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IMMERSIVE DETAILS IN GAMES

And how to apply them

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Abstract		
<p>Immersion and the ways it works is a much discussed topic especially in the game industry. To understand how immersion is implemented into games, immersive details and elements were investigated.</p> <p>Each element of game design is present when discussing immersive details such as environment design, narrative design, character design, and sound design. With all elements working together in detail work, as many human senses are activated as possible, which creates a highly immersive experience.</p> <p>To see how personal immersion is and if it can be measured, a survey and interviews were conducted. Conclusions of both showed that while immersion and how it is seen varies from person to person, there are certain elements in games that players actively notice and appreciate. Other details may go unnoticed but may be observed on an unconscious level.</p>		
Keywords		
immersion, narrative design, character design, sound design, environment design		

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1 INTRODUCTION

How a player gets immersed into a videogame is a concept constructed of many variables that create a highly personal experience. All parts of game design play a part in immersive experience but can also break the illusion if not done correctly. A junior game designer may find themselves in a situation where their product accidentally breaks player immersion due to neglecting details that consumers pick up on actively and unconsciously.

This paper is a look into the vast concept of immersion and the tool games use to build a solid foundation for it. It also provides examples and guidance for adding immersion into an existing game world.

2 RESEARCH METHODS

Finding out what immersive details mean and how they could be added into a game world requires first knowledge of what immersion is and how players react to it. In this paper immersion is looked through a lens that combines visual storytelling, writing and environment design. The multidisciplinary nature of the topic means there is a need to use various research methods in order to gain greater understanding of how these building blocks work to form a cohesive experience.

Both quantitative and qualitative information were needed to measure how and why players felt immersed while playing. For this purpose, a brief survey on playing habits and immersion was made on Webropol to collect primary data. For qualitative data, four of the survey attendants were asked for an interview in which their personal experiences of immersion were discussed in more detail. The interview also included two experiments to test key theories presented in this paper. Lastly, to collect data on how games build immersion, an analysis was conducted on two already existing products.

The survey was conducted on November 11 and ran for a week. It was distributed on social media platforms such as Twitter, Instagram, and various game related Discord channels. Overall, the survey gained 89 attendees. The survey consisted of eleven questions of which nine were compulsory. Out of the eleven questions seven were multiple choice and three were five-point Likert scale. The goal was to be able to make a rough player profile for each attendee and look at how different profiled players find immersion in video games. Attendees were able to access the survey both on phone and on computer and it took from five to ten minutes to complete unless the attendee decided to write in the optional text box at the end of the survey.

Interviews were conducted between several days in November. Four participants were selected from volunteers who had filled out the immersion survey. The interviews were conducted online and recorded due to Covid-19. While structured, the interviews were designed to encourage conversation. Participants' answers from the survey were looked at and personalized questions were made from their answers on top of generic questions. Interviewees were also told they could add to and discuss any of the topics that came up in the interview. Each interview took approximately 30 minutes and the recording was done with OBS Studio.

The interview also included two experiments. The first experiment tested the schemata theory by Gard (2010). It consisted of two pieces of digital concept art painted with Adobe Photoshop CS6. They both featured a street view with similar composition and colour scheme but had differing environmental details. The participants were firstly told the context of the pictures: the location of the environment and the era. Participants were asked to look at one picture at a time for 5 seconds. After seeing both the pictures, participants were asked which one of them they preferred and if they were able to tell why.

The second experiment was made to investigate a proposition made by Ferrari in Game Developer Conference, in which he suggested that rather than making old looking game's graphics accurate to said era, the graphics should reflect the nostalgia. Participants were shown three screen captures from existing video games from different eras with similar art style and were asked which one of the art styles they would prefer in a video game. Participants were also asked why they chose the particular picture and what they liked about it. They were also allowed to tell why they did not choose the other two and what they disliked in said pictures.

Two existing games were analysed from the thesis' point of view: *The Sexy Brutale* (2017) and *Phasmophobia* (2020). These products handled immersion in their own way that was found useful as material for this paper. Other analysed material was in text and video form and included especially articles and conference papers. These materials were used as a theory basis.

3 WHAT IMMERSION IS

To build upon something, it is important to investigate the foundations first. Immersion, or what psychologists would describe as spatial presence, is the experience of a player feeling as if being part of the game they are playing (Madigan 2012). It can be built in various ways and while there is no one formula to always achieve player immersion with every individual, there are categories and details which can help different kinds of players to feel immersed.

There is discussion on if the correct term for the experience is immersion, presence, or even flow. In this paper, the term used is immersion as it is widely accepted and used term in the game industry (Ermi & Mäyrä 2005).

Because of how personal experience immersion is, studies have concluded to a model of three tiers on immersion. Engagement, engrossment, and total immersion are used to describe individuals' level of immersion. Engagement at the lowest immersion tier means the level of investing time and effort into the

game and paying attention. Engrossment includes engagement but adds the emotional investment into it and at final stage total immersion means what players normally describe as immersion; the feeling of being so invested that they lose the sense of their real surroundings. (Bowman 2018.)

Due to this multi-layered understanding of immersion, it can be found as a large factor even in games that are not traditionally thought as immersive, such as multiplayer games and fighting games.

There are various models describing what happens when we become immersed. However, one of these models specifically looks at how and why spatial presence is unique to media and games and different from presence (Wirth et al. 2007). The theory relies heavily on egocentric presentations that are present in both humans and animals and mean our constant understanding of how objects around us are related to ourselves, hence viewpoint being egocentric (Wang 2012). This egocentric presentation updates continuously our egocentric reference frame: a mental model of the world from first-person perspective. When the player accepts the game's world as reality, their egocentric presentation updates from the game's standpoint rather than real life, making them feel as if being part of the world (Wirth et al. 2007).

What makes achieving immersion in games tricky is the fact that each person perceives reality through their own experiences and surroundings. These past experiences build a unique and individual schema. A schema or schemata is a mental model of what and how things should be. Schema is affected by culture and surrounding the individual has grown in as well as their personal experiences and feelings. (Gard 2010.) Building a game world that immerses all players from different backgrounds is a process in which the developers should consider details which could contradict player's own schema.

A video game can be immersive even when it is contradicting the player's own mental schema. While game developers can affect the external immersive

impulses, all individuals can also build immersive experience internally.

Imagination is seen as an internal part of spatial presence that can make up for the lack of external immersive impulses to an extent (Wirth et al. 2007).

“People more prone to fantasising and daydreaming – i.e. more absorptive personalities – are able to become more immersed in game worlds”, Stuart (2010) writes in his article. A study conducted by Kevin Cheng and Paul A. Cairns found evidence supporting this idea of player’s internal work towards immersion. In the study, the game’s aspects such as character graphics, environment graphics and physics were manipulated while participants were playing. Results of the study came to a conclusion that these manipulations did not have as much effect on player immersion as first thought. (Cheng & Cairns 2005.) In this paper however, immersion is investigated as external immersive impulse as they can be improved on and examined by any developer.

4 HOW IMMERSION IS BUILT IN GAMES

4.1 Environment design

The game world where the player is situated in is where environment design comes to play. Everything seen on display could be counted as part of the environment design, from props to characters and even interactable objects. With this definition character design, narrative design and sound design would be accounted in environment design but in this paper, they are all looked as their own separate sections of game design even if they overlap and work with each other in great length.

How virtual environment is seen can be divided into two categories that play part in immersive experience: social realism and perceptual realism. Social realism means that the events in the game world are realistic enough that the player feels as if it would be possible for these events to happen. Perceptual realism on the other hand means the ‘seen’ realism; for example, the objects in the game world

are as realistic as they can be. Depending on the game, one, neither or both can be at play. (McMahan 2003.)

“When we are creating worlds in games, immersion is only possible for the player if we can convince the players that the space is *authentic* (whether stylized or not.) If the critical features on screen do not match up with the critical features of the player's schemata, then he or she will not be fooled by it”, Gard (2010) tells. Example of player immersion being broken by inaccurate details could be a recent game title Cyberpunk 2077 (CD PROJEKT RED 2021). German community of an online forum Reddit noted that Night City, a made-up city located in the west coast of United States of America, had German manhole covers on roadways. These covers were identified as B125 which are prohibited to be installed on roadways due to them not withstanding enough weight to be safe.

Set dressing in virtual environment and in level design can mean the tiniest visual details added to bring out story through the environment (Gard 2010). Set dressing can take many different forms, giving the player clues or building emotions with only visual details. These clues may even give meaning to characters player would not meet otherwise in game, such as a dead non-player character (Gard 2010). Visual details could also be multiple arrows painted and placed on the walls of a room and framing an open door in The Stanley Parable (Galactic cafe 2011). It created the uneasy feeling for player that someone wants them to go through the door, which in context cannot mean anything good. (Mcrea 2021.)

Set dressing is also what would be seen as imaginative work for both designer and player. Creating a story-rich environment or set dressing means taking some liberties from real life realism. While immersion is evoked from feeling of taking the game world as ‘real’, for example forests in games are designed differently than actual forests while still being perceived as immersive – to an extent of

being more immersive than what a copy of real forest in a game would be. (Mcrea 2021.) *Witcher 3: The Wild Hunt* (CD PROJEKT RED 2015) is a game that has social and perceptual realism yet takes liberties in the environment design to bring the players a highly immersive virtual environment to explore. The key to making rich and alive feeling environment according to Michał Janiszewski, Senior Environment Artist at CD PROJEKT RED, is that the environment should feel imperfect. The team behind the game also did extensive research on plants that would have grown during the era the game is inspired by but added lighting, colours and composition that create fantastical feeling to the environments. (Janiszewski 2016.)

Backstory in virtual environment also builds immersion and story elements that may go unnoticed by a player but give a sense and reason for the environment to be what it is, for example why certain enemies are placed in certain location (Gard 2010). Creating backstory can also increase the sense of immersion since if the environment makes sense and has a hidden narrative of its own, it has a context for being the way it is regardless of the player (Mcrea 2021).

Interaction between the player and the environment such as objects and non-player characters creates richness to the game world (Madigan 2012). The stimuli created by the virtual environment can help the player to create their own experiences. There are perceptual opportunities: sureties, shocks and surprises that can help creating interactive environment that would be as immersion inducing as possible. Sureties build sense of context to the environment while shocks are immersion breaking mistakes in the environment. Surprises are elements of the environment that the player makes interactions with and piques their interest. (McMahan 2003.)

4.2 Character design

The first thought coming to many game designers regarding character design is the outside of the character. Exterior layer of the character is what the player sees first, which is why the design must in most cases reflect who the character is or is wanted to be seen as. Principles such as shape language and color theory come into play when designing an effective and immersive character look. Shape language means the relation between basic shapes and symbols given to them. For example, square is seen often as masculine, stable, and honest and is most often seen used with heroic characters while on the other hand triangle is seen as conflict and sneaky and often seen on antagonistic characters (Tillman 2011). Color theory reflects same ideas as shape language but translated to basic colors.

Character designs often lean into stereotypes in games, to a point of being criticized for it. However, knowing when to use stereotyping to help with game design process can help a player immerse into the game with ease. For example, if the game would happen to have large quantities of enemies or non-player characters that are seen on the screen at the same time, stereotypes such as relation between body shape and personality can prove to be helpful for the player to process all information seen on screen. On the opposite end, creating deep in-depth characters can be improved upon with breaking stereotypes. (Isbister 2006.)

When relating character design to immersion it does not only mean what a character looks like and how realistic they are. Character design from immersive standpoint takes into consideration the psychology behind the designing process and how humans perceive each other and themselves to craft believable and likeable characters. Psychology and character design go hand in hand creating immersive experience for a customer, because of how humans particularly immerse and interact with virtual content. Because of how immersion is achieved

with activating as many channels of sensory information as possible (Madigan 2012), visceral, cognitive, fantasy and cultural levels of character design become important aspect of the process. (Isbister 2006.)

Character movement, controls and even idle animations are part of character design that can make characters memorable or create drift between the player and the character. This layer of character design is called visceral level, which means particularly the feedback of action between the player and player character. If visceral feedback in a game is thought out in design process, it can provide players with pleasurable and immersive experience. (Isbister 2006.) Visceral feedback could be seen as a part of external impulses, that can be manipulated by developers to ensure that the player does not have to put as much effort by themselves to find themselves immersed in the media (Wirth et al. 2007).

When the game has a player character, that said character becomes the manifestation of the player with advanced qualities that create the pleasurable visceral feedback. How the player character feels to control and move through the game world as well as how their powers and abilities feel and look like to the player are considered strong aspects of visceral design (Isbister 2006).

For example, when interviewed game developers were asked for their favorite idle animation in games, they were able to recall one and reason why that said animation loop was memorable. The animation is not required to be fluid nor complex to stay in consumer's mind, but rather it must give personality to the character that executes it. In the interview, a character created by Sega in his first video game, Sonic the Hedgehog (Sega 1991), was memorized because of his simple but pithy animation that would play when left alone for too long; Sonic would tap his leg, put his hands on his hips and look straight at the screen with an annoyed expression. Such an idle animation could be immersion breaking due to it creating a drift between the player and the character, but it reflected the character of Sonic and actively in a humorous way discouraged breaks between

playing and as such making a memorable experience. (Couture 2018.)

Cognitive part of immersion regarding character design means how the player character is mapped out for the player in the game world. In practice this means that if the player tries to do something the game will not allow, for example talk to a non-player character that cannot be interacted with, there is something wrong with the cognitive mapping. (Isbister 2006.)

People look out for social cues and it does not stop when moving to a virtual space. Individuals will for example move their avatars to look each other in the eye when talking and try and maintain a personal space in online games (Stuart 2010). Social cues, while big part of multiplayer games, is also prevalent part of single player games and building immersion in them. Social design can mean various aspects depending on what the game project is like, but typically the interaction between player and non-player character, character customization, dialogue options and culture are part of it (Isbister 2006). For example, *Dragon Age: Inquisition* (BioWare 2017) gives player an option to play an elf from a Dalish clan, a group most known for trying to preserve elvish traditions and religion. Despite this, in various situations in the game the player is introduced to elvish lore (of which the player character should be very well aware of) like they had never heard of it before. Looking at situations like these from social design perspective, there are immersion breaking moments that could be prevented.

Fantasy aspect of design can be seen in both character design and storytelling. Fantasy is the complex relationship between player's feelings, experiences and how they can experience them safely in a game world through the story and its characters (Isbister 2006). Fantasy is often discussed in media because of the controversial opinions on how and if violent media can affect people – especially children – in harmful ways. Gerard Jones argues that instead of being detrimental, these violent medias such as shooter games are necessary for us

along our journey to adulthood and beyond to experience situations and emotions that we otherwise would not (Jones 2002).

4.3 Narrative design

Simple or complex, every game has some sort of narrative. It can be as simple as a motivation for a character to be where they are or a whole fantasy world with its own history. The narrative in video games has, however, been a much-argued subject among scholars in the past due to the added dimension of player involvement in video games. The arguments vary between if video games can have what is classically held as the definition of narrative (Calleja 2011), while the other side of the argument believes the added dimension can evolve narrative games to a new height (Shirong Lu et al. 2012). More recent studies conducted on video game narrative have shown that narrative and immersion in games go hand in hand, going as far as increasing player's perception to make meaningful choices (Borman & Greitemeyer 2015).

What sets storytelling in video games apart from other medias is the added interactivity. The player can be at the same time the main character, audience, and narrator. The games can also interact with the player in a way that they can affect the gameplay and its outcomes making unique and deeply personal experiences. (Qin et al. 2009.)

Narratives and immersion overlap in video games due to narrative design putting importance on the quality of the whole experience as well as providing journey for the player, making it possible for the player to feel as if being in the video game world. Immersion is believed to strengthen narrative experiences in three ways. (Shirong Lu et al. 2012.) Because immersion is partly internal work of the individual (Wirth et al. 2007), it creates suspension of disbelief. Secondly, a strong narrative experience can have such an impact on an immersed player that the memories created by the experience have been found to be like the

memories of real-life events. Lastly, an overlap with character design, creating a likeable player character and non-player characters can help the player feel empathy or relate to said characters, making them more involved with the narrative experience. (Shirong Lu et al. 2012.)

Empathy and affection toward something or someone in the game world is a big pull narrative design tries to achieve. The overall story of the game can be as complex or simple as needed but for players to achieve the last stage of immersion (Bowman 2018), games often try to awaken such level of immersion with strong feelings on connection. This could be for example player seeing consequences of their actions in a role-playing game or seeing player character go through character development through the game's story.

Feelings of connection and affection do not need to be crafted with deep and meaningful lore in every case. Little details in dialogue or even humor can bring out such feelings in a player. For example, especially seen in point-and-click adventure games, self-reflective humor is part of what makes these games likeable. A well-known protagonist Guybrush Threepwood (LucasArt no date) is through the games awkward but witty and will even refuse to do some of the player's commands. Same kind of design principle can be clearly seen in the narrative and characters of every installment of Monkey Island. (Giappone no date.) Same kind of use of humor can be also seen in Dragon Age: Inquisition and Mass Effect: Andromeda (Bioware 2014 & 2017), where quirky one-liners between non-player characters during gameplay have become a staple feature of the games.

Today, narrative design in games to ensure player immersion has evolved from the early days of narrative driven games. Nowadays players are acknowledged to find immersion in different ways, some by interacting with the narrative such as reading quest related lore and then doing the quest and others who directly go for doing the quest. Games often will give lore as an optional feature for those who

get immersive experiences that way but will not punish players who skip these steps, which was not the case way back. (Calleja 2011.)

4.4 Sound design

Successful sound design can either go completely unnoticed by the player or it can stop them to listen in impactful moments. Key point of strong sound design is that it strengthens story beats, scenic moments, or gameplay. Well thought out sound design will build immersion on its own.

Music is a large and well-known part of sound design, because it is likely the easiest for a player to notice. To understand the importance of music in games, a study was conducted by Lipscomb and Zehnder; the study divided participants into three groups of which one listened only to the music, second only played the game and third both listened to the music and played the game. Results, while not enough to make concrete conclusions, showed that aspects such as danger and colorfulness were significantly higher rated by the group who got to experience both music and game than by the other two groups. (Lipscomb & Zehnder 2004.)

Sound design can set up feelings and situations in games with other means than music as well. Sound effects and environmental sounds can give player a context for their surroundings and for example build fear. In horror movies sound is a key part of building terror in suspenseful moments because people will more often shut their eyes than block their ears when they are terrified (Lerner 2010). This makes sound and music a powerful tool in said movie genre but could also be applied to horror games as they often recommend players to use headphones to ensure best possible experience. While movies and games are far apart as visual medias, there are overlaps in how sound design works – especially in movies and video game cut scenes (Collins 2008).

A simple yet effective example of sound design from immersive point of view is an audio-based game mechanic in *Lost in Vivo* (KIRA 2018). The player is searching through dark and narrow sewers for their dog. The player is introduced to whistling mechanic in which their dog will bark as a response each time the player whistles. With this mechanic, the player may deduce the direction from which the barking is coming from and locate their dog. However, in turn of events, once the player whistles again the dog will not bark in response, but from the darkness player will hear a whistle in response to theirs.

4.5 The Sexy Brutale

To gain better understanding of how immersion is built in video games through details, it is beneficial to investigate and analyse already published games. This way a game developer can get an idea of what they should do and what to avoid. It is advisable to investigate games that fit into somewhat the same categories as the product being developed. In this case both games analysed are indie games with horror and action themes and both working with immersive details. Immersion is a key element in building horror, due to the fact that players need to be invested in the game for the scares to be effective.

The *Sexy Brutale* was published by Tequila Works and Cavalier Game Studios in April 2017. The game is a mystery and horror themed puzzle game and is a heavily story-driven experience. The game's story is told from the perspective of an outsider who observes from the shadows as hotel guests meet their grizzly ends one by one. By manipulating the environment and time, the player can prevent each misfortune and advance in the story.

The *Sexy Brutale* has a way of building immersive experience for its player by adding symbolism and details in the environment that the player picks up on and realizes their meaning later in the game. These clues not only give the player a

chance to solve the game's mystery on their own, but also build and support the game environment.

A noticeable symbolism is the reoccurring King of Hearts reference through the mansion. One of the murder cases and a puzzle accompanying it are directly linked to statues, one of which is missing an arm. When a statue's arms are pulled, they randomize one symbol from a house of cards. The player is tasked to switch each of the statues' symbol to a heart and find the missing hand of one of the statues. While the player looks for the hand in the mansion's various rooms, they may find an anonymous body lying outside with a detached arm as well. While it is not meant to be obvious for the player yet, they are given yet again a clue of the identity of the antagonist with this detached arm. The man who lies dead and who has made the heart puzzle are the same man, making him the King of Hearts in a sense.

Completing the task will open a cellar, in which the player needs to solve new puzzles to power up a tree that acts like a heart. This heart is a symbol of the trapped soul of the main antagonist and the player character, who lives in a delusional fantasy in his head with echoes of the past that torment him. The heart being located in a boiler room gives a clear idea that everything happening in the game has been, in fact, all inside the main character. Powering this heart gives the player new will to accept what has happened and to move on.

Sound design in *The Sexy Brutale* gives the player an idea of time without them needing to look at the clock in the game's user interface. Each of the murders in the mansion happen at different times of the day, many of which have a sound clue that can be heard everywhere in the mansion. For example, when character Reginald Sixpence is shot to death, the sound of the gunshot rings through the entire building. Using sounds to convey time and events in the mansion give otherwise bizarre environment sense of time and logic.

Tequila Works have mentioned in their development diaries that because of how dark and brutal the story is, it was important for them to de-brutalize the game by making the character design light and cartoony. The way the characters are designed serves as a storytelling element as well, giving the characters personalities through the visual details of the masks they are wearing. (Tequila Works 2017). For example, a character named Willow Blue speaks with the dead and can light up candles to see ghosts. To visually support this part of her character, her mask resembles a sugar skull, an essential part of traditional Día de Muertos celebration in Mexican culture. (Figure 1). The mask design is also seen with the player character Lafcadio Boone, a sinful preacher, who is dressed as a priest and has a plain white mask on that has a red hand mark across it. Lafcadio Boone is a recent incarnation of the main antagonist himself, symbolizing with the mask and clothing that while he has sinned in the past, he is ready to forgive himself.



Figure 1. Example of character's mask design (Tequila Works 2017)

To summarize, the analysis of *The Sexy Brutale* supports the notion that sometimes immersion does not need to be noticeable right away. Sometimes immersive details can be as tiny as clues hidden in plain sight for a player to find and piece together. *The Sexy Brutale*'s immersive work creates a colourful environment and narrative for a player to solve and explore while leaving room for imaginative work. The game also creates an environment that has a meaning even without the player character Lafcadio Boone, since he is a new incarnation in the inner mansion of the character. (Mcree 2021.) Since characters are main part of the story but do not interact much with the player or have much screen time, it is necessary to use stereotyping to make their personalities quickly recognizable (Isbister 2007).

4.6 Phasmophobia

Phasmophobia was published as an early access game on Steam in September 2020 and is developed by Kinetic Games. The game has reached large audiences and won the Best Debut Game award in The Game Awards 2020. As the title is still in-progress, analysis of this paper may become outdated with new updates. The analysis will be looking into the state of the game in the March 6th update (2021).

Phasmophobia is an online co-operative horror game, in which players take on a role of a team of ghost hunter. Players explore various sites, study environmental clues with ghost hunting equipment and try to find out which spirit is hunting each site.

Especially in horror genre, immersion is the key to building fear. Because of how fear is often conveyed with sound (Lerner 2010), *Phasmophobia* uses sound design in various ways to build horror. The players can only communicate with each other by using a handheld transceiver, which can make players feel isolated

– especially during a ghost haunting, during which the communicators will not work. The haunts have added element of fear with players being able to hear how near the ghost is walking and the sound of them opening doors near the hiding player. The ghosts will also make variety of sounds, from heavy breathing to humming when appearing to players. The environments have their own sounds as well, such as metallic clanking and wood creaking.

Phasmophobia is an example of inconsistent schemata between the developer and the player, which breaks immersion with its environment design (Gard 2010). The game builds tension and immersion by rewarding players for exploring the increasingly dangerous sites, with spirits giving out clues and becoming more active over time. However, when exploring is being rewarded, players are more likely to notice out of place details in the game world.

People are built by the surroundings they live in and game developers are no exception to this rule. The studio Kinetic Games is based in United Kingdom where 73% of households have a working landline (Alsop 2020). In United Kingdom several of landline companies also provide internet connection to households. It also must be noted that calls made with landline are to this day cheaper. This culture of landlines explains why houses in Phasmophobia have multiple landline phones situated in them. However, Phasmophobia's narrative is set in America, where only 39.7% of households have landlines (Richer 2020). The inconsistency can become more apparent to a player from country such as Finland where only 3% of households have landline (Niinimäki 2020).



Figure 2. Inappropriately proportioned chairs in Asylum level (Kinetic Games 2020)

When consumers find themselves not fooled by the game world, they will not accept it as real and are more likely to notice even more little details that should not be there. Details such as these could be inappropriately proportioned assets in Phasmophobia. For example, in Asylum level player may find strangely proportioned chairs when compared to the table (Figure 2) or disproportionately large handcuffs in Prison level.

While detail assets in environment may build strong foundation for storytelling for a game level, they may also confuse the player about the world's story if not done correctly. Phasmophobia's Prison level has un-eaten donuts and fresh takeaway coffee cups, which makes sense in a prison environment, but may cause confusion in the context of the prison being abandoned for a long time. On the second floor of the same level the cells and beds have been destroyed by time and decay.

A logical explanation for these inconsistencies in environmental details can be drawn. As the game is developed by a solo developer, it is likely assets for the game were put in place to fill space and were not the priority when releasing Phasmophobia as an early access title on Steam. In case such as this, it would be safe to conclude that the assets will be replaced and improved on later in development. This assumption is supported by the fact that audio design in the game has been improved on in the updates, latest added on March 6th update where ghosts can now open doors during haunts, making creaking sounds when they do so.

5 RESEARCH ANALYSIS

5.1 Survey

A survey was made to find out data on immersion on larger scale. The survey was made with Webropol and gained 89 answers. The idea was to first gain general knowledge of the volunteers, such as their gender, age and how much they play on average in a week and on what platforms. After general information, the volunteers were asked deeper questions on immersion such as how they experience it and what aspects of games are important for their immersive experience.

Analyzing all the answers, the average individual taking part in the survey was twenty to twenty-four years old (51%), female (43%) and played under ten hours a week on computer (43%). Their favorite platform to play on was pc (91%) and their favorite game genres were single-player games (71%) and role-playing games (72%).

Story, escaping to another world, exploring and character customization rose as the biggest motivators for respondents to play games. Six percent of respondents added something else as their motivator as well, for example socializing via

games with friends due to pandemic, to see beautiful things in games, relaxing and obtaining rare items.

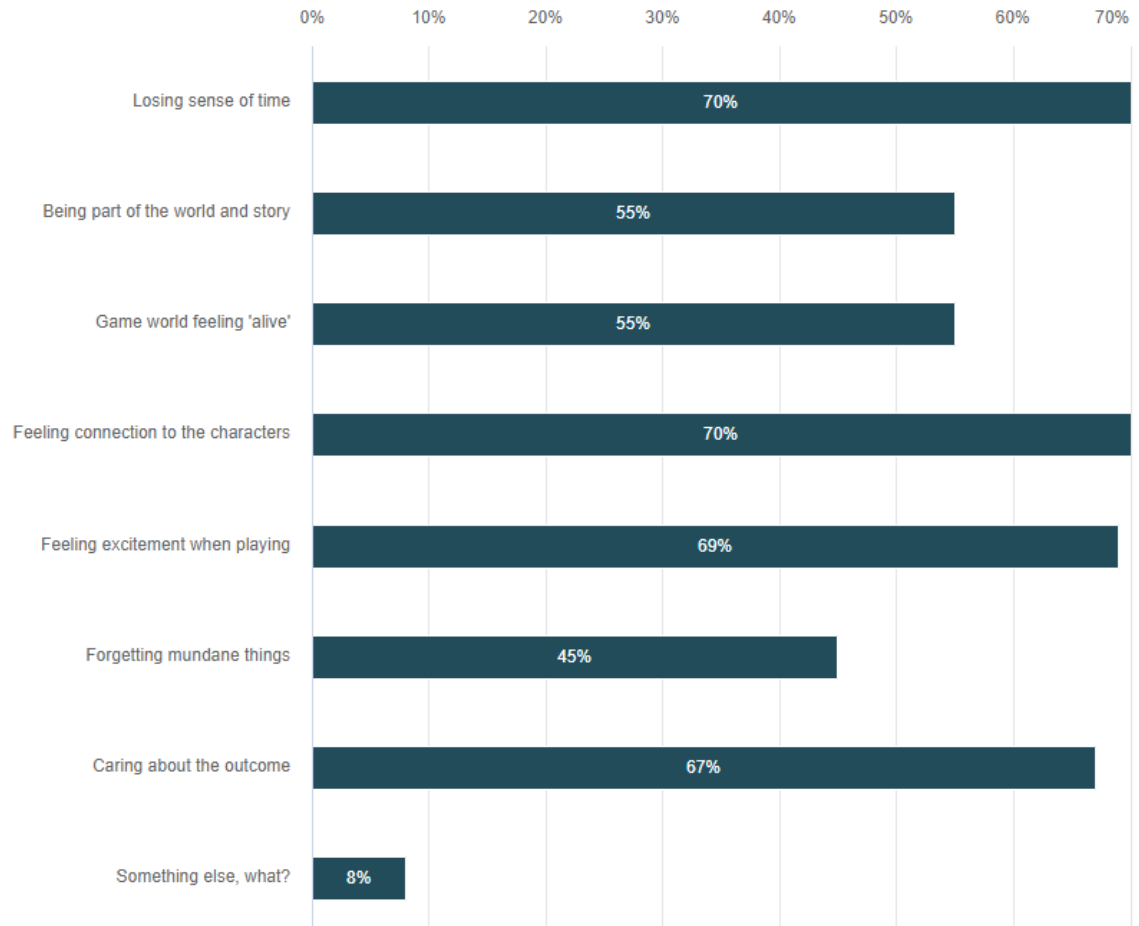


Figure 3. Survey question: How do you experience immersion? (Partanen, J. 2020)

In the immersion part of the survey, respondents were first asked with a multiple selection question what it felt like for them to be immersed. Each option gained large number of selections, however feeling connection to characters and losing sense of time were the most selected answers (Figure 3). In the 'something else, what' option some of the answers included thinking about the game even when not actively engaging with it and feeling the sense of wanting to return to the game.

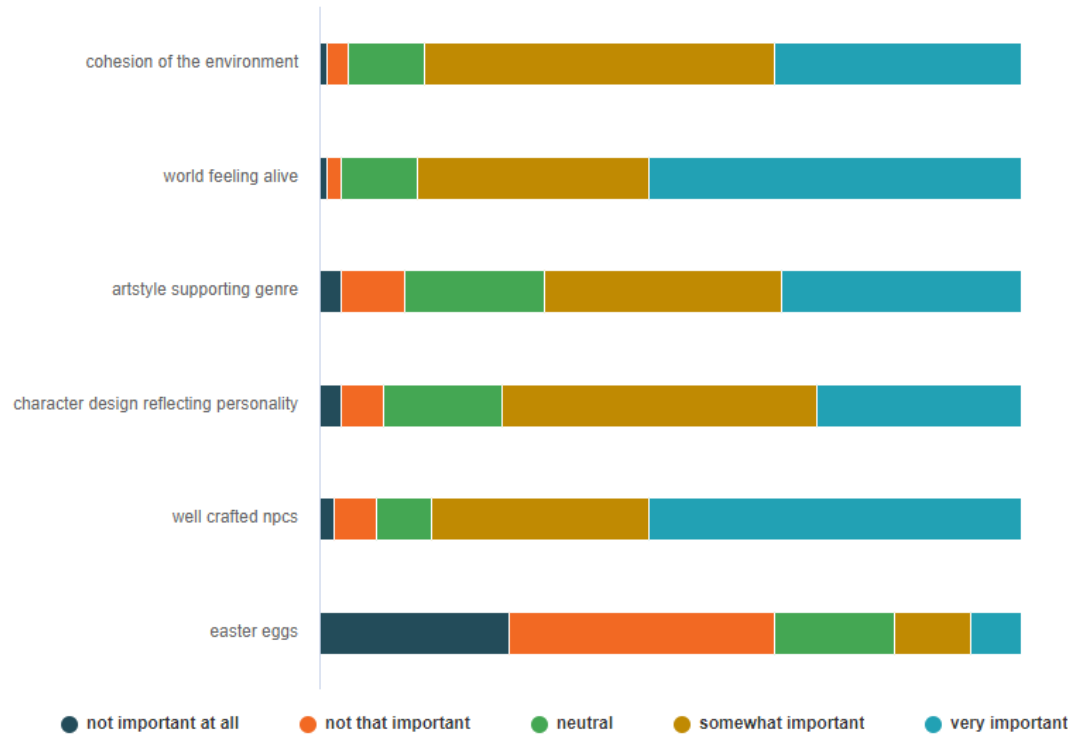


Figure 4. Survey Question: How important are following aspects for your immersion in games? (Partanen, J. 2020)

Participants were asked with a five-point Likert scale what aspects of worldbuilding, gameplay and storytelling were important for them (Figure 4). Worldbuilding section showed that well-crafted non player characters and the game world feeling as if alive were very important for largest number of respondents, while cohesion of the environment and personality reflecting character design were somewhat important. The art style supporting the game's genre was selected as much as somewhat important and very important and easter eggs in the games were seen mostly as not that important. In conclusion out of the answers in this particular section, everything else should be taken into account when designing an immersive game, except for easter eggs, which do not seem to have much effect on player immersion in majority of players in this survey.

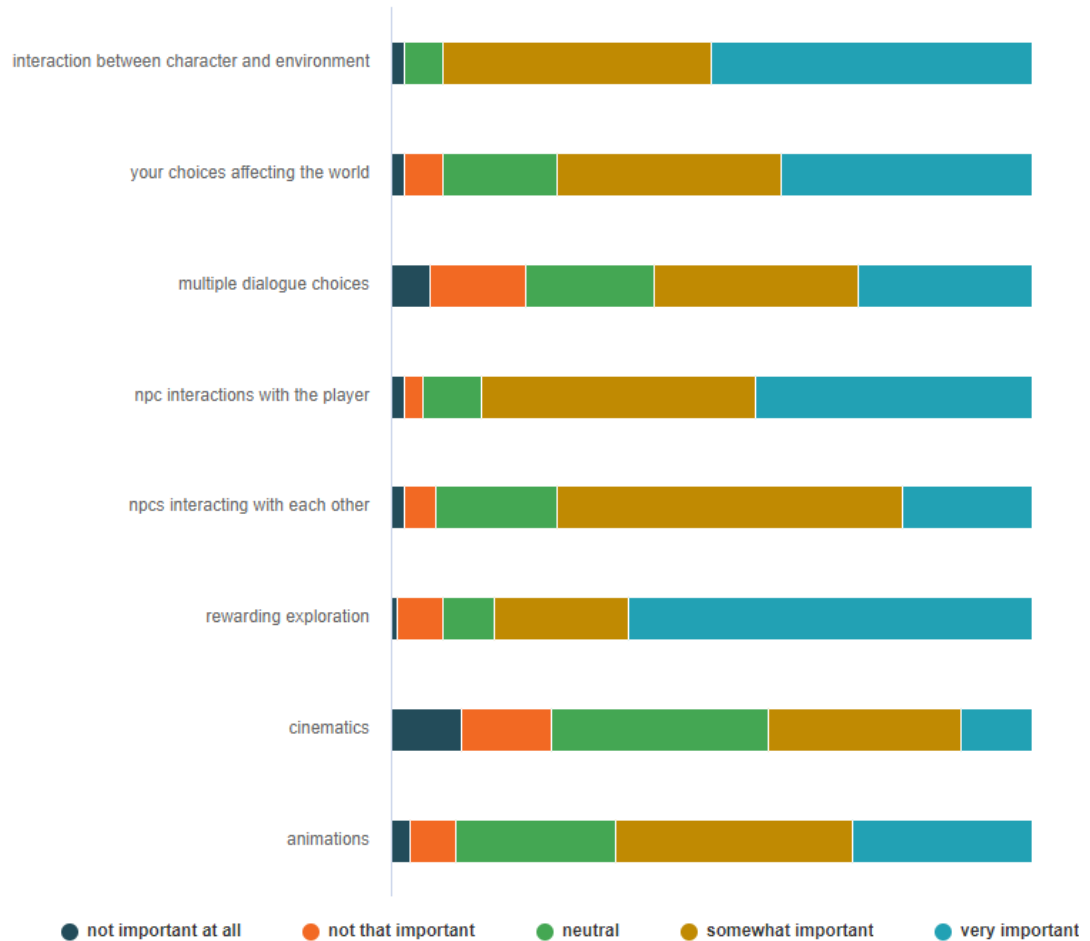


Figure 5. Survey Question: How important are following aspects for your immersion in games? (Partanen, J. 2020)

Gameplay section of the questionnaire yielded mostly positive reactions, the responses being scattered between somewhat important and very important (Figure 5). Most polarization could be seen in rewarding exploration, which was very important for the majority, and non-player characters interacting with each other, which was only somewhat important for the majority. Other questions came close to a tie between somewhat important and very important, except for cinematics, which had a close tie between neutral and somewhat important. Perhaps due to animations and cinematics having no direct interaction between the player and the game, these aspects of gameplay received more mixed answers on their effect on player immersion.

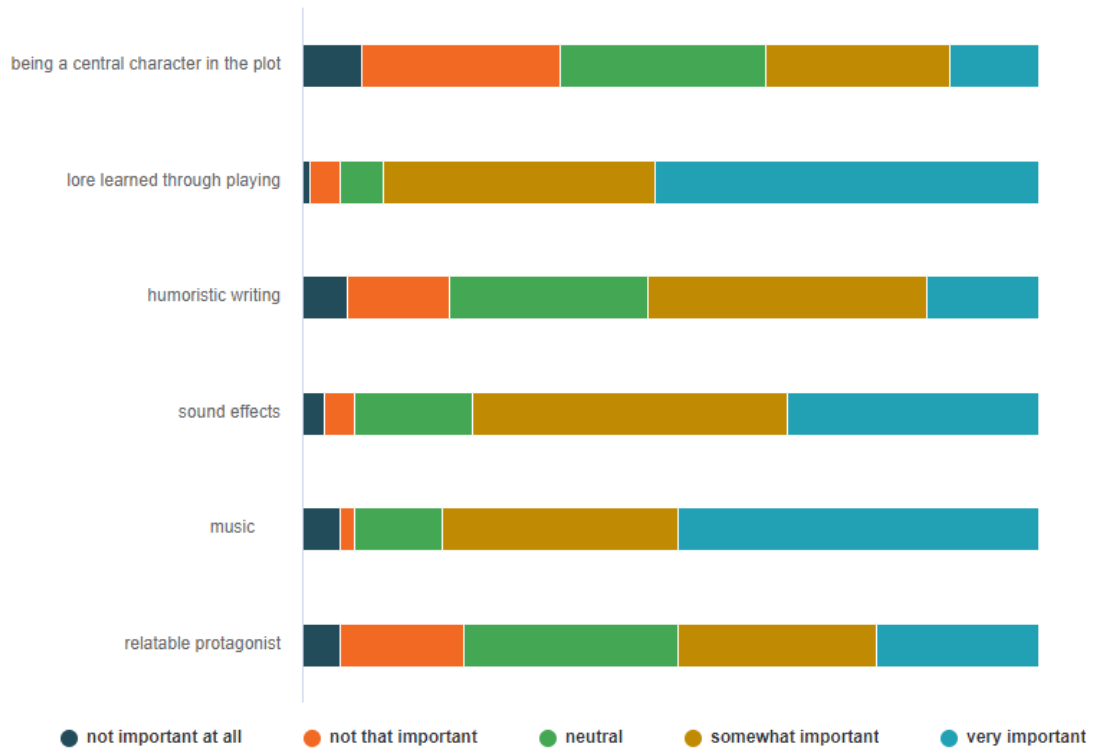


Figure 6. Survey Question: How important are following aspects for your immersion in games? (Partanen J, 2020)

Storytelling section had most mixed answers between the three sections (Figure 6). Music and game lore learned through playing were important for most of the respondents, while relatable protagonist and being a central character in the plot received more even out answers in the scale. The varying answers regarding player character could be that some players are able to immerse even in situations where the character is nothing like them with their external imaginative work.

Lastly respondents were given an optional text field to write about their specific memories of immersive experiences. Out of the 89 participants 22 answered this question. Many recalled their experience having to do with captivating story or character interaction. Some pointed out that competitive games had them immersed due to addictive gameplay loop while others said that pure ambience of the game can be immersive for them. Various respondent pointed out as well

that the consequences of their actions immersed them into games, especially if they could see the effects in the game world visually.

While the sample size for the survey was greater than expected, no conclusion can be made that would be true in every case. However, the survey gives an interesting glimpse into aspects that the players consciously notice and appreciate in immersive games.

5.2 Interview

To gain greater understanding of how personal experience immersion truly is, personal interviews were conducted on four volunteers. The interviews were made via online call and recorded due to COVID-19 to ensure participants' safety. To make the interview flow like a conversation, each question presented was broad and participants were encouraged to add to the questions if anything remotely on the topic came to their mind. Each participant was also asked specified questions according to what they answered in the survey they were asked to fill beforehand. The interview also included two visual tests to see if the participants' reactions would fall in with the theories used in this paper.

While each participant talked about a wide range of different game genres and experiences, the interviews in whole did bring up each of the points talked in depth in this paper beforehand: environment design, character design, narrative design, and sound design.

One of the participants recalled an immersive experience with the game *Outer Wilds* (Mobius Digital 2019). In the game the player explores solar system with one other player somewhere in the system as well. The players can hear each other by playing a musical instrument, which the interviewee recalled as an immersive detail. (Appendix 2.1.) Another interviewee noted that music and sound effects were very important for their immersion because of how it could

take their experience of the game to another level. For example, in *The Legend of Zelda: Breath of the Wild* (Nintendo 2017) seeing a dragon flying by has its own music, a detail which the participant likened to a magical moment in a movie thanks to the added level of detail. (Appendix 2.4)

Outer wilds (Mobius Digital 2019) was also mentioned because of its environment design. The game's loop is designed so that the player knows they will die soon, and they can spend the time they have exploring the solar system alone. Interviewee felt that each planet was designed in a way that made them feel the urge to explore them and the experience felt peaceful (Appendix 2.1). *The Witness* (Thekla Inc. 2016) felt immersive to an interviewee because of how the game's puzzles and design choices were reflected in the game's world. For example, some of the puzzles in the game are tied to the environment and the world felt cohesive and consistent in its own logic. The interviewee felt that in almost every place of the game had thought behind it, with no assets put in place to fill space placed in random manner. (Appendix 2.2.) Sometimes for one interviewee the story is not what immerses them into a game. They mentioned that they were truly immersed in *The Legend of Zelda: Breath of the Wild* (Nintendo 2017) because of how big the game world was, how freely they were able to explore it and how many little details one could discover while exploring. (Appendix 2.4.)

Florence (Mountains 2018) was mentioned due to its narrative design. The participants recalled first in-game fight with the player character's boyfriend, in which dialogue is played by completing simple puzzles. While dialogue is being played, a harmonious tune is also played. Suddenly, the tune was little off, and the screen tilted to the side, and puzzle pieces turned red giving the player sense of an argument and pressure. (Appendix 2.1.)

Lucius (Shiver Games) games were discussed due to the change in character design between the first and the second game. In the first game each character

the player must murder has some sort of characterization, while in the second the player kills masses of unknown people, which the interviewee felt not as immersive. (Appendix 2.1.) *The Witcher* (CD PROJEKT RED 2007) felt immersive to one of the participants since it made sense for the character and the player to learn about the game world at the same time, but still felt like the player character was part of the world and not an outsider (Appendix 2.2). *Dragon Age: Inquisition* and *Mass Effect: Andromeda* (BioWare 2014 & 2017) were mentioned due to the non-player characters, which the interviewee saw as well-crafted and felt that the character banter during missions made them feel more real. Well-crafted non-player character was thought to have opinions and quirks as well as a detailed backstory. (Appendix 2.3.)

Interviewees were asked if games had broken their immersion in any way. Several interviewees mentioned *Witcher 3: Wild Hunt's* (CD PROJEKT RED 2015) humorous side quests being immersion breaking as they did not feel being part of the story and rather easter eggs (Appendix 2.1 & 2.2). One of the participants felt that *World of Warcraft's* (Blizzard Entertainment 2004) storytelling broke their immersion in most recent expansions, as they had made their own stories for their characters that did not fit what the game wanted the characters to be (Appendix 2.3). *The Elder Scrolls IV: Oblivion* (Bethesda Softworks 2006) was given as an example of not being immersive player-character wise, because the player-character is an avatar and not a person in the game world who is already part of it (Appendix 2.2). *The Elder Scrolls V: Skyrim* (Bethesda Softworks 2012) was mentioned due to the narrative not making sense in immersive point of view when playing side quests. One of the interviewees recalled that they were wondering what happens to their character after they die since they had done side quests for various Daedric Princes and making pacts of their soul to each of them (Appendix 2.3). While interviews yielded many examples of immersion breaking details in games, interviewees did still on most cases enjoy the games and were able to immerse back to them.

The type of game seemed to have effect on player immersion but was highly personal. One of the interviewees could not feel immersed into a game when playing any multiplayer game when on the other hand several others did feel immersion for example in massively multiplayer online games and first-person shooter games.

The personal interviews included two small tests, which were designed to try out two theories used as the basis of this paper in practice. While miniature test may not give most reliable data to present as the truth on a matter, they should give an intriguing direction to investigate in a game project.

Test number one was conducted to see if in a short period of time an individual would have an opinion on an environment design. This test leaned on the theory that each person has a built-in schema of how things should look like based on the context given to them (Gard 2010). The volunteers were given explanation of the context that is the environment was set in nineties American rural town. Then interviewees were presented with two pictures (Figure 7 & Figure 8), each shown for five seconds. After both pictures were shown, participants were asked which of the pictures they preferred, if they could tell why and if they noticed differences between the two pictures.



Figure 7. Picture A (Partanen, J 2020)



Figure 8. Picture B (Partanen J, 2020)

Picture A (Figure 7) was constructed with the game project's culture and immersive details in mind, and if the theory of schema would hold, participants would choose it over the other. While the environment is drawn in a cartoony way, three details were added to give the whole environment not only context of its time-period but also location. The cat sign's face was drawn to resemble well-known nineties cartoon character such as Garfield. The typeface used on the sign is also replicating cartoon typefaces seen in the period. The box-shaped car

might not have been the most popular car in the nineties, but thanks to its presence in the visual media of that era it has become well known.

Picture B (Figure 8) mixed different times and places together, with the intention of making a confusing looking environment without being obvious.

While the cat sign's face is based on Japanese animations from nineties, according to Gard (2010) an individual would not be fooled by it due to cultural mixing. The typeface on picture B's sign is based on now popular cursive writing found widely on social media, which has various variations and makers.

All four participants chose picture A over picture B, without quite knowing why. They did note noticing differences between the two pictures, and all did remember there being something different in the cat. One of the participants did note that they felt in the picture B (Figure 8) the cat's face made the building feel like a place where player would play mini games, which they did not feel to be appropriate in context (Appendix 2.1). One of the participants noticed difference in the typeface and two out of four noticed difference between the cars.

Test number two was conducted using three screenshots from actual pixel games: The Secret of Monkey Island (LucasArts no date) on 1990 Atari ST, Monkey Island 2: LeChuck's Revenge (LucasArts no date) and Thimbleweed Park (Terrible Toybox 2017). These screenshots were selected due to their distinctive pixel art styles, of which two are from nineties (Figure 9 & Figure 10) and one emulating said era's style (Figure 11). This test was made to test the theory laid out by Mark Ferrari in their speech in Game Developers Conference. According to Ferrari, people would not want to play games that really look like made in nineties due to their nostalgia distorting their idea of what the games really looked like (Ferrari 2017).



Figure 9. Screenshot of Secret of the Monkey Island (LucasArt 1990)



Figure 10. Screenshot of Monkey Island 2: LeChuck's Revenge (LucasArt 1991)



Figure 11. Screenshot of Thimbleweed Park (Terrible Toybox 2017)

The interviewees were shown all three pictures at the same time and asked which art style they would pick if they had to play one of these games. Four out of four chose the screenshot of Monkey Island for pc (Figure 10). Least liked out of the three pictures was of Thimbleweed Park (Figure 11) for reasons such as character models and environment feeling disconnected of each other, color palette and too detailed environment. One interviewee said they liked the first picture the most (Figure 9) because of how it looked like but felt that they could not handle the color palette of the game (Appendix 2.4).

The results of test number two give an idea that while there are consumers that appreciate the way Ferrari and the team behind Thimbleweed Park tackle nostalgia through art, there are equally consumers who prefer the authentic look of the nineties era game art. Any definitive answer of which is a better cannot be said, due to interviews consisting of only four individuals, but the results can give an idea that Ferrari's theory is not the sole truth either.

6 APPLYING IMMERSIVE DETAILS

In this paper example of an existing project that immersive details are added to is a thesis-based project, in which the creator wished to conduct research on how easy Game Maker would be to use for an starting out game designer.

Examples provided for the project are based on the research and findings made previously in this paper.

The game takes place in nineties, in a silent rural town in America. The player character used to live in the town as a child and now as an adult comes back to re-live their memories. However, when they arrive, they find out series of deaths caused by various accidents and town full of ghosts who cannot remember details of themselves. When the player helps ghosts to remember who they are, the spirits start to remember their deaths may have not been quite as accidental

as they seemed on surface. The game is a 2D pixel mystery game and leans heavily on the humorous side to offset its macabre premise.

For this paper, one non player character is investigated and fleshed out for this project. The character in question is an old lady who lives alone and has lost her dog. She will not be a central character in the game's plot, but rather her missing dog can be found as a ghost and be befriended inside the town's sewers.



Figure 12. Shovel Knight's colour palette (Yacht Club Games no date)

Due to the game project being set in the nineties American rural town and the developer wishing to invoke slight nostalgic feel with the game's art style, it is important to first investigate the colour palette for the game project. In this project, there is already research basis from which to take cues for the colour palette. According to the test done in the interview, players were most interested in pixel game graphics that were really done in the nineties and had limited and bright colour palette (figure 12). A light and limited colour palette in a horror mystery game would also strengthen the idea of the game world being not quite serious and leans to the humour aspect of the world, making an interesting story of its own. The colour palette chosen for this project is an interpretation of Nintendo Entertainment System's colour palette for a game title Shovel Knight:

Treasure Trove (Yacht Club Games 2014) for its bright hues and interesting added hues to the typical NES palette, which would work well with the game project's themes.

From narrative point of perspective, the character, while being non-central character, must be tied to the game world and to its happenings. Giving players stories outside the main narrative to experience and interact with can help to make the game feel more personal (Qin 2009). Feeling connection to the characters and story were large factors for immersion in the survey as well (Figure 3), giving a reason to develop the side character's connection and story further. Story beats known for her at this stage of the project are that she lives alone and her dog, which she loved like her own child, has been missing for years.

There is illogic in the story beat, which can and should be reflected in the character herself. Why would she not look for the dog if it was as so dear to her? There is no need for her to appear anywhere else in the town in story, except for her own house, so easiest logical conclusion to enrich her story arc would be that she is unable to leave the house due to old age or sickness.

The dog's story should also be given reason and backstory. Of course, the dog could be found as a ghost in the sewers, but that would leave open how it ended up down there in the first place. The dog has had to end up somehow in the sewer, and the most logical conclusion would be that the dog fell in for example while chasing a toy.

When narrative design is done, the character designs should reflect those decisions. Because neither she or the dog are central characters to the story, and because the game is in pixel graphics, the character designs must remain simple and easily readable. In this case, slight stereotyping to make both characters

instantly recognizable and to bring out their personalities would work (Isbister 2007).

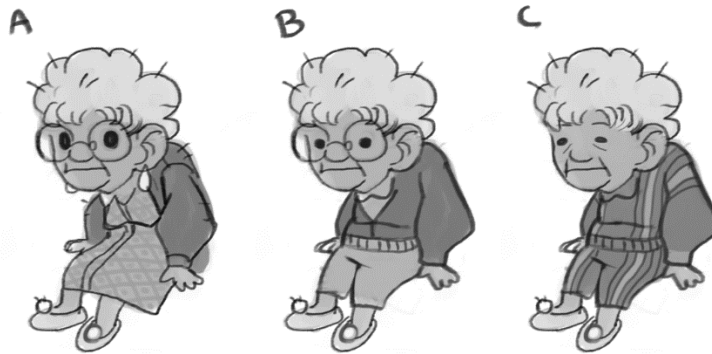


Figure 13. Old lady's concept designs (Partanen, J. 2020)



Figure 14. Old lady's character design (Partanen, J. 2020)

The lady's character design should reflect narrative design choices: she cannot go outside to look for her lost pet, but she still believes the pet is alive and misses him. In the game world the lady would only be sitting down, mostly in same place, for which reason her concept designs and final sprite were made sitting down as well. The concept designs were inspired by looking into American family photos from nineties and sitcoms featuring old ladies from said era. The most effective design in the end was design A (Figure 13), due to how well it translated into tiny pixels and gave still the idea of her clothing and form.

Every detail matter in character design, which is why errors are made easily. As a Finnish person making a concept for an old lady, putting tufts on her shoes seemed like a good idea due to a popular Finnish brand of shoes which has a strong mental association with old ladies. However, these kinds of shoes are not as prevalent in America where the game takes place, which is why the tufts were left out from the final sprite. These kinds of cultural schemas are sometimes hard to notice during development, but with critique can be spotted, especially if shown to someone from different culture (Gard 2010).

The final sprite took elements of concept A (Figure 14) but tries to make her look less elegant as she is unable to take care of herself quite as well as she used to after her pet went missing. The hairs sticking out of her create a shabby look and the patterns in her jacket and dress make them look dirty. Her character design could change after her dog's ghost has been befriended and she is able to move on.

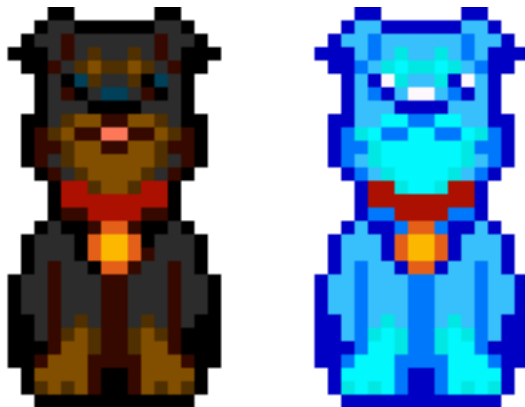


Figure 15. Dog's character design (Partanen, J. 2020)

Dog's design came mostly to reflect the old lady's personality. She is old-fashioned lady who does not bring out strong opinions throughout the game's narrative, which would also tell something about her choice of pet breed. In nineties Labrador retriever was the most popular dog breed in America, Rottweiler coming in on second place (AKC Staff 2015). Rottweiler was chosen as the lady's dog breed because of their round head shape and the fact they are

perceived as protective dogs by the general public, giving an old lady living alone peace of mind. To bring out the friendly nature of the dog, in the sprite his tongue is sticking out, the neck shape of the dog breed is exaggerated, and he was given beady eyes (Figure 15).

For the environments, there are two places linked to the old lady character that need to be illustrated: her living room and the place where her dog is found. Both environments need to tell a story without player needing to read since it was found to be beneficial both in theory (Gard 2010) and in the survey (Figure 6 on page 27).



Figure 16. Living room concept (Partanen, J. 2020)

The lady's living room colours and décor are inspired by pictures of nineties American interior design (Figure 16). Player walking into the room would also easily think a dog has recently been messing up the room due to muddy spots and pawprints all over the carpet. However, these prints are in fact old and the lady is reluctant to clean them because she feels as if the dog is still in the house

because of the mess. The dog's toys are still scattered across the room and his water and food bowls are kept full just in case he returns. A room with hints of a dog should make the scene feel more impactful when the player finds out that the beloved pet is missing. The pictures on the wall also hint at how precious the dog was to the lady but also that she has no other family. The picture of the dog should also give the player an idea what type of dog to look for in the game world.

Second point of the living room was to show that the lady is unable to move around with ease. First idea was to situate a walking frame beside her sofa, but it turned out to be too hard for a player to make out pixel form. The easiest solution was to only show her sitting down and including a walking cane resting against the sofa. The cane's shape is easy to read even in tiny format.

Outside her house could be a lamp post attached to which is a poster of the missing dog. The poster is worn by the weather and others cannot be seen anywhere else, giving a hint that either the one putting it up could not put them anywhere else or that they felt pity for whomever they were putting it up for, but not enough to scatter them through the town. The idea would be that because no one believes her that the pet could be found alive anymore, a neighbour put it up only where the lady could see it, outside her own very window, to give the lady a peace of mind. Details such as these could create empathy toward the lady (Shirong Lu & al. 2012) and tell her story in a subtle way through the environment (Mcrea 2021).

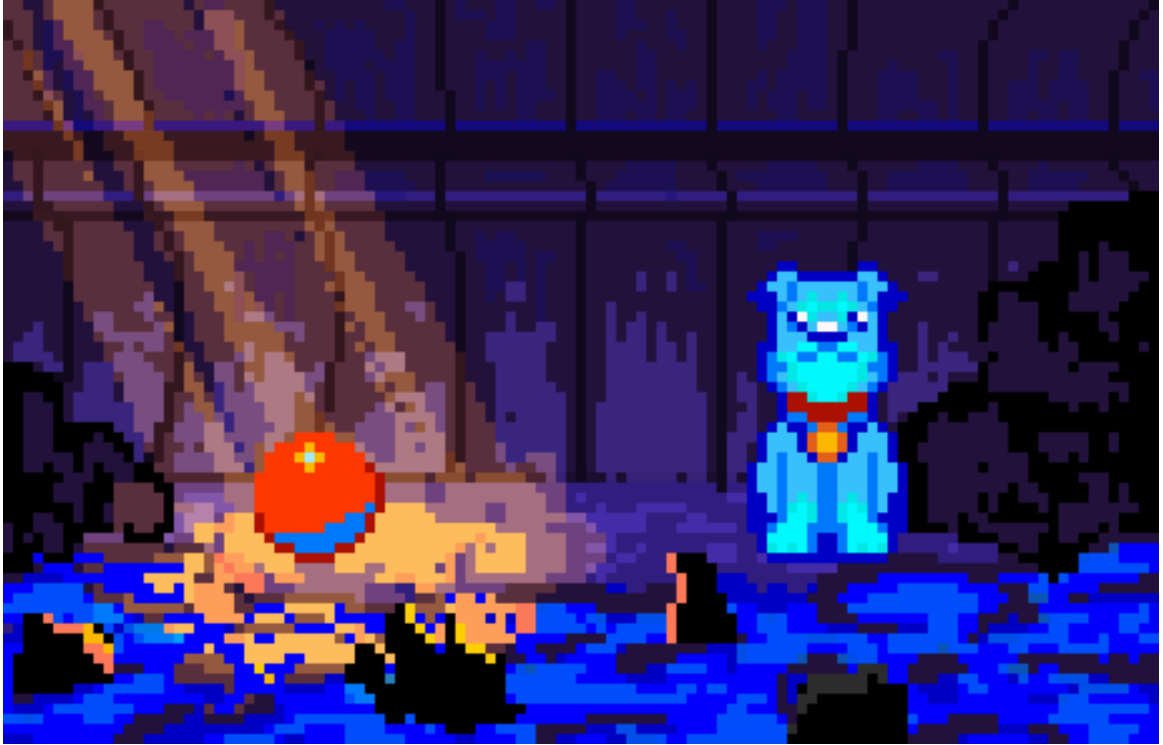


Figure 17. Sewer concept (Partanen, J. 2020)

For the dog, a backstory that is communicated purely through the environmental details would be especially beneficial since the character cannot speak and tell a story (Gard 2010). His ball is a central piece of the story, so it should be opposite hue of the hues used in the sewers to catch the player's eye. Since the sewers use murky blue and purple tones and that all the dog's other toys are red in the lady's living room, it makes sense to use red hue for the ball too. When the player descends into the sewers, the opened lid shines daylight into the tunnels, highlighting the ball. This would not only make the ball a point of interest for the player, but it would give them a hint how the dog ended up in the sewer in the first place by chasing his ball. Because there was no concept for how the sewer would be formatted in the game project yet, the environment design made is more painterly and imagining what the environment could look like, for example in a cinematic (Figure 17).

Taking theory and research findings into account when creating story, character, and environment can help a developer in designing a game world or elements that enrich the immersive experience. Making a logical and cohesive world with

the game's own logic for the player to experience can help them to achieve immersion in any game genre. (Madigan 2012.)

7 CONCLUSION

Whether or not a game project is supposed to be heavily immersive, players will find themselves looking for immersive details. While all aspects of the game design process should consider cohesion with each other to ensure immersive experience to players, there is no harm in some inconsistencies due to heavy internal work players will do to immerse themselves.

What makes a game project immersive is the richness of each element of game design. Environment design, character design, narrative design, and sound design all play an integral part when a developer tries to create an immersive experience. When each element has thought behind it, the game world tells the player a story which they can work with and from which they can derive their own personal experiences.

Due to the many layers and appearances of immersion, the game project should strive to activate as many senses as possible at the same time. This way the developer maximizes chances for each individual to find what best immerses them into video games and creates immersive experiences for a wide audience.

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What makes player immersion?

 Mandatory fields are marked with an asterisk (*) and must be filled in to complete the form.

1. Gender *

- Male
- Female
- Other

2. Age *

- 15-19
- 20-24
- 25-29
- 30-34
- 35-39
- 40-49
- 50 or older

3. How many hours do you play in a week on average? *

- less than an hour
- 1-2 hours
- under 10 hours
- 10-20 hours
- more than 20 hours

4. On what platforms do you play most often?

- PC
- PlayStation
- Xbox
- Switch
- Mobile
- VR
- Other, what?

5. What types of games do you play most often? *

- First Person Shooter
- Action
- Role-Playing
- Massive Multiplayer Online
- Roguelite
- Strategy
- Sport
- Fighting
- Rhythm
- Indie
- Singleplayer
- Multiplayer
- Other, what?
- Horror

6. What motivates you to play games? *

- Socializing
- Challenge
- Story
- Competition
- Escaping to other world
- Becoming powerful
- Exploring new worlds
- Achievements
- Customizing my character
- Mastering a game
- Role-playing
- Something else, what?

Following questions deal with how you experience immersion in video games. In general, immersion means when a player feels connection to the game they are playing as if being a part of the world. It can also include feelings such as of losing sense of time and feeling empathetic toward npcs. How you experience immersions, however, is highly personal.

7. How do you experience immersion? *

- Losing sense of time
- Being part of the world and story
- Game world feeling 'alive'
- Feeling connection to the characters
- Feeling excitement when playing
- Forgetting mundane things
- Caring about the outcome
- Something else, what?

8. How important are following aspects for your immersion in games *

WORLDBUILDING

	not important at all	not that important	neutral	somewhat important	very important
cohesion of the environment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
world feeling alive	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
artstyle supporting genre	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
character design reflecting personality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
well crafted npcs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
easter eggs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

9. How important are following aspects for your immersion in games *

GAMEPLAY

	not important at all	not that important	neutral	somewhat important	very important
interaction between character and environment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
your choices affecting the world	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
multiple dialogue choices	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
npc interactions with the player	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
npcs interacting with each other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
rewarding exploration	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
cinematics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
animations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

10. How important are following aspects for your immersion in games *

STORYTELLING

	not important at all	not that important	neutral	somewhat important	very important
being a central character in the plot	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
lore learned through playing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
humoristic writing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
sound effects	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
music	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
relatable protagonist	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

11. Do you have specific memories or experiences regarding immersion? (optional)

Interview A.

Q: You had put as your specific experience regarding immersion in the survey especially Witcher 3 and the environment. Have you had same experiences in other games?

A: Yes, quite often. Any single player game I am immersed in once or more, most recently Outer Wilds. You find other astronauts through instruments they are playing, so you hear what planets they are in based on the music they play. The game has lonely and peaceful atmosphere, the world ends every 20 minutes or so and you start again. There is another single character in the solar system in the time loop.

Q: I'd like to ask, what makes the game feel lonely and peaceful?

A: The game doesn't have much music other than when sun explodes and when other player plays their instrument. But really, it's the whole world. The way the game world is designed is very cartoony and you hop between planets. You are alone the whole time and you die very soon, but that death makes you realize that it's ok and you have all the time you need. Each planet is designed for you to explore and they go through cycles without you. You feel at peace exploring the universe because of the tiny size of the solar system. The planets look at the same time ridiculous and interesting.

A: Another time was with little story game, Florence. I felt another kind of immersion: little changes in everyday item made me very emotional. I felt like I was her at that point. I remember vividly when the first fight between me and my boyfriend happened. They made it with showing dialogue as a little puzzle. Each time you had a tune that is in harmony. The first time you notice something isn't right when the next tune is not in harmony and suddenly everything tilts a bit to one side, and you sense there's an argument going on. One by one the puzzle pieces turn red too.

Q: Are there any examples when a game has broken your immersion?

A: For example, Witcher 3 has broken my immersion. Basically, anything silly in that game, bug being one big thing. You also die a lot from falling damage and every single time it happens it feels unfitting. Also, some quests feel very easter-egg and too on the nose. I like them, but they are not immersive and I'm in different head space.

Q: Do you have any other game where the environment has broken your immersion or doesn't immerse you at all?

A: Basically any multiplayer games. Also Lucius one and two comparison. I really liked the first one and it felt like I was really messing with the family, but in the second game everything turned into sandbox game. It doesn't feel like killing anymore. You just want to get it done. They feel like dolls for you to mess around with.

Q: I've done some concept art for a pixel mystery game that takes place in nineties American rural town. I'll show you two pictures each for 5 second. I'd like you to take a good look at them.

Q: So, if this was a game environment, which one would you prefer and can you tell why?

A: Just going by intuition I'd go with the first one. The only real difference I noticed was the cat's face. I don't know, it felt like more like a mystery for me to solve while the second felt like a place to play minigames.

Q: I have three pictures of pixel game environment. If you had to play retro styled game, which one of these three would you prefer to play and why?

A: I would prefer the second. It feels most interesting and the third one doesn't appeal to me at all. It's the heads of the characters. The background looks cool, but the characters look silly and I don't know if it's supposed to be mystery or silly game.

Interview B.

Q: In the survey I noticed you put a lot of story and world building aspects as immersive to you. Do you have any specific memories or experiences of games you get immersed in?

A: So, for me it's a bit weird, because sometimes I get immersed in games that are only based on mechanics. I get lost in the game and lose the sense of time and just play a game for five hours. Mostly competitive multiplayer games.

Q: Do you pick up any immersive details in game environments?

A: Not in competitive multiplayer games, but there are other games where the environment itself is very immersive. For example the first Witcher game. The player has very similar introduction to the game world as the protagonist, which makes it immersive. You learn about the world at the same pace, but you are still a character in the world. For example I don't get the same feeling in something like Oblivion or Skyrim, because there you aren't a character but an avatar for the player.

Q: I noticed you put puzzle games as the games you play. Do you ever get immersed in them?

A: One game that is very immersive for me is the Witness and it's both because of the mechanics and environment. For me, the world feels meditative and kind of zen-like experience. You get lost in the world because it is so consistent tonally and constructed in believable way. It's not realistic, but it's consistent in its own logic. All the interactions in-game are mechanically the same, which creates an elegant feeling that everything is connected and that everything that is there is designed to be there. For example, even rocks have a feeling that there's an intent behind them.

Q: Do you have examples where the game has broken your immersion?

A: Let's move from Witcher 1 to Witcher 3. There's side quest that is a joke. It completely ruins immersion and takes me away from the game world and I feel like I don't care about the story anymore. It's so over the top and not subtle so you cannot look at it just as a nod at the thing it is referencing.

Q: I've done some concept art for a pixel mystery game that takes place in nineties American rural town. I'll show you two pictures each for 5 second. I'd like you to take a good look at them.

Q: So, if this was a game environment, which one would you prefer and can you

tell why?

A: The first one. What I remember, the cat's expression was less happy and the car was older. The second one looked a bit new and weird.

Q: I have three pictures of pixel game environment. If you had to play retro styled game, which one of these three would you prefer to play and why?

A: I'll go with the second one, because it's a good balance between very limited colour palette and modern pixel art style. The third one looks too modern, there's no authenticity.

Interview C.

Q: You said in the survey that having a self-insert and interesting non-player characters play part in your immersion. What makes non-player characters feel well-crafted for you?

A: It depends a lot on how the story is written and how the non-player characters are thought out. For example, in Dragon Age the characters that are on your team are very well thought out. They tell their backstories and opinions, which gets me invested in them. The character banter in Mass Effect and Dragon Age makes the experience more real and it shows character quirks.

Q: In the survey you have put cohesion of the environment and story as very important part of your immersion. Do you notice these things while playing the game?

A: I notice especially if they are not well done. It feels like something is off and the game doesn't feel worth it. I don't notice immersion right away because I get so invested into an immersive game. I do get this feeling in multiplayer games as well. For example, World of Warcraft has nowadays the player character is put into a character trope of being a hero. I rather would craft my own stories for my characters. Doing story quests in recent expansions makes me feel distant from the game. I don't like being too special in the game lore, it makes me feel like there's too much pressure on my character. I get the same feeling sometime in Skyrim too.

Q: About Skyrim, does the game ever break your immersion with the side quests?

A: Yes. I sometimes think that when I've done all the quests for each Daedric prince what will happen when my character dies. Do they all just fight about my soul for eternity? It feels weird that I can do all of them. I wish they made it so that you could only choose one. Same goes for guild quests in the game.

Q: You mentioned you notice if the game environment is off. Do you have any examples of that?

A: It's especially with bugs. Like going through ground in Skyrim for example or non-player character sitting on air. These things break immersion even though it's funny. But it's not that big of a deal, because I can immerse back into the game. What would really break my immersion and affect the experience is if a character says or does things that are out of character.

Q: I've done some concept art for a pixel mystery game that takes place in nineties American rural town. I'll show you two pictures each for 5 second. I'd like you to take a good look at them.

Q: So, if this was a game environment, which one would you prefer and can you tell why?

A: I think the second one is cuter, but for the theme I think the first one fits better. The cat in the first one looks like its waiting for someone to come in. I noticed cat's face, the writing, and the car might've been different shape.

Q: I have three pictures of pixel game environment. If you had to play retro styled game, which one of these three would you prefer to play and why?

A: I'd like second and third mixed between, but I mostly like the second one. I like in the third how the mood is set and how the trees are made, but I don't think the characters fit. I would choose second one over the third one.

Interview D.

Q: In the survey I noticed that for you it seemed as if the immersion came even from accidental things such as choosing something that lead to character death in Witcher 3. I wanted to know what other type of immersion you experience?

A: I get immersion all in all. Open world games where I can roam free like for example Breath of the Wild. The game doesn't have as immersive story that I care about, but I am still very immersed in the game because of the size of the world and the number of little things that I can find and explore there. One good point is that part of the immersion for me is that I can do things like I want and in the order I like.

Q: You mention finding little things in the game worlds. What sort of little things?

A: I like finding quests for example. Especially the ones where I must be in right place and at right time to find them.

Q: In the survey you put music as a very important part of your immersion. Do you have any memories of these experiences?

A: I usually have sounds very low, so I may miss quiet sound effects. The reason why I put music as very important is because when the music is very good, it takes the whole experience on another level. For example, in Breath of the Wild when you see dragons and there's this really magical music, the moment is perfect. It almost feels like being a part of a movie. I also really like Witcher 3 music like battle music. I usually find battle music fast and it stresses me out, but in Witcher 3 I feel like the battle music is different because of it being folk music.

Q: Do you have examples of times when a game has broken your immersion?

A: Some sexual scenes in Witcher 3 for example. I hate them because of how awkward looking those scenes are. Sometimes in games animations are off-putting as well in cut scenes. Bugs also break immersion.

Q: Do you enjoy joke side quests in Witcher 3 and do they affect your immersion?

A: I love them. I don't think there are too many of them, so they don't ruin my immersion in any way. I really like having light-hearted parts in the story to balance out serious parts. In these semi-realistic games, I think if it was too deep and serious it would feel hollow. When thinking about real life, there's light and serious parts so to me these quests make the game feel more immersive in a way.

Q: When your immersion is broken, can you immerse back into the game?

A: Normally yes. For example, I can skip awkward scenes in games, and they don't affect my immersion too much. However, if the story starts to feel lame from my point of view, I can't immerse back into it that easily.

Q: I've done some concept art for a pixel mystery game that takes place in nineties American rural town. I'll show you two pictures each for 5 second. I'd like you to take a good look at them.

Q: So, if this was a game environment, which one would you prefer and can you tell why?

A: The first one. I noticed some differences, but I mainly noticed that the cat was sleepy in the first one and I found it cuter. It reminded me of old cartoons. I might've noticed there being difference in the windows.

Q: I have three pictures of pixel game environment. If you had to play retro styled game, which one of these three would you prefer to play and why?

A: In the first one I really like the style, but I hate the colours. They are too bright and are hard to look at. Otherwise, I'd choose this one. In the second and third one the characters don't feel like part of the pictures. I really like the second one overall, the background feels like it has the most definition and it reminds me of watercolour illustration.