



# Horror in Escape Rooms

How to Build an Atmosphere and Design Puzzles

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## **ABSTRACT**

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The goal of this thesis was to gather information to get unique and theme-suitable puzzles for a new escape room game, to create an atmosphere of horror and to provide new experiences for the players. Examples were gathered by benchmarking and visiting escape rooms in Finland and by evaluating the tasks and puzzles available in them. A new appreciation was gained for the ways that escape room games have evolved over the years from their digital predecessors.

During the thesis process, it was learned how to create a sense of horror subtly and without scaring the players, what are the basic principles involved in creating horror and how important the scent scenery is for building up the atmosphere.

The practical part of the project was to build physical puzzles to an escape game room, and use scents to establish the ambience of the horror story within the game. These components were built to a horror themed escape room game for Mysteeri Tampere, an escape room game provider in Tampere.

In conclusion, it was found that the scent scenery created an interesting additional element in the game room. Findings from the benchmarking phase were used as an inspiration for the built puzzle components.

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Keywords: escape room, horror, puzzles, atmosphere

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## 1. INTRODUCTION

Escape rooms have been around for several years already and have become a pretty popular way to have fun with friends, or even as a full time career.

Horror in escape room games has been a popular theme since the first rooms opened in Finland, and part of this thesis's work is getting to know the horror-themed game rooms, exploring the structure of their puzzles, and then building the suitable atmosphere and excitement-creating components of an escape room under construction.

The purpose of this thesis is to explain the basics of escape rooms, how horror as a theme works in an escape room game, and how the theme is implemented inside a working game. What to consider when planning a new game? What twists came along the way and what was learned during the project. The text is written from the perspective of an escape room game host and worker, and may include spoilers of some of the rooms playable in Finland. However, the names of the places have not been revealed and the puzzles and their solutions are not shown fully so that they can't be identified or used in a real game situation.

The physical game room was built for Mysteeri Tampere, an escape room place in Tampere city. Mysteeri was originally founded in 2015 by Emmi Kärnä and Jussi Venäläinen after their trip to Estonia, where the couple played their first escape room experience ever and were impressed by it being something completely new. In 2019 Mysteeri became a part of Truescape Oy that it is until this day, however keeping up its own way to build rooms and stories.

Today Mysteeri has six offices in different locations in Finland.

## 2. HISTORY OF HORROR

### 2.1. Why do people love to be scared?

Before starting to create any horror-themed entertainment, it is useful to understand how horror works. What is terrifying for the players or the viewers, and how to make the game itself still interesting and entertaining, and mostly, playable?

The website "Literary terms" (2022) defines horror as "a genre of fiction whose purpose is to create feelings of fear, dread, repulsion, and terror in the audience", developing the atmosphere of "horror." The term itself comes from old French word "orror", what means "to shudder or to bristle".

When thinking of the emotions associated with horror, they are not usually seen as pleasant or wanted ones. Why then do people voluntarily seek out situations to be scared, and even pay for them when natural instinct would be to avoid these events?

Research from neurophysiologist Christof Koch (2011) related to consciousness shows that the right amygdala, a part of the brain that is usually associated with feeling and learning the emotion fear, is more sensitive to images of animals than to humans, buildings, or everyday items that you would think to be more important to recognize to be dangerous in present times. This may be a part of explaining people's fear of horror characters with animalistic features, such as sharp teeth and inhuman shape.

However, at the same time Dr. Thomas Straube's (2010) brain scan study found out that the horror films themselves do not even activate the amygdala area at all, but instead other parts of the brain that are responsible for things like seeing, self-awareness and problem solving, planning, and attention. So horror films are not even "horrifying" for the human brain, and instead they activate areas that are used for general surviving of stressful situations.

There are many reasons why people would enjoy watching horror films and overall consuming horror media. Among other things there is Aristotle's theory of catharsis, which means encountering negative and violent emotions in person itself through film or other media and thus reducing them within the viewer.

