designers have a unique tool to analyze customer behaviors and use them in their creations, and analyze the market in a better way (Zhao, Liu and Zhao, 2021). In another definition, digital fashion is almost a new term that is related to technological innovations. As seen in Figure 1, digital fashion has also found its place in the metaverse. Moreover, digital fashion allows the creation of much more interesting and fantastic garments for designers and significant brands (Dissrup, 2021).



Figure 1. Digital Fashion in Metaverse (Source: Dissrup, 2021)

2.2. Varieties of Digital Fashion

Digital fashion is used in different fields of the fashion industry such as design, production, organization, marketing, distribution, sales, communication, gamification, education, and research.

2.2.1. Design, Production, and Organization

Fashion designers need to use many different digital ways. Digital textile printing is one of the digital ways. Digital textile printing has huge importance due to the usage of less water and energy. Digital textile printing reduces 95% of the water and 75% of the energy. The advantages of this technology are not limited only to environmental protection and budget issues. Personalization, in-time manufacturing, and the speed of production are other advantages of digital textile printing (Fashion Marketer, 2014). According to Binkley (2012), the biggest innovation of the 21st century is digital textile printing. Moreover, some brands use this technology in their designs, such as Prada, Pucci, or Jil Sander. Moreover, it is not that expensive and it is easy to create (Binkley, 2012). Additionally, computed aided drawing systems facilitate the design process while systems such as product data management and product lifecycle management make production and organization processes easier (Sayem, 2022).

2.2.2. Marketing, Distribution, and Sales

In the fashion industry, Augmented Reality (AR) has a significant role. Fashion includes many digital channels for marketing and digital selling. Unfortunately, the fashion industry has to deal with the pollution and waste of fabric. Digital fashion supports sustainable solutions. The fashion industry is already in company with digital media. Moreover, it allows the use of digital tools by consumers (Noris, et al., 2020). Due to the emerging technology and widespread usage of kiosks, mobile phones, and tablets, shoppers can easily see how they look in various outfits and makeup. Even in a few seconds, users can see how the specific outfits will look on. Rather than trying clothes physically, now users can try every outfit that the store has on their virtual bodies. The algorithm detects the body and creates contours to make every piece of clothing as realistic as possible (Retail Customer Experience, 2011). This technology allows customers to experience the product before the purchasing decision. Moreover, digital fashion marketing has a huge influence on the customer's behaviors (Stephen, 2016).

The virtual fitting room is another digital way to fashion marketing strategies. Due to the virtual fitting room, customers can easily try any garment virtually. On the

contrary, the system that customers are used to, the augmented reality (AR) and artificial intelligence (AI) technology replaces the old habits. For instance, customers can easily decide the style, garments size, and fit of the garments before purchasing (Dopson, 2021).

Eyemagnet which is a New Zealand-based multimedia communication company created a virtual dressing room for menswear. A single panel became a substitute for a changing room. The customers can use basic arm and body movements when trying. After those users can take a photo of the outfit and send it to their mobile phone (Trend Hunter, 2018).

One of the successful sportswear brands Nike is taking a part in AR technology and it allows customers to try shoes. In 2019, they created Nike Fit and this is a function that they bring together Nike's mobile app and retail stores. Then, users can decide their exact shoe size. Moreover, this function is a way of helping customers when choosing the correct size of the shoes (Nike, 2019).

2.2.3. Communication and Experience Co-creation

Fashion is paying lots of attention to social life. For instance, people debate what is hype or whether the garment is stylish or not in social life. Above all, social media provides ordinary people a power to co-create the fashion world, improving the tastes, morals, and matters related to fashion (Thompson and Haytko, 1997).

2.2.4. Gamification

Even though the risks it possesses, using gamification in educational scenarios contains unique benefits. It increases engagement rates and makes it fun to deal with (Mora, et al., 2017). For the fashion industry, gaming is playing a crucial role in developing digital parts of fashion. In 2019, brands started with the beginning of the Covid-19 pandemic, brands started to evaluate the power of digitalization. Instead of gaming, Artificial Intelligence (AI), Augmented Reality (AR) and Virtual Reality (VR) have been proofed of the power of the fashion world and communication already. Contrary to popular belief, gaming is not a new way to fashion communication. In 2012, 505 Games, Funcom, and IMG Worldwide partnered with DKNY leading off Fashion Week live like a fashion gaming as a first step. After that, one of the biggest companies, Facebook, forced many users who play a game on Facebook to generate a career in the digital fashion world since they encouraged the player's development and rise. Moreover, Aldo, Nike, and Norma Kamali take responsibility to open the fashion gaming front. Gaming has always been an attractive activity to relax or experience

something interesting. It has changed the fashion system in a better way, for instance, gaming is a useful way to run away from our daily life. So that, with the help of gaming, players can create a persona in a more powerful and better way. Furthermore, luxury brands, especially those having a high level of passion for gaming, are challenging the norms of modern fashion followers (Highsnobiety, 2022).

For instance, Animal Crossing New Horizons, which was one of the most popular games during the Covid-19 pandemic has transformed into an exit point for fashion lovers. Players have an opportunity to dress up their avatars from luxury fashion brands such as Prada, Gucci, Chanel, and Thierry Mugler. Moreover, brands like Marc Jacobs and Valentino designed looks virtually. Marc Jacobs has a six-strong collection that is designed for the game. Moreover, Animal Crossing New Horizons transformed into a platform for the players to show their own costume designs (Bramley, 2020).

In 2019, The Sims™ announced that they have a new collaboration with the brand, Moschino. Famous creative director Jeremy Scott led the fashion house. The designs were impressive and attractive. Moreover, Moschino's closeness to pop culture gave the designer inspiration to create a new collection. As a result of this, Moschino stores started to sell garments that created a capsule collection consisting of real garments (Electronic Arts, 2019).

2.2.5. Digital Fashion Education and Research

Fashion education is changing and developing day by day. For instance, digital fashion education is gaining importance. Moreover, many Bachelor's and Master's programs in fashion incorporated digital fashion courses (Digital Fashion, no date).

Due to the Covid-19 pandemic, lots of universities had to close campuses. As a result of this, lots of departments were affected and one of the most affected departments was Fashion. Due to that, many students are faced with adverse situations, especially design-related students. For instance, a lot of fashion students need sewing machines and related equipment, however, they lost the opportunity to access them. They lost their chance to access exhibitions or they did not present their completed projects.

Even though this situation creates dark weather, universities worked on it and developed alternative options. For instance, the University of Art London, developed a site called Portfolio or I-D magazine and Arts thread to establish a partnership for a competition about the global graduate show.

To keep up with changing global industry, a university in London provided an opportunity to its students. For the project, students designed and developed clothing

for the 3D digital world. Moreover, fashion design students and game design students had been collaborating on the project. The expectation from the fashion students was to create an outfit while game design students had to create an environment for the show. Thus, at the end of the project, students had a chance to present their projects via Twitch (Roberts-Islam, 2020).

Using video games in education, in general, becomes more and more popular throughout the years. However, using video games in education possesses a couple of challenges. For instance, a lot of games' themes revolve around violence. Even if the theme is suitable, the information should be simplified in order to enhance the experience. Besides all of these problems, video games can be used as an educational tool due to their unique characteristics. First of all, video games are highly user-centered, and they can create more involvement from the player. Moreover, they promote better cooperation, increased engagement, and enhanced problem-solving skills. Thanks to their unique benefits, they are helpful tools to use in education, however, designers should try to eliminate their adverse sides (Gros, 2007).

2.3. Fashion in Metaverse

2.3.1. Metaverse Definition

The metaverse is an artificial world that is formed by bringing the physical and virtual worlds. Metaverse was proposed in 1992 for the first time in a novel "Snow Crash". The first description is that metaverse is an environment that creates a digital world. In this world, users have their avatars and the physical world has been connected with the virtual world (Lee et al., 2022). After evaluation and developments, the founder of Facebook and CEO, Mark Zuckerberg declared that Facebook's name transformed to Meta in 2021. Moreover, in this speech, he mentioned the future of the platform Metaverse. Even though metaverse is not a new term, after explanations by Mark Zuckerberg, Metaverse gains crucial importance in terms of the digital world in social platforms and other virtual environments (López Díez, 2021).

2.3.2. Fashion's Role in Metaverse

The fashion industry has been influenced by the metaverse. Some of the significant luxury brands would like to be part of this new space. Moreover, Silicon Valley has been excited to inoculate the fashion industry with the metaverse. For instance, when Mark Zuckerberg announced the Meta, spectators saw Mark Zuckerberg's avatar and he was changing the avatar's clothes from the digital wardrobe (Tashjian, 2021). In

addition to that, even the cosmetic industry will be affected by the metaverse, and customer behaviors will shift in that area (Lee and Kwon, 2022).

Even though nobody can explain the term metaverse exactly, according to the CEO of the consultancy Futures Intelligence Group, Cathy Hackl, the metaverse is the future of the internet. She describes the evolution of the internet like Web 1.0, Web 2.0, and Web 3.0. Web 1.0 brought us information. Web 2.0 allows us to connect with other people and Web 2.0 affects the economy. For instance, the sharing economy model became the most usable business model. Spotify and Facebook can be examples of this economic model. Web 3.0 allows us to connect locations and things in addition to connecting people. With Web 3.0, virtual reality gains much more importance. Moreover, due to Silicon Valley's approach, the fashion industry had to deal with the internet to stay in. Thus, the luxury industry had to adapt to the internet slowly. The fashion industry finds a place for itself in the metaverse via the video games industry. According to Matthew Ball, fashion is not the first thing in Silicon Valley, however, with the developing platforms in terms of socializing, 3D objects, fashion, and communication gain importance. Therefore, some important luxury brands are interested in the metaverse. For instance, at the beginning of 2021, Balenciaga collaborated with Fortnite's company Epic Games. In Figure 2 some of the samples of collaborations are given. This collaboration is about the 2021 fall fashion show. Moreover, Balenciaga's attitude accepted an innovation from the Metaverse experts and other brands which have been in similar segments (Tashjian, 2021).



Figure 2. Collaboration of Balenciaga and Fortnite (Source: Cole, 2021)

More than that, digital fashion can be a solution for sustainability. Due to the metadata, you do not have to process anything physically. In Metaverse, people are excited to

edit their avatars in terms of clothing. Moreover, avatars and consumers directly connect with each other (Tashjian, 2021).

Moreover, one of our plans is to choose our clothes from the digital wardrobes. Lots of people believe that 3D rendered clothes are not only for the zoom calls, but they also are for games, social platforms, and the metaverse. Digital clothes and avatars are not a new term. However, digital clothing developed from the Dollz in the 2000s to Animal Crossing. Therefore, digital fashion or skins have gained attention in digital video games. Moreover, replacing the physical is one of the developing significant processes. For instance, DressX created 3D clothes and these clothes can be impossible to create in the real world. However, 3D clothes provide us with unlimited choices. Another significant thing is pricing. For instance, Gucci is one of the most expensive luxury brands around the world. However, they sell digital-only sneakers for around \$12 (Palumbo, 2021). As seen in Figure 3, a digital fashion example is given.

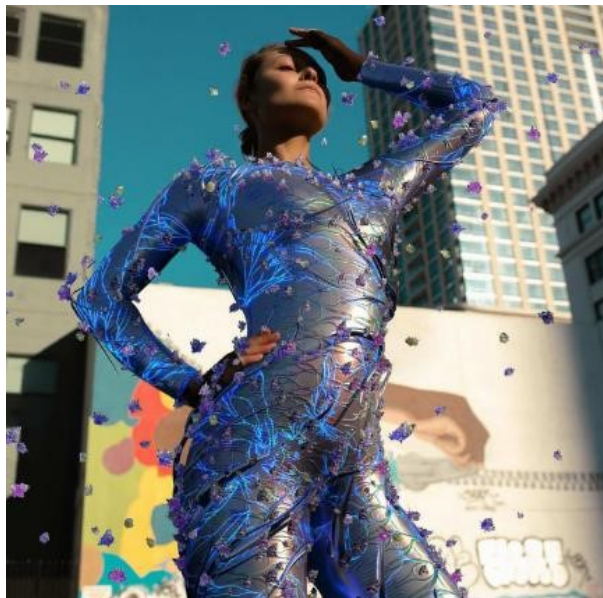


Figure 3. Digital Fashion Design (Source: Palumbo, 2021)

With the metaverse, digital game firms, 3d artists, and designers started to understand opportunities of digital clothing. Therefore, some of the fashion brands are looking for a space for them to be in. For instance, Balenciaga, Gucci, and Louis Vuitton did collaborations for digital platforms. For example, Balenciaga did a collaboration with Streamline. In Figure 4 and 5 looks of the collaboration are given. They created a video game for the fashion show called Afterworld. Gucci did collaborate with Roblox. They did this collaboration to sell their garments in digital versions. Louis Vuitton created a

mobile game and the game has a customizable avatar, collectible accessories, and so on (Dissrup, 2021). In Figure 6, some of the high brand examples are given.



Figure 4. High Fashion in Metaverse (Source: Dissrup, 2021)



Figure 5. Luxury Brands in Metaverse (Source: Dissrup, 2021)



Figure 6. Brands in Digital Environment (Source: Lal, 2021)

Throughout the years, the fashion industry showcases held physically. However, due to the increase in technology and connectivity, runways started to become entirely virtual. For instance, Decentraland, which is a metaverse platform, announced that it

hosted catwalk shows, pop-up stores, and after-parties in March 2022. Consumers were able to see runway presentations, communicate with other viewers, and buy digital garments for their online avatars. While for some of the customers it is a totally new idea, in practice it is more common. For example, Gucci launched a Garden Experience in Roblox which is a gaming platform. The experience gathers 50 million daily users. Moreover, the practice of collaborating with a metaverse platform or video game is pretty common. Furthermore, creating a runway in a digital space possesses unique advantages for the brands (Figure 7). First of all, the cost of the runway is lower than its physical counterpart due to a lack of materials, and minimal labor costs. Thanks to these advantages, brands started to experiment more and more in a digital space. Lastly, digital clothes' cost only considers the initial production, they do not have transportation, material, or packaging costs. Therefore, they are less toxic to the environment too (The Fashion Law, 2022).



Figure 7. Virtual Fashion Show (Source: Quieta, 2020)

CHAPTER 3: FASHION IN THE GAME INDUSTRY

3.1. Relationship Between Fashion and Digital Games

3.1.1. Digital Games

The digital game industry is getting bigger and bigger day by day. The game which is playable by using electronic devices such as computers, mobile phones, and video game consoles is called digital games in general. Digital games occur in two parts mainly single-player and multiplayer games (IGI Global, no date). Moreover, digital games have an environment in which players have to get feedback from the environment and act according to rules that are given to them to play. All games have to have an aim, motivation, feedback, rules, and story even if some of the games do not show them directly (Poole and Clarke-Midura, 2020).

Games have lots of types and they are categorized according to their characteristics and fundamental aims. These game types or genres can be found intertwined. Therefore, subgenres can be lots of game types. Moreover, developers publish their games under the suitable title according to game types. These types can be action games, adventure games, action-adventure games, role-playing games, simulation games, strategy games, sports games, puzzle games, and idle games (Steffano, 2018).

3.1.1.1. Action Games

Action games are mainly related to players' reflexes. In this type, the game has lots of challenges. These challenges are mostly related to reactions in time, speed, and skills. This type of game occurs in exploration, puzzle, and tactical conflict (Figure 8). Moreover, subgenres of action games create lots of varieties such as platform games, first-person shooters, fighting games, and beat 'em ups (Academic, 2010).

During the last ten years, digital games are getting more popular in the game industry. Competitive games are the most popular ones in action games. In this type of game, players play against each other. Moreover, they can play by themselves or in groups. Nowadays, electronic sports (eSports) have become more and more popular. Due to the popularization, competitive games can bring money to the players. In 2016, it was estimated US\$492.7 million, with a forecast of US\$1.5 billion for 2020 (Lipovaya et al., 2018).



Figure 8. God of War Screenshot (Source: Vincent, 2019)

3.1.1.2. Adventure Games

Adventure games are frequently listed according to gameplay. It generally does not have a specific story. Due to the developing technology and the usage of the internet, adventure games begin to tell a story by exploring the map. In this genre, players should communicate the game's environment. Moreover, with the help of the non-playable characters (NPC) and puzzles, the story is generated by the community (Steffano, 2018).

There are a few features of adventure games. First, players' actions advance the game with the narrative approach. It is affected by other narrative elements such as novels or books. The Player mainly plays with only one character which is the main character. The game is mostly based on puzzle-solving and interaction of other NPCs to discover the game environment (Figure 9). The most crucial elements of adventure games are the game rules, game environment, character design, theme, song, art style, items, text, animation, and user interface (Dillon, 2006).



Figure 9.. Vogue, The Explorer Screenshot (Source: Kumar, 2020)

3.1.1.3. Action-adventure Games

Action-adventure games mainly come up with two main mechanics. Players need to do long-term quests and collect items that players need to achieve the quests. The best example of this type can be The Legend of Zelda. In this game, Link has lots of quests and needs to collect items from different dungeons. While Link tries to solve the puzzles, he also explores the environment. After collecting all collectible items from accessible dungeons, the final part became suitable to play to rescue princess Zelda (Steffano, 2018).

Action-adventure games mainly use procedural maps. Procedural means, with the help of the algorithm, game parts change every time when the game begins again. This coding system allows us to experiment with different levels of difficulty in terms of strategy and paths of the level (Dormans, 2010).

In Figure 10, one of the most popular game's screenshot is given as an example of the environment.



Figure 10. Horizon Zero Dawn Screenshot (Source: Techlife, 2019)

3.1.1.4. Role-playing Games

Role-playing games are another most popular game type. These types of games occur in fantasy and medieval narrative (Figure 11). Moreover, there are two main categories for the role-playing game such as Western-influenced (WRPGs) and Japanese-influenced (JPRGs). These categories are separated from each other according to their culture (Steffano, 2018).

Role-playing games' roots come from Dungeons and Dragons in 1970. From that moment, the role-playing games developed with the different media and players' numbers. Dungeons and Dragons and Neverwinter Nights have a few similarities and

differences in terms of the role-playing ruleset. Even though both games have similar basic rules and mechanics, the most different feature is the graphical interface for the digital form. Neverwinter Nights is mostly similar to other games that have been in the same genre in terms of the outcome of the game and rules. In any non-digital role-playing game players feel freer. Due to managing the game by the game master and setting the rules. The differences cannot be explained by digital games or not. For instance, there are two non-digital games which are Pen and Paper and Live-action role-play. In general, these two games look similar due to the game rules, like a group of players sitting around a table and there is a master gamer. Moreover, acting is a key element in both games. Players can use both speech and body language according to the topic and rules. Even though we cannot say that these games are the same role-playing game due to the freeform, tabletop, systemless, and perverse (Hitchens and Drachen, 2008).



Figure 11. Remain On Earth Screenshot (Source: EnyGames, no date)

3.1.1.5. Simulation Games

Simulation games are known for imitating real-life or fictional stories. In this genre, players can put themselves into the main character and deal with quests according to the game theme. For instance, The Sims is one of the most successful simulation games. In the game, players simulate real-life things like cooking, managing the work, clothing, and reading. Moreover, SimCity is another popular game (Figure 12). This time the player needs to manage a city. Such as street planning, buildings, and gardening (Steffano, 2018).



Figure 12. SimCity™ Screenshot (Source: Electronic Arts, 2013)

3.1.1.6. Strategy Games

Strategy games basically come from generating strategy. In strategy video games, taking a step carefully is one of the key points (Dor, n.d.).

In other descriptions, strategy games are mostly related to player decision-making skills. In this genre, luck-based elements are not common. Therefore, players can feel fairer while playing. Players need to decide their actions precisely. Thus, players have to generate certain actions, behaviors, and outcomes (Mercury, no date). In Figure 13, a map of the strategy games genres is given as an example.



Figure 13. Civilization VI Screenshot (Source: Bedingfield, 2021)

3.1.1.7. Sports Games

The sports games market is a distinguishable game genre in other genres in terms of market size. This genre simulates real sports such as tennis, football, basketball, and American football. Sports games are getting attention with the development of digitalization. This genre mainly works on a more realistic view of the sport. Sports

game designers aim is to bring together players who are fans of different sports and games. Thus, sports fans can increase the sales of sports games. For instance, some of the sports games are incredibly popular and have a huge amount of market size. FIFA is one of the most popular games of this genre (Figure 14). FIFA, NBA 2k, and, Madden series are other examples of sports games (Duetzmann, 2022). EA Sports have been dominating the sports games market. In their games, players can experience the real sport. For instance, their games involve real player names, looks, behavior and basis (Hosch, n.d.).



Figure 14. FIFA 22 Screenshot (Source: Fifplay, no date)

3.1.1.8. Puzzle Games

Puzzle games are simply defined as problem-solving. In this genre, players should solve the features of the game such as pattern, strategy, and puzzle-solving (Academic, no date). Puzzle games differentiate themselves from the other genres in terms of rules. For instance, puzzle games have to occur truthfully all of the time. Almost every genre uses a problem-solving mechanic as a second or third layer. However, in the puzzle game, it has to be the core point of the game (Mora-Cantalops, 2018). In Figure 15, Baba Is You is given as an Indie puzzle video game.



Figure 15. Baba Is You Screenshot (Source: Sheppard, 2019)

3.1.1.9. Idle Games

Idle games are the most different genre in video games in terms of playstyle. In this genre, players just click some of the playable objects and collect in-game money or upgrade the items for an endless period (Figure 16). These games generally do not need any attention while playing. Due to the lack of interaction among players, this genre is also known as a zero-player game (ZPG) (Purkiss and Khalid, 2015).



Figure 16. Realm Grinder Screenshot (Source: Desatoff, 2022)

3.1.2. Fashion in Digital Games

The fashion industry and the game industry have the world's two largest market sizes. Combining these two industries provides us with a new sector. For instance, digital games clothes gain more importance than ever nowadays. Moreover, due to the increasing simulation and casual games, the population of women gamers has become %46 around the world. More interestingly, the biggest industry is gaming with \$180 billion in revenue. In addition to that, most active gamers have been GenZ and

Millennials in the world. These data are significant due to the understanding of why people spend money on cosmetic items. Moreover, we can talk about how the digital and physical world comes all together with digital video games. The people who are playing video games want to be cool and own fashionable items in both the real and digital world. Digital games have one of the most crowded communities by themselves. Therefore, gamers would like to look more attractive than other players. With the increasing population of the sector, some luxury brands start to work on cosmetic items (McDonald, 2021).

Some of the significant fashion brands started to give attention and collaborate with the game industry (Figure 17). For instance, in Dead by Daylight which is a survival horror game, players have to survive and escape from the killer. Designers noticed that, even if the game is about to survive, players want to be cool while playing digital games. In-game cosmetics such as clothes, hair, and makeup choices allow you to change your character's look. These customization options have a significant role in digital video games like Grand Theft Auto, Dead by Daylight, and Fortnite. For instance, in Dead by Daylight, cosmetic items are a core component of the game. Due to the customization of every single survivor, fashion gained importance in the game (Allaire, 2021).

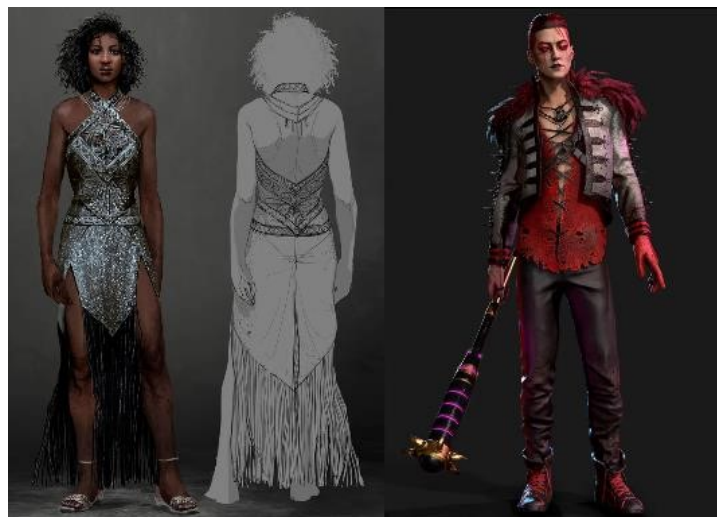


Figure 17. Fashion in Digital Games (Source: Allaire, 2021)

Balenciaga can be another example of that. For instance, in 2021 they collaborated with one of the most popular games Fortnite (Figure 18). This business model is interesting for gamers because gamers of Fortnite can purchase cosmetic items which are Balenciaga items. Moreover, people can find Fortnite-branded items like shirts, hoodies, caps, and tees in the Balenciaga stores (McDonald, 2021).



Figure 18. Balenciaga in Fortnite (Source: McDonald, 2021)

The fashion industry and game industry are not connected only to cosmetic items. These two different sectors also come together for the advertisement part. For instance, GTA San Andreas by Rockstar games is one of the most successful examples of it. Let's play video games that are significant for the audience in terms of advertisements (Steinerte, 2022).

To be more specific, fashion advertising in video games is a quite new term. Digital games, youtube, and Twitch can be successful platforms for fashion advertising. For instance, Twitch is one of the most popular ones nowadays. On this platform, the publisher plays a game in front of the audience using a webcam. The publisher also can communicate with the audience by using chat. This platform allows the publisher to influence lots of things about the game, fashion, and lifestyle. Due to the population of the audience, publishers can affect them about the product. This could be by telling them how good that product is for them or by using it while streaming (Gillette and Soper, 2022). Let's Play videos are significant due to the impressive audience. When we talk about advertising, the placement of the garment also plays a huge role. Because, how many times and which perspective is used while showing a product is quite important to affect the audience (Martí-Parreño, Bermejo-Berros and Aldás-Manzano, 2017).

When we talk about fashion in digital games it is not only about adventure games, FPS games, or simulation games. There are also games based on fashion such as Drest. This game is about styling in a luxurious way. In this game, players' aim is basically to stylize the model with all items like hair, accessories, clothes, and shoes (Drest, 2022). The importance of Drest is hosting real brands garments to stylize (Astle, 2022). Moreover, real models' avatars are usable during the styling. In addition to that, all

looks have been players' profiles and other players can vote for them. Therefore, players attract attention if their style gives them high points (Mjasnikova, 2022). Due to the digital games, 3d fashion is gaining attention related to cosmetic items. Therefore, digital fashion is starting to show itself as an opportunity for fashion designers. Digital fashion artists find for themselves a new perspective on fashion design (Fashion United, 2021). When we turn back digital fashion definition, it is a new way to create fashion items using computers and 3d software (Särmäkari, 2021). This technology allows both user and creator more freedom. It allows the creator to design with a more open mind due to limitless options. For instance, designers can decide to use hard plastic as a fabric instead of silk (Figure 19). Due to the options, there are more unique and personal designs. For the user part, it is quite exciting because using 3d clothes for their 3d avatars gives them freedom too. For instance, in our world, a man cannot wear a silk dress during the day as casual clothes. However, in the digital world, that man can wear whatever he wants without any judgment. Moreover, in digital games, players can wear more fashionable items during the game. Some of the brands that notice the importance of digital clothing started to work on it and then create a new market in a digital world. For instance, Gucci in Animal Crossing, and Louis Vuitton in League of Legends are adapting the fastest way in this market.



Figure 19. Digital Clothing (Source: Jaber, 2021)

3.1.2.1. Buying Choices of Gamers in the Digital World

In the 21st century, buying in-game items and content with real-world money became more and more common among gamers. While some of these purchases contain functional digital items such as tools and playable content, some of them are focused on aesthetic choices that do not bring any functional benefits to the players. According to the research, buying aesthetic items is influenced mostly by emotional and symbolic perceived values rather than gaming experience and enjoyment (Martínez, n.d.).

3.1.3. Importance of the Characters in the Game

A character is one of the most important aspects of a video game. It can be used for different purposes. These purposes are: creating a sense of progression, creating deeper engagement, creating a bond, associating a game with real life, and many more. Due to many reasons, character design is one of the most crucial aspects of the game and should be designed thoughtfully (Nanou, 2022).

3.1.3.1. Relationship Between Character Design and Fashion

Individuals' fashion choices are affected by their beliefs, religion, politics, and culture. Thus, clothing and accessories are used as a tool to convey this information to the players. More than that, the relation of a character's fashion choices with the environment and time period helps to convey a message (Clip Studio, no date).

3.1.3.2. Performance of Gamers in Terms of Fashion

Nowadays, more and more games started to experiment with different revenue streams due to the increase in free-to-play games. While some of them implement questionable solutions, most of the games focus on in-game cosmetics. A popular multiplayer FPS game called Valorant has a unique approach to the subject. According to the designers, they consider players' motivations when designing new skins, and they consider their work as a fashion design rather than designing guns. Moreover, while the skins do not affect the guns' performance or stats, they affect the players' psychology. Due to that, some players stated that their performance increased when they used certain skins. Even though the performance benefits are superficial and purely psychological, these positive emotions help players to enjoy the game more and more while creating revenue for the developers (Francis, 2021).

Characters' appearance plays a huge role especially in multiplayer games due to the social environment. Therefore, when players choose their clothing, accessories, or even weapons they consider the aesthetics even though there are no in-game rewards for being fashionable (Figure 20). Moreover, cosmetics are used as an indication of a

player's performance. For instance, if a player gets a certain cosmetic from a quest, it is used as an indication of success and the wearer can show his/her competency to other players. Finally, while in-game fashion is mostly associated with female players, research shows that male players consider fashion as well (Tosca and Klasturp, 2009).



Figure 20. In-game Skins (Source: Tosca and Klasturp, 2009)

3.2. Video Games as Case Studies

3.2.1. Team Fortress 2

Team Fortress 2 is a multiplayer team-based video game that was developed and released by Valve in 2007 (Figure 21). The game is a character-based first-person shooter that features nine distinct classes. Team Fortress 2 as known as TF2, contains various game modes with unique mechanics. The game started its life as a paid game and became free to play in later years (Team Fortress, 2022). Two of the characters (Spy and Scout) can be seen in Figure 21.



Figure 21. Team Fortress 2 Screenshot (Source: Team Fortress, no date)

3.2.1.1. In-game Fashion

When Team Fortress 2 became a free-to-play game, the game started to get regular updates. In addition to that, new mechanics and cosmetics were introduced to the game. Due to these changes, players started to customize their favorite classes according to their preferences. Team Fortress 2 has 1671 cosmetic items that can be gathered through various resources. Players can get these items by opening crates, in-game drops, crafting, buying through the in-game market, trading with other players, and buying through the community market. Since the game became free-to-play, cosmetic items became an only source of income for the developer (Official Team Fortress Wiki, 2022). Some of the items can be seen in Figures 22 and 23.



Figure 22. Team Fortress 2 Heavy (Source: Official Team Fortress Wiki, 2022)



Figure 23. Team Fortress 2 Scout (Source: Official Team Fortress Wiki, 2022)

While some of the items featured in the game are quite whacky, there are also more elegant ones in the game. The designs in general consider the character's background and personality (Team Fortress, 2013).

In TF2, cosmetic items' value is set by the community. Rather than implementing a fixed price for each item, Valve introduced a not-controlled economical model for the game. Like in real life, each item's value is defined by supply and demand. Due to that, the cosmetics are a part of the statue symbol at the same time. While some cosmetics can be bought for as little as 10 cents, some of them cost more than a couple of thousand USD (Destructoid, 2012).

3.2.1.2. Source of Design

In Team Fortress 2, cosmetics are designed by the community and uploaded to the Steam Workshop. There, the community can vote on the items and create comments. After, these items are selected by Valve and added to the game with the new updates. For the designers, Valve provides an extensive guide and methods to create designs. In general, a good understanding of 3D modeling and game lore is needed to succeed. Finally, designers can earn money while doing that (Team Fortress, no date).

3.2.2. League of Legends

League of Legends is a team-based multiplayer game that was developed and published by Riot Games in 2009 (Figure 24). The game has over 140 unique characters which are called champions. These champions are divided into categories which are: assassins, fighters, mages, marksmen, supports, and tanks. Moreover, each character's difficulty is different from the other. The main purpose of the match is to destroy the other team's base first (League of Legends, no date).

While the game was released in 2009, it is still played by millions of people and it is one of the biggest esports (Crecente, 2019).



Figure 24. League of Legends Screenshot (Source: Shoujo, 2019)

3.2.2.1. In-game Fashion

While League of Legends offers vastly different champions for different play styles, they also consider the aesthetic preferences of the community. Due to that, the game consists of 897 different outfits (as known as skins) for its champions (Figures 25 and 26). These skins do not provide any additional gameplay elements or buffs. However, they affect the player's psychology and add a unique customizable look to characters (League of Legends Wiki, no date). The skins can be purchased through the in-game store and players cannot resell them. However, each account has a right to a refund three times (League of Legends, no date).



Figure 25. League of Legends Costume 1 (Source: Vejvad, 2021)



Figure 26. League of Legends Costume 2 (Source: Tuting, 2020)

While players can choose different skins for champions, the game does not allow them to match and combine various elements from different skin packs. Due to that, players cannot customize them. Due to the preset nature, the customization aspect of the skins

is a bit lacking. Moreover, the skin prices are vastly different from each other. Therefore, price becomes a deciding factor among the players. Finally, Riot occasionally collaborates with worldwide brands and musicians in order to create unique skin sets. In Figure 27 one of the examples of collaboration is given.



Figure 27. Collaboration of League of Legends and LV (Source: Park, 2019)

3.2.2.2. Source of Design

Riot Games has an in-house design team that focuses on skin designs. However, they also work with freelancers to create skins (Figure 28). Thanks to the various player preferences and expectations, the game offers a skin for different tastes. Thus, every skin set targets a different player group and aims to differentiate from others (Stavropoulos, 2019).

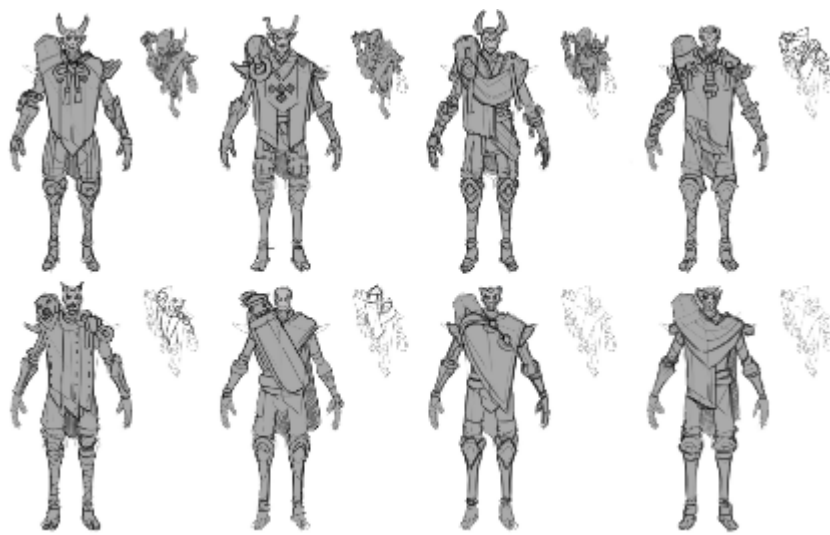


Figure 28. Evolution of Skins (Source: Comoglio, 2016)

3.2.3. *Animal Crossing New Horizons*

Animal Crossing is a real-time open-world game franchise that was created and released by Nintendo (Figure 29). New Horizons is the latest installment of the franchise and was released in 2020 (Animal Crossing, no date).

The game is not violent and focuses on exploration and socializing. In Animal Crossing players can pay off their mortgage, work in the garden, catch fish, catch bugs, and more. Moreover, players can take various tasks from the villagers and interact with other players (Animal Crossing, no date).



Figure 29. Animal Crossing New Horizons Screenshot (Source: Çıtak, 2021)

There are over 400 villagers in the game. Each of them is individualized and has unique behaviors. In addition to that, players should choose which ones of them are more beneficial since only 10 of them can be located on the island at the same time (Reich, 2020). Moreover, the seasons and the time of the game match with the player's location. Due to that, the game is affected by the real world. For instance, certain bugs or fish can only be caught during certain seasons and time periods. Players can see this information online and by talking with other players (Gray, 2021).

3.2.3.1. *In-game Fashion*

Animal Crossing New Horizons has clothing items that players can wear. These items can be bought from in-game characters or crafted by players via an in-game item called Nook Phone (Figure 30). Items are divided into categories which are: tops, bottoms, dresses, hats, accessories, socks, shoes, bags, umbrellas, and wetsuits. Players can design their clothing and share the creation's ID number with other players (Animal Crossing Wiki, no date).

Moreover, they can host fashion shows and runways with friends (Figure 31). In these shows, the decoration opportunities are endless and the only limit is the player's creativity. In the game, fashion shows are not only organized by the community. Even big brands such as H&M use these fashion shows to show their new collections (Feitelberg, 2021).



Figure 30. Nook Phone Interface (Source: Kim, 2020)



Figure 31. Animal Crossing New Horizons Fashion Show (Source: Feitelberg, 2021)

3.2.3.2. Source of Design

In Animal Crossing New Horizons, players can purchase items from the in-game NPCs. These items are designed by the developers and create a baseline for the in-game fashion. However, the community has an opportunity to design and create their unique creations too. Thanks to that, players play an active role during the process. In

addition to that, seasons affect the clothing too. Finally, the ID numbers of the creations can be found online and there are dedicated websites for sharing these creations (Hood, 2020). As seen in Figure 32, Animal Crossing Design ID and design are given.



Figure 32. Animal Crossing Design ID (Source: Spear, 2020)

CHAPTER 4: RESULTS & ANALYSIS

4.1. Survey Design

Survey was designed to understand player's behaviors and habits toward fashion in terms of both physical and digital mediums. The survey starts with a message to ensure participants' privacy and explain how the data is used throughout the process. Then participants are asked to answer basic demographic questions such as age and gender. After the demographics part, the survey continues with the video games section. This section aims to collect information about participants' choices of video games. The survey continues with the in-game cosmetics section which asks questions about participants' habits and preferences. Then, participants are asked to answer questions about their physical fashion preferences. Lastly, the survey asks participants questions about the relationship between digital and physical fashion. The aim of this section is to understand the preference differences between different mediums. With the help of understanding demographics, video game preferences, in-game cosmetic preferences, physical fashion choices, and the relationship between different mediums, a collection can be created with accurate information, which is the main aim of the thesis.

4.2. Survey Results & Analysis

As seen in Figure 33, 50% of the participants are male, and 43% of the responders are female. According to that, the survey is balanced among the genders.

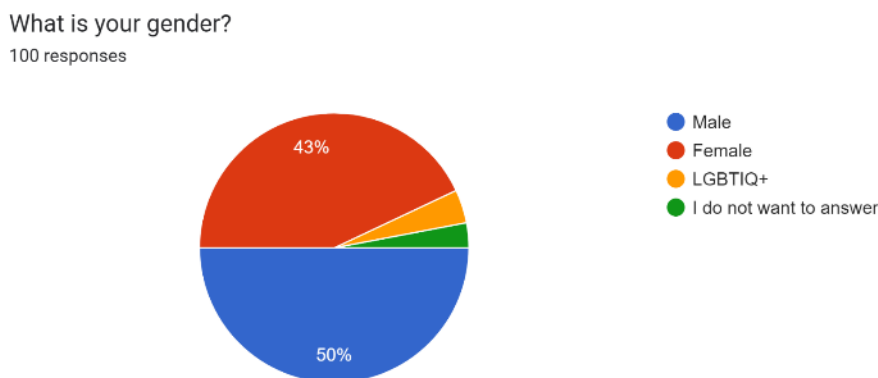


Figure 33. Participant Gender Distribution

Figure 34 illustrates that; 20-29 years old age group is the dominant age group of the survey. They account for 46% of the participants. Under 20 is the second most common age group.

How old are you?
100 responses

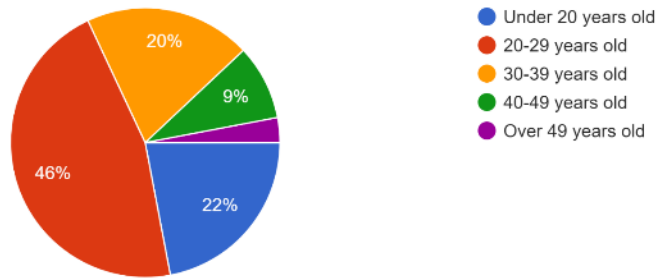


Figure 34. Participant Age Distribution

Figure 35 shows that 91% of the participants play video games more than once a week.

How often do you play video games?
100 responses

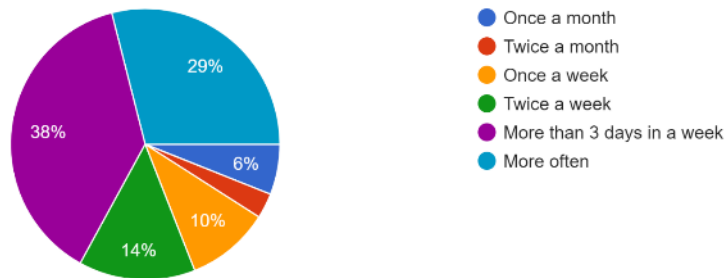


Figure 35. Video Game Playing Frequency

As seen in Figure 36, The first-person shooter genre is the most preferred genre among the participants with a 40% selection rate.

Which genres do you prefer the most?
100 responses

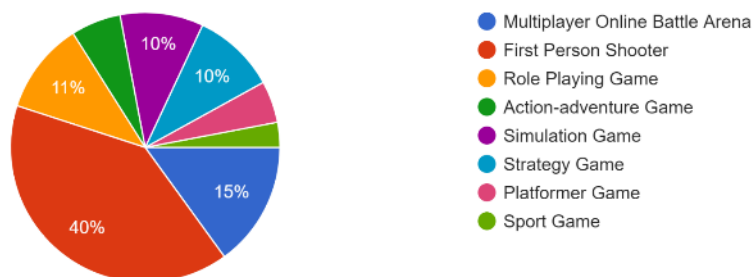


Figure 36. Genre Preferences

Figure 37 shows that most of the participants play video games on their computers/laptops. This indicates that in-game cosmetics can contain more details thanks to the screen size. However, the mobile platform is the second choice of the

participants, and if the game is launched on both platforms, it is believed that a balance between the details is crucial to success.

Which platforms do you prefer?

100 responses

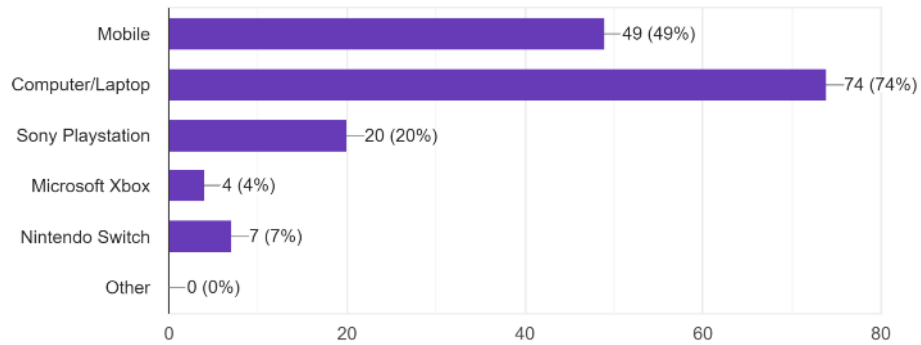


Figure 37. Video Game Platform Preferences

Gameplay is the most important aspect of video games for 36% of the participants. The second most important aspect is the graphics of the game. (Figure 38)

Which is the most important aspect for a video game's success for you?

100 responses

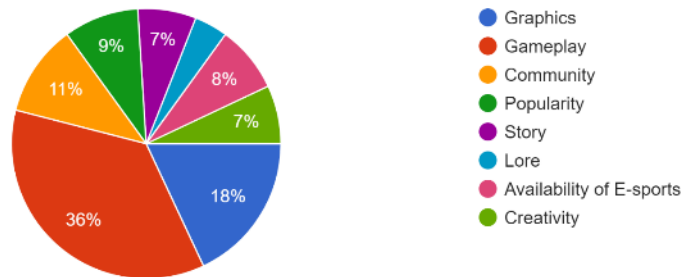


Figure 38. Video Game Success Indicators

Figure 39 shows that 83% of the participants buy in-game cosmetics. Thus, it could be stated that in-game cosmetics are important for players.

Do you buy in-game cosmetic items?

100 responses

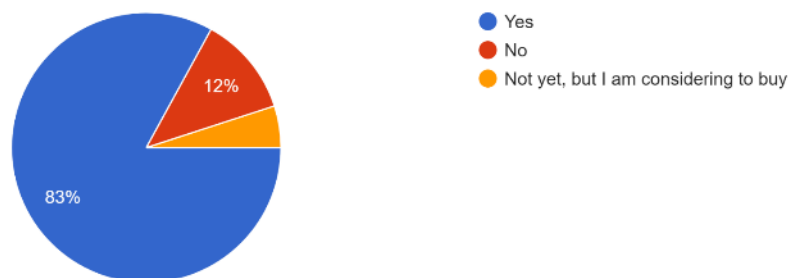


Figure 39. In-game Cosmetic Items

As seen in Figure 40, the majority of the participants spend 10-30 USD a month on in-game cosmetics. The 30-50 USD spending group is the second most common group in the survey.

How much money do you spend on in-game cosmetics in a month?

91 responses

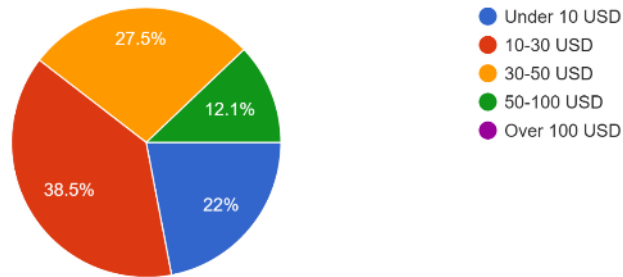


Figure 40. In-game Cosmetics Purchasing Behaviors

Figure 41 illustrates that; the majority of the participants think that in-game cosmetics affect their gaming performance.

Do you think that, in-game cosmetics affect your gaming performance?

91 responses

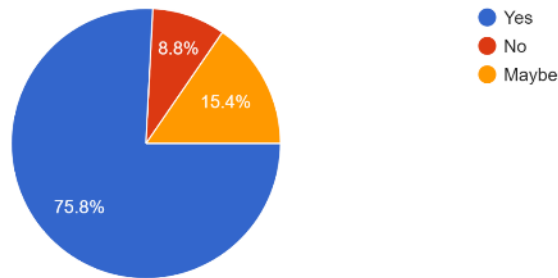


Figure 41. The Relation Between Cosmetics and Performance

As seen in Figure 42, while blue and orange are the most preferred skin colors, red and gray are the least preferred ones.

When you are choosing an in-game cosmetic, which color do you prefer?

88 responses

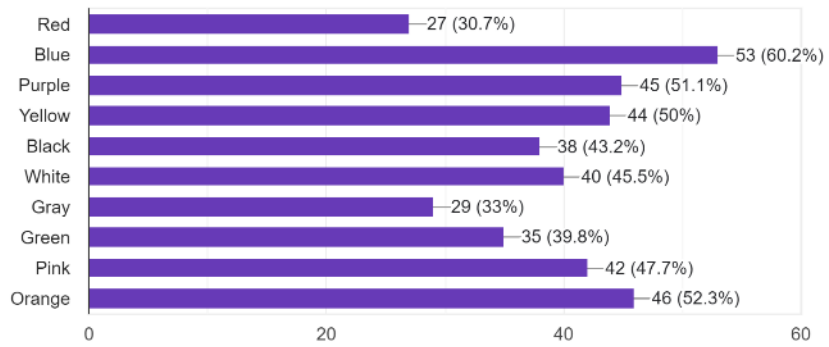


Figure 42. In-game Cosmetics Color Preferences

Figure 43 shows that 51,1% of the participants choose to buy fantastic themed in-cosmetics.

What is the style of the in-game cosmetics that you recently bought?

90 responses

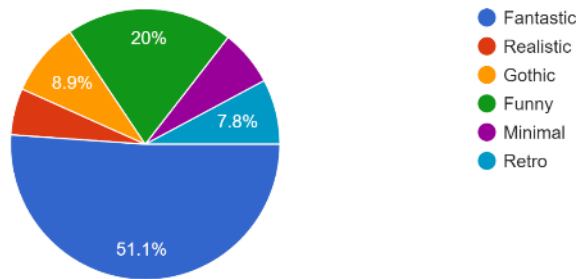


Figure 43. In-game Cosmetics Style Preferences

Most of the participants do not consider designing in-game items if they are allowed. (Figure 44)

If the game you play, allow players to design cosmetic items, would you consider it?

91 responses

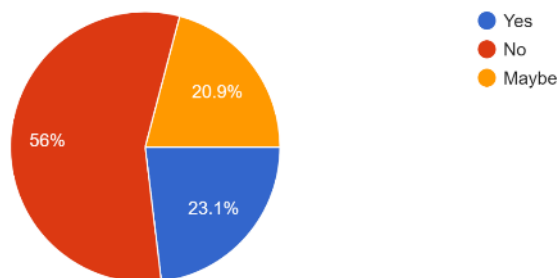


Figure 44. Community Design Allowance

Figure 45 illustrates that, 10-50 USD range and 50-200 USD range are the most common physical fashion spending ranges among the participants.

How much money do you spend on fashion items in a month?
99 responses

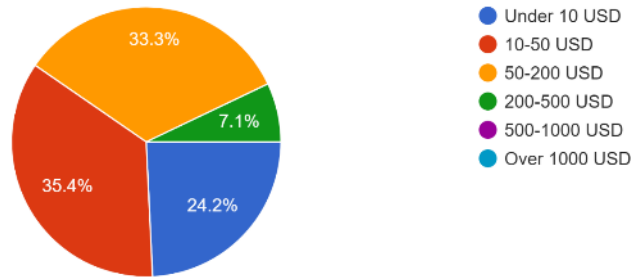


Figure 45. Fashion Item Purchasing Behaviors

As seen in Figure 46, religion is the least effective factor to influence participants' style. Every other factor is significantly higher than religion.

Which influences your style?
100 responses

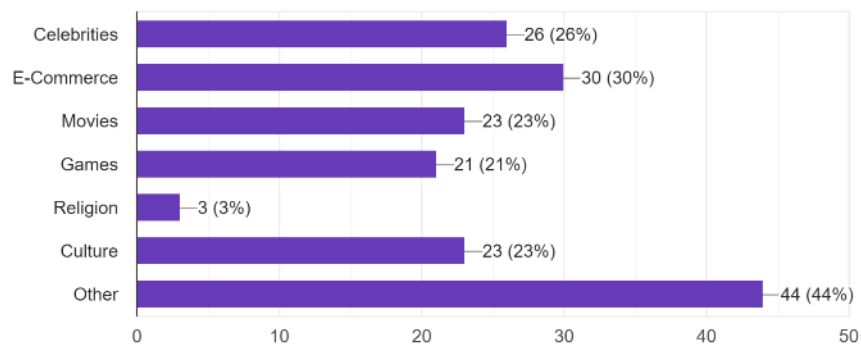


Figure 46. Style Influencers

The casual style is the most preferred style among the responders. The casual style's percentage is more than the other styles combined. (Figure 47)

Which keyword best represents your style?
100 responses

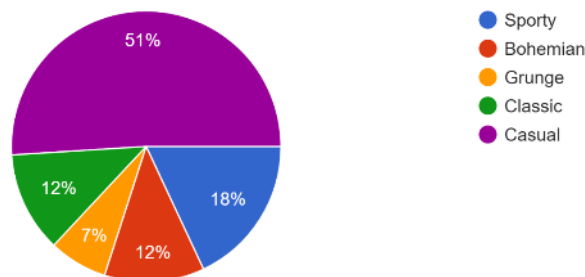


Figure 47. Fashion Style Types

As seen in Figure 47, 51% of the responders define their fashion style as casual. Thus, t-shirts and jeans are the most possessed fashion items among the responders. (Figure 48)

Please select the garments that your wardrobe have mostly.

100 responses

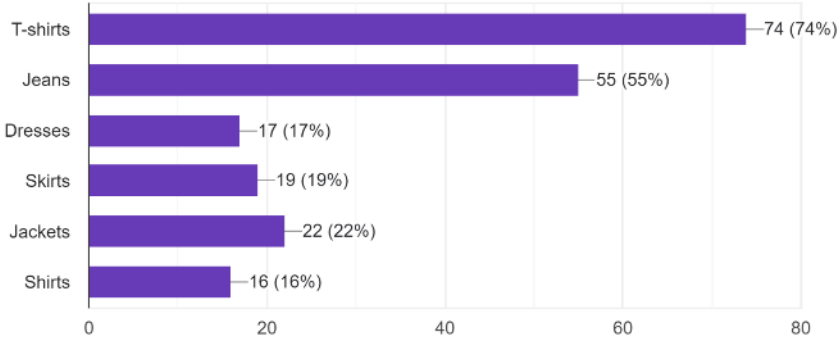


Figure 48. Fashion Garment Preferences

Figure 49 shows that, black and white are the most preferred colors among the participants for fashion garments.

When you are choosing a garment to wear in your daily life, which color do you prefer?

99 responses

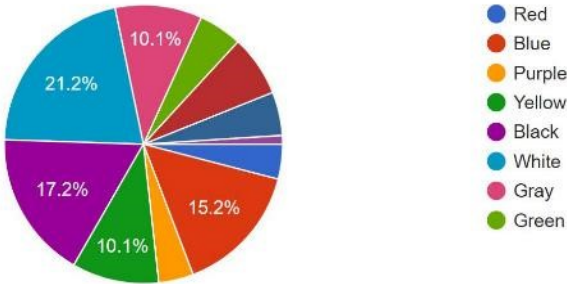


Figure 49. Fashion Color Preferences

Figure 50 illustrated that 39.6% of the participants stated that their choices in physical and digital mediums are similar.

How can you describe a relation between your fashion choices in physical and digital world?
91 responses

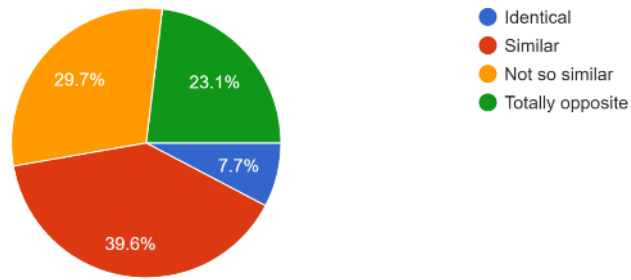


Figure 50. Differences Between Physical and Digital World

40.7% of the participants would like to import their physical clothing into the game they play. (Figure 51)

If you had a chance to import all of your physical clothing and accessories that you possess to the game you play, would you consider it?
91 responses

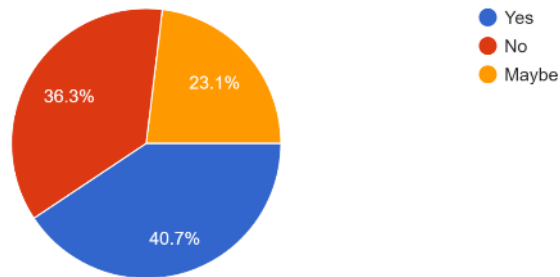


Figure 51. Exporting Garments from Physical to Digital

As seen in Figure 52, the vast majority of the participants would like to use their in-game items in real life.

If you had a chance to wear a clothing or accessory that you possess digitally in the game you play in real life, would you consider to use that items?
91 responses

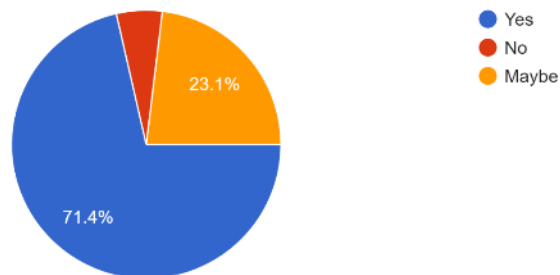


Figure 52. Exporting Garments from Digital to Physical

Figure 53 illustrates that most of the participants would like to represent their real-world selves in the video game that they are playing.

Do you want your in-game character to represent your real-world self?
91 responses

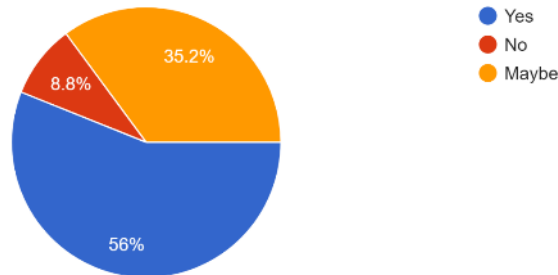


Figure 53. Real World Self Representation

As seen in Figure 54, there is no consensus among the participants. However, 41.8% of them stated that they do not prefer to buy video game merchandise items.

Do you prefer to buy video game merchandise items such as t-shirts and mugs?
91 responses

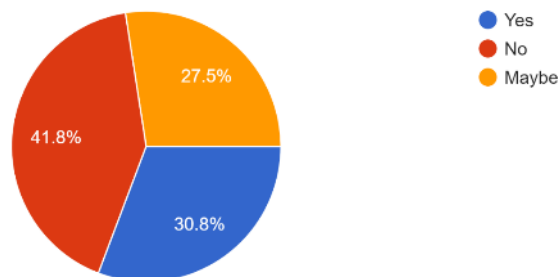


Figure 54. Merchandise Buying Choices

According to the survey, 65,6% of the participants stated that they are more likely to play multiplayer games rather than single-player ones. Since in-game cosmetics become more important in a social environment, this finding is supporting the importance of in-game cosmetic items. In addition, there is no consensus about why the responders choose to buy skins. However, as stated previously, perceived performance is one of the factors. Moreover, according to the responders, the economy is the biggest factor to differentiate physical fashion and digital fashion. Furthermore, utility is the second most important aspect to differentiate the mediums.

According to the survey, overall results suggest that participants' preferences are not so different between different mediums. The only thing that differentiates is the color

and style. While they defined themselves as casuals, in the games they tend to prefer the fantastic style. Thus, the combination of both can be investigated in both mediums. Results of the survey convey that people's preferences are not so different between these two mediums. The only thing that differentiates is the color and style. For example, while they defined themselves as casuals, in the games they tend to prefer the fantastic style.

CHAPTER 5: DESIGNING CAPSULE COLLECTION

5.1. Design Project Definition & Explanation

The design project in this thesis aims to produce both digital and physical clothes. Since each concept for the designs is done both in the digital and physical mediums, the name of the project is selected as ‘Duality’.

While participants prefer blue, purple, pink and orange for in-game cosmetics, they prefer black and white. This information is used in capsule collection design. For example, according to the survey analysis, “League of Legends” is one of the most popular online multiplayer battle arena games around the world. Moreover, characters are chosen according to the popularity of the gamers. Chosen ones are Ashe, Leona, and Lux. Before designing a collection for them, a mood board was made for inspiration. As seen in Figure 55, mood board occur with the chosen characters and living environment of them.

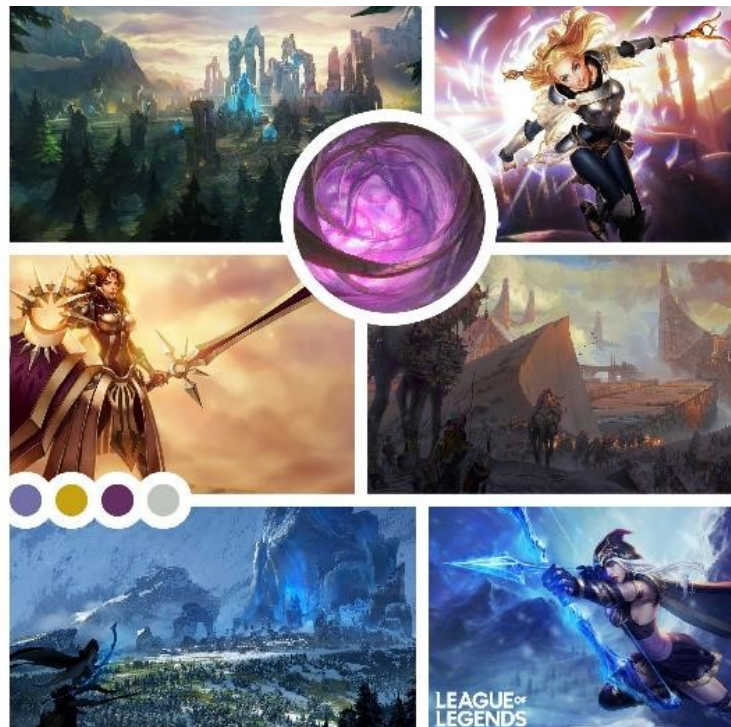


Figure 55. Moodboard

Capsule collection that was designed for the thesis aims to target young, powerful and confident women who are between 18-35 years old. The collection was designed with daily usage in mind. Therefore, the style of it is casual to make it suitable for the target group. The garments can be used to go to cafes, universities and shopping malls. Target group’s lifestyle can be defined as an active lifestyle which can be defined as an

outgoing and productive lifestyle. It consists, social activities, daily exercises and aims to have a healthy body and mind. In order to understand the target group, lifestyle board can be seen in Figure 56.

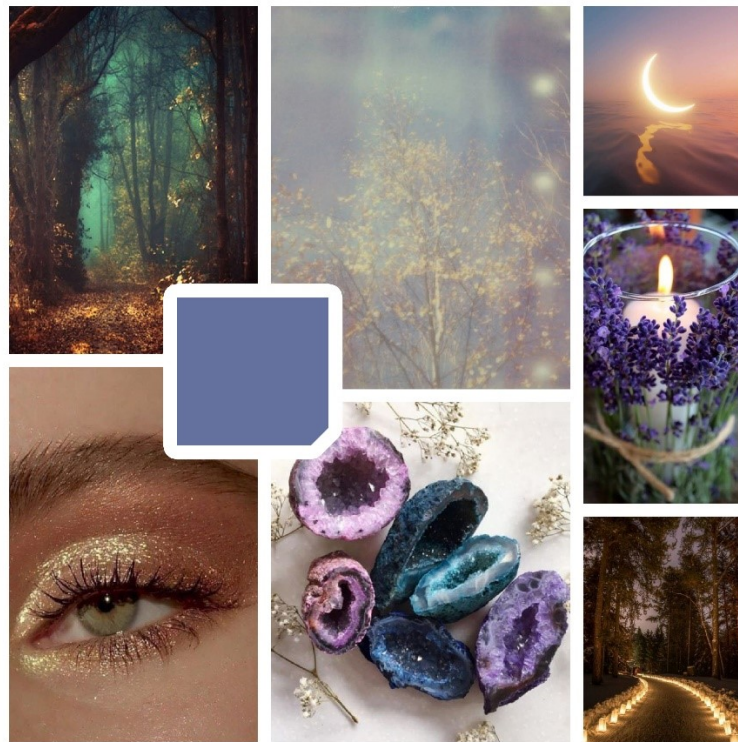


Figure 56. Lifestyle Board

5.2. Capsule Collection

The collection consists of three digital and three physical outfits. The outfits are representing the survey participants' choices with the in-game characters' personalities.

5.2.1. Design 1: Ashe

The first designed character costume of the collection is for the Ashe. In the game, Ashe is intelligent, strong, powerful, and pain resistant. Moreover, she is living in the north. She is the leader of the Avarosan tribe. Her main feature is known as an archer (Riot Games, 2022). In the light of the survey results, a new digital look was prepared for Ashe, under consideration of her own identity (Figure 56). In the game Ashe is an archer, considering this, the ribbon is added to represent her identity. Asymmetric dress is designed to enhance the look with more dynamic lines. The accessories come from the special ice-like material that can be found in the Avarosa. Contrasting colors are used to support Ashe's leadership and powerful woman figure. Banana silk and artificial leather fabric is used thanks to its stretchy nature. Sustainably produced plant

based artificial leather is used for boots and ribbon sections. Moreover, the leadership of Ashe represented the use of gold details. As seen in Figure 57, technical drawings show the front and back details of the first digital design in the collection.



Figure 57. Design 1 for Digital Version of Ashe

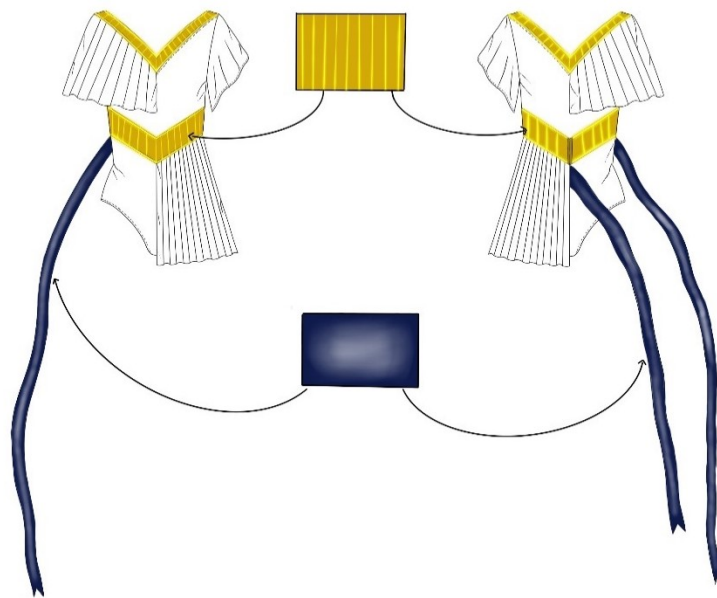


Figure 58. Technical Drawing for Design 1 Front & Back Ashe (Digital)

As a follow up, as a physical version of the first design, in order to be more relaxed and suitable for daily life, a comfy bodysuit and elegant blouse were designed in the monochromatic color combination (Figure 58). Moreover, ribbon detail is used for the physical version of the clothing to ensure its similarities with the digital version, which also reflect the general mood of the character. Asymmetry is used in the bodysuit to enhance similarities with the digital version. The colors are changed to suit the daily lifestyle more. In addition, waist details are kept the same as in the digital version except for the colors. Spandex, viscose, bamboo silk fabric is used for the creation of the bodysuit. Figure 59 includes the technical drawings with the details of the look.



Figure 59. Design 1 for Physical Version of Ashe

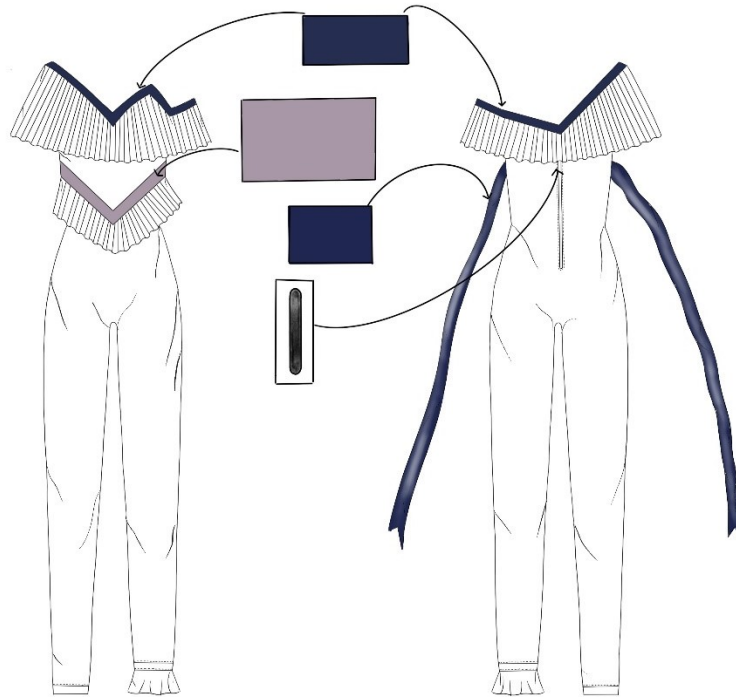


Figure 60. Technical Drawing for Design 1 Front & Back Ashe (Physical)

5.2.2. Design 2: Leona

The second character costume that was designed for the collection is for Leona. In the game, Leona represents the fire of the sun. Her equipment is armor and a sword. Her main aim is to defend Mount Targon (Riot Games, 2022). Considering the survey results, a new digital look was prepared for Leona, under consideration of her own identity (Figure 60). She was known as the fire of the sun, and her look was designed accordingly. The usage of purple pattern creates a striking contrast with Leona's personality and beliefs. While she represents the Sun, she is not afraid of darkness and the night. The leopard pattern represents Leona's strong personality. Her shoes' design inspiration comes from the light of the Sun. In addition, the color of the combination comes from both survey results and her character. Accessories' color is coming from the sun itself and the lower part represents a sunset view after a hot day. Spandex and satin silk are used throughout the look. Transparent silk details are used on the chest and waist area. Moreover, chain straps are used for creating the harmonious look. Design details are illustrated in Figure 61. As it can be seen in the figure, the designed look consists of only one piece similar to a jumpsuit.

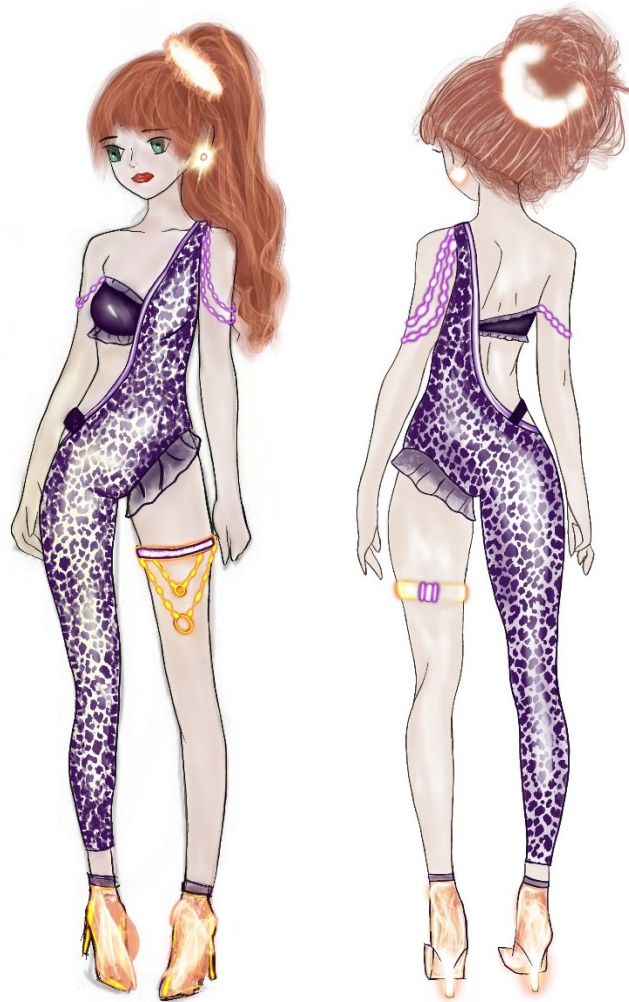


Figure 61. Design 2 for Digital Version of Leona

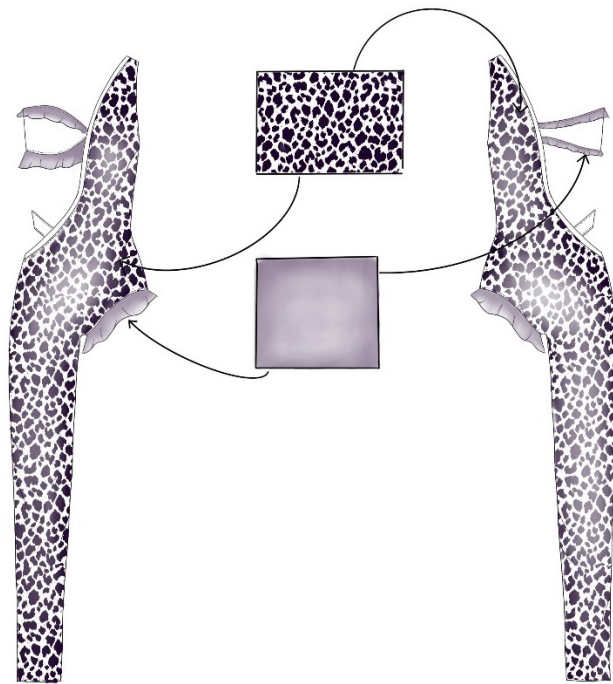


Figure 62. Technical Drawing for Design 2 Front & Back Leona (Digital)

As a physical version of this design, in order to be more relaxed and suitable for daily life, stylish top and elegant pants were designed (Figure 62). For the top, a purple glitter coated halter neck tee is used to ensure style and fit. The top has transparent purple satin silk detail on it. Moreover, to create a connection with in-game costume, arm details which are leopard printed fabric were applied. For the bottom piece, a leopard printed fabric is used. The pants have glitter strap detail on them. Due to the leopard print, it looks elegant and can be used for special occasions. Lastly, it has the same transparent satin silk detail as the top. In this way, these two pieces connect to each other with the same language. This look shows that the sun doesn't need its color to show its power. As it can be seen in Figure 63, the design consists of two pieces as the top and the pants.



Figure 63. Design 2 for Physical Version of Leona

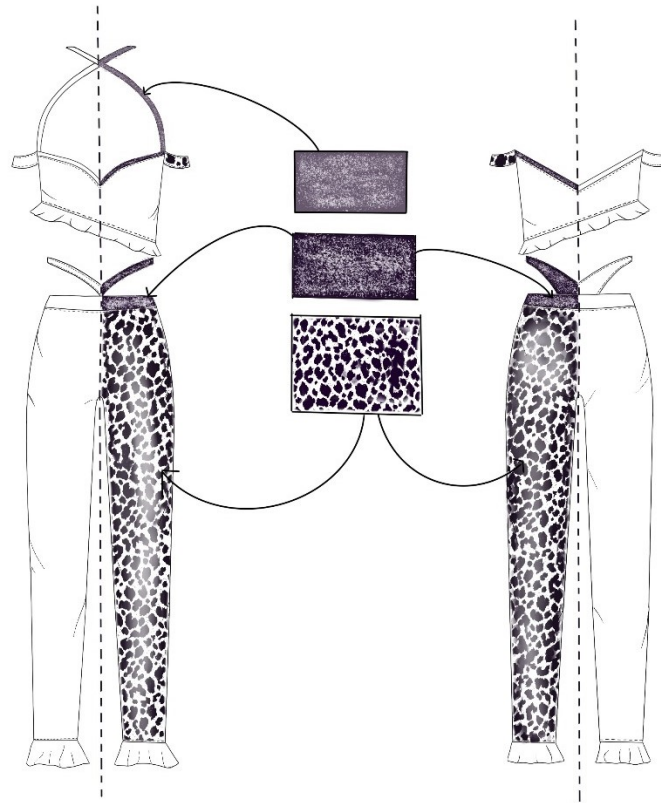


Figure 64. Technical Drawing for Design 2 Front & Back Leona (Physical)

5.2.3. Design 3: Lux

The third look that was designed for the collection is for Lux. In the game, Lux has magical power and she is known for blinding the lights. Her character is optimistic and this provides her to assimilate her power more deeply (Riot Games, 2022). Two pieces were combined and designed. For the look, a two-color dress was designed. It has both dark purple and lilac colors. The fabric is a satin. The dress can be described as one shoulder dress. Moreover, the dress looks like two different combinations. One part of it was formed like a pleated dress and the other part is formed like a flowy dress. This represents Lux's identity as a powerful, serious, and angelic. In addition to that, a flower embroidered gold belt was used as an accessory. Moreover, a cloak was designed to strengthen the overall look. The cloak was made with two colors which are fuchsia and powder pink. It was made with viscose and lyocell. Inside of the cloak has flower details to increase the mystic aura of the general look. Moreover, the edges of the cloak have furry details to increase the feminine look (Figure 64). Furthermore, all of the accessories come from the light itself. Technical aspects of the garments can be seen in Figure 65 and 66.



Figure 65. Design 3 for Digital Version of Lux

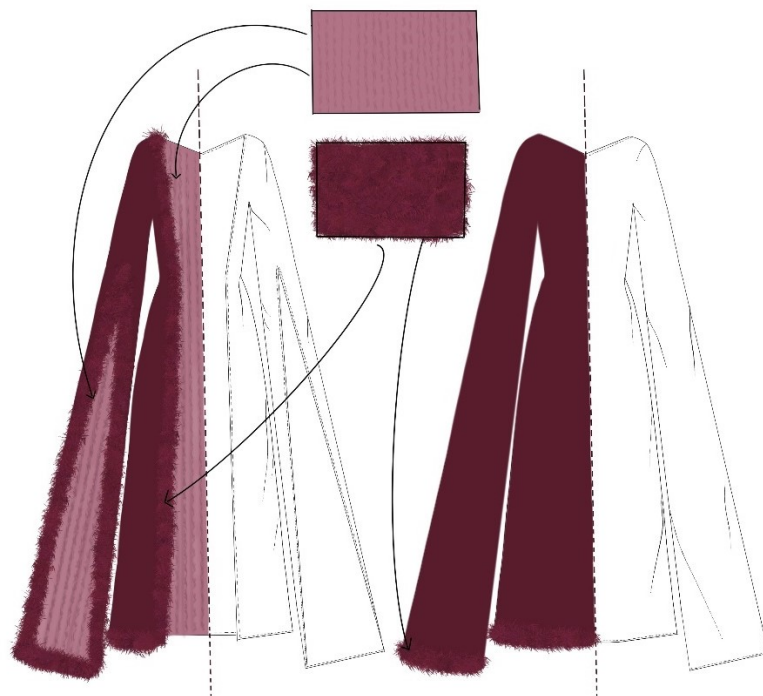


Figure 66. Technical Drawing for Design 3 Front & Back Lux (Digital 1)

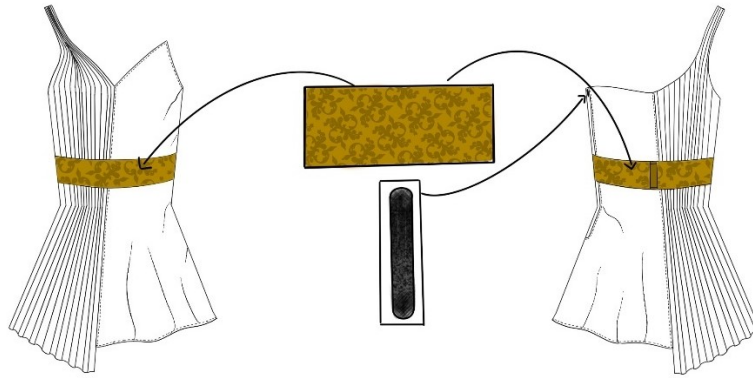


Figure 67. Technical Drawing for Design 3 Front & Back Lux (Digital 2)

As a physical version of this design a coat and a short skirt overall were designed in order to reflect a more elegant and stylish look (Figure 67). For the coat, a furry fuchsia color was chosen. A flower printed satin lining was used, where the flower prints were inspired by Lux. Furthermore, light purple and lilac colors were used for the short skirt overall. Overall's upper part looks basic; however, its collar part has flower printed details. The lower part of it has flowy looks in both the short part and the skirt part. Moreover, a dark purple button was chosen. In contrast to the digital version, the gold belt was thinned out and its embroidery part was changed with the pipe look to give the design a more casual look. All of these technical details are shown in figures 68 and 69. Moreover, fabrics can be seen in Figure 71.



Figure 68. Design 3 for Physical Version of Lux

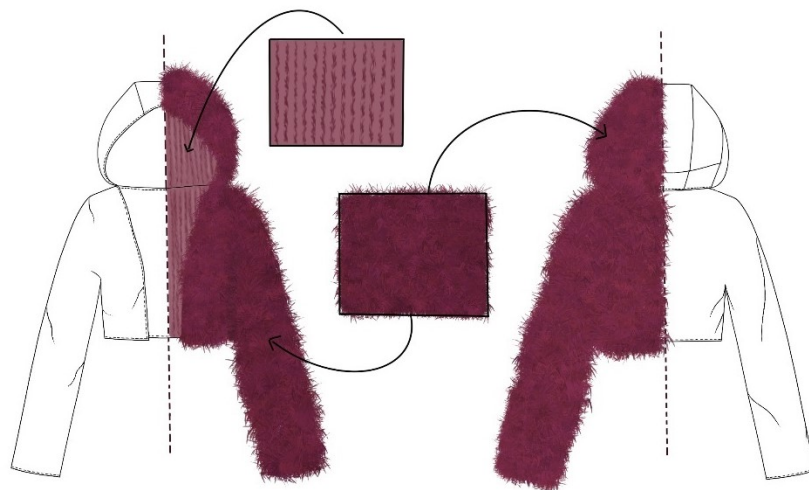


Figure 69. Technical Drawing for Design 3 Front & Back Lux (Physical 1)

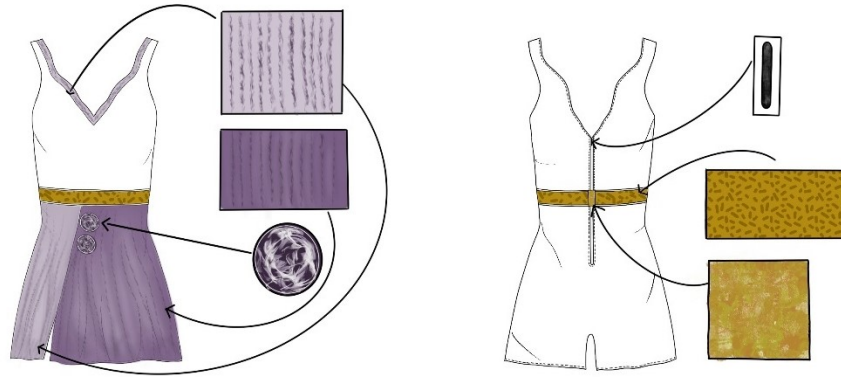


Figure 70. Technical Drawing for Design 3 Front & Back Lux (Physical 2)



Figure 71. Fabric Swatch

CHAPTER 6: CONCLUSION

This study aims to close the gap between physical fashion and digital fashion by designing a capsule collection for “League of Legends” online multiplayer video game. The fashion industry and gaming industry are the two biggest markets in the world. These two sectors are developing themselves day by day. After the launch of the metaverse, the fashion and gaming industry showed a trend toward digitalization. It is seen that some of the significant luxury brands that lead fashion, such as Balenciaga, Gucci, and Louis Vuitton, pay attention to digitalization. In parallel to this, 3D digital fashion garments started to show an increase in various fields. While the fashion industry is improving itself with the digital version, fashion in the gaming industry has also become more popular, which takes a major part in digital fashion. Fashion in video games is not a new thing, however, due to the luxury brands’ interests as a marketing component, the digital fashion sector has started to grow. For example, some luxury brands like Louis Vuitton and Balenciaga started to collaborate with game developers. We believe that although there is a fashion trend in video games, these trends do not match real-life fashion trends. So, there is a gap between digital fashion and physical fashion. The biggest differences are that, in the game environment garments differentiate themselves from their material and fantastic look. By designing a capsule collection for both digital and physical garments, this gap can be closed.

As a method in this thesis, three video games were selected as case studies to analyze. In addition to that, video game genres analyzed to understand the language and tendencies of the medium. Also, video game genres use fashion in various ways. For example, in a platform game, fashion design is used to explain the characters’ status, economic conditions and personality, but in a tactical shooter it is used to create more immersive experience. Analysis was done according to their respective genre and the usage of fashion design in the game. Additionally, in order to understand players’ behaviors and habits, a survey was designed and 100 participants responded to the survey. For the survey, the target group was gamers that bought in-game cosmetics. According to the survey results, people’s preferences are not so different between these two mediums. The only thing that differentiates is the color and style in general. For example, while most of the gamers defined themselves as casuals, in the video games they tend to prefer the fantastic style. As we can see in the style and color preference differences among digital and physical mediums, there is a gap to fill. All of this

information is used in capsule collection design. The style, inspiration and the colors of the collection come from the survey results.

For the design project in this thesis, due to the popularity of the game, League of Legends was chosen as a guide. After reviewing the game and characters, with the help of the survey, the ideas were developed. As an inspiration point a mood board and a lifestyle board were created and after that three pairs of designs were made. Each pair of the design includes both the digital version (in-game) and the physical versions of it. The look that was designed for Ashe comes from her leadership and it is adjusted for different mediums. For Leona, leopard print is used to embrace her personality. Finally, Lux is a master of light so it is highlighted in her look.

In conclusion, it is believed that the gap can be closed by designing capsule collections according to the needs of the game industry and fashion industry. It is believed that the gap between physical and digital fashion can be closed by designing a collection that is valid for the game and the real world at the same time. In this way, communities of gamers pay more attention to fashion, and digital fashion keeps rising alongside its physical counterpart. However, since the survey's limited participant size, strong conclusions cannot be deducted. Therefore, future studies may work with bigger sample size groups. In addition to that, video games appeal to diverse groups of people, thus selecting a single genre for a survey can lead more consistent outcomes.

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APPENDICES

Appendix A – Survey Questions

Digital Capsule Collection Design for a Video Game to Close the Gap Between Physical and Digital Fashion

By answering this survey you support me to design a digital capsule collection for a video game to close the gap between physical and digital fashion. If you do not want to answer the questions, please leave it blank. All of your answers will be anonymous and will be analyzed all together. So please leave the honest answers.

Please do not share your name and surname. Thank you very much for your time and contribution.

I consent to the use of the information I have provided in this research.

Demographic Data

1. What is your gender?

Mark only one oval.

- Male
 Female
 LGBTIQ+
 I do not want to answer

2. How old are you?

Mark only one oval.

- Under 20 years old
 20-29 years old
 30-39 years old
 40-49 years old
 Over 49 years old

Video Games

3. How often do you play video games?

Mark only one oval.

- Once a month
 Twice a month
 Once a week
 Twice a week
 More than 3 days in a week
 More often

4. Which genres do you prefer the most?

Mark only one oval.

- Multiplayer Online Battle Arena
- First Person Shooter
- Role Playing Game
- Action-adventure Game
- Simulation Game
- Strategy Game
- Platformer Game
- Sport Game

5. Which platforms do you prefer?

Check all that apply.

- Mobile
- Computer/Laptop
- Sony Playstation
- Microsoft Xbox
- Nintendo Switch
- Other

6. Do you prefer multiplayer or singleplayer games? Please state why?

7. Which is the most important aspect for a video game's success for you?

Mark only one oval.

- Graphics
- Gameplay
- Community
- Popularity
- Story
- Lore
- Availability of E-sports
- Creativity

In-Game Cosmetics

8. Do you buy in-game cosmetic items?

Mark only one oval.

- Yes
 No
 Not yet, but I am considering to buy

9. How much money do you spend on in-game cosmetics in a month?

Mark only one oval.

- Under 10 USD
 10-30 USD
 30-50 USD
 50-100 USD
 Over 100 USD

10. Why do you prefer to buy in-game cosmetics?

11. Do you think that, in-game cosmetics affect your gaming performance?

Mark only one oval.

- Yes
 No
 Maybe

12. When you are choosing an in-game cosmetic, which color do you prefer?

Check all that apply.

- Red
- Blue
- Purple
- Yellow
- Black
- White
- Gray
- Green
- Pink
- Orange
- Other: _____

13. What is the style of the in-game cosmetics that you recently bought?

Mark only one oval.

- Fantastic
- Realistic
- Gothic
- Funny
- Minimal
- Retro

14. If the game you play, allow players to design cosmetic items, would you consider it?

Mark only one oval.

- Yes
- No
- Maybe

Physical Fashion

15. How much money do you spend on fashion items in a month?

Mark only one oval.

- Under 10 USD
- 10-50 USD
- 50-200 USD
- 200-500 USD
- 500-1000 USD
- Over 1000 USD

16. Which influences your style?

Check all that apply.

- Celebrities
- E-Commerce
- Movies
- Games
- Religion
- Culture
- Other

17. Which keyword best represents your style?

Mark only one oval.

- Sporty
- Bohemian
- Grunge
- Classic
- Casual

18. Please select the garments that your wardrobe have mostly.

Check all that apply.

- T-shirts
- Jeans
- Dresses
- Skirts
- Jackets
- Shirts

19. When you are choosing a garment to wear in your daily life, which color do you prefer?

Mark only one oval.

- Red
 Blue
 Purple
 Yellow
 Black
 White
 Gray
 Green
 Pink
 Orange
 Other: _____

Relation Between Digital and Physical Fashion Decisions

20. How can you describe a relation between your fashion choices in physical and digital world?

Mark only one oval.

- Identical
 Similar
 Not so similar
 Totally opposite

21. If you had a chance to import all of your physical clothing and accessories that you possess to the game you play, would you consider it?

Mark only one oval.

- Yes
 No
 Maybe

22. If you had a chance to wear a clothing or accessory that you possess digitally in the game you play in real life, would you consider to use that items?

Mark only one oval.

- Yes
 No
 Maybe

23. Do you want your in-game character to represent your real-world self?

Mark only one oval.

- Yes
- No
- Maybe

24. Do you prefer to buy video game merchandise items such as t-shirts and mugs?

Mark only one oval.

- Yes
- No
- Maybe

25. How would you describe your purchasing behavior differences between physical and digital fashion world?