The second theory is Excitation transfer theory, in which psychologist Dolf Zillmann (2008) claims that the viewer will get more out of the hero's victory if there have been horrors that have been overcome before. However, in all horror movies, the hero does not win or receive any reward for his victory, so this theory lacks for some parts too.

According to Professor Marvin Zuckerman's (2020) theory, consumers of horror would be having a trait of "sensation seeking", searching for opportunities of intense feelings and experiences, that the same would be sought for, for example, roller coasters, bungee jumping, and other dangerous acts. But then there are many horror hobbyists who are not so enthusiastic of jumping down the cliffs.

Besides these theories, there are so many other reasons why people like horror and all of them can't be explained by any theories, or many of them can apply in one viewer. Dr. Margee Kerr (2018) stated in her Ted Talk that being scared "can feel pretty good, even primal. - Doing something scary can feel rewarding".

Including all these theories and considerations, it can be concluded that horror can be a safe and sound way to feel difficult and uneasy emotions, move them outside of the experiencer, and feel relieved as the hard times have been overcome. These emotions have great similarities to the experiences felt in escape rooms, so it is no wonder that one of the most prominent themes in the escape rooms are thrills and horror.

### **2.1.1 Ways to make people scared**

In his study, Glenn D. Walters presents three factors of horror that make it an enjoyable theme:

1. Tension: Making viewers wait creates excitement and tension of the unknown, not knowing when the presumably scary event is happening. There is no need to even have an actual threat, just waiting for it can be terrifying. This part is however really important in element called "jump scare", an event that happens suddenly and is meant to scare the viewer, for example a vase that falls down the shelf or a scary figure that jumps on the viewer's face. This event relieves the tension for a moment, and let it build back up again leaving the viewer waiting for more.
2. Relevance: Horror requires a certain amount of familiarity or relevance so that the viewer can empathize with it and "sympathize" with the media that is meant to be intimidating. The acquaintance can be personal, social or cultural.
3. Unrealism: In addition to these things mentioned above, an important element in enjoying horror is unrealism. When a viewer knows that a movie or media is not true, they can feel fear and the feelings associated with it more safely without the real need to be afraid or panic.

These basic elements will provide a good foundation for creating any horror-themed media. The designer does not have to be a psychologist to take examples from these factors and create a scary story for viewers, or in this case, players.

## 2.2. Horror in entertainment

Horror stories have been an integral part of storytelling and folk literature, telling stories of witches, ghosts and other dangers. In Western culture, horror and thrill stories began to rise up in the 19th century in the form of Gothic Literature. The genre of horror has been thought to have been invented by Horace Walpole, whose book *The Castle of Otranto* is said to have been the first official book of horror literature. Later well-known horror books have been Mary Wollstonecraft Shelley's *Frankenstein* (1818), Edgar Allan Poe's literature, and Bram Stoker's *Dracula*. The first acclaimed horror film was *House of the Evil*, directed by Georges Melies, but the genre is practically formalized by the sound film *Dracula*, filmed in 1931, the official poster of the movie in the picture 1.



PICTURE 1. Dracula movie poster (1931, public domain)



Horror has since been used as a subject in numerous different media ranging from games to theatrical plays, and there are dozens of different genres of horror describing what the subject contains, for example gore, paranormal or psychological.

There is also a wide range of different activities available to enjoy horror in real life. Most common would be events and parties in Halloween season, when different kinds of zombie walks, masquerades and other watchable events take place. Haunted attractions are a thing that people visit, and Disneyland has their own Haunted Mansion ride, as picture 2 shows. Most of these open events are child-friendly, aimed to thrill, not scare, the viewers.



PICTURE 2. Haunted Mansion at Disneyland (Rolle 2015)

Some cities or tourist attractions offer “horror tours” in areas or buildings where horrible things or hauntings are said to have happened, while at the same time telling the history and other events of the place. And then there are horror themed escape rooms that use the horror as a storytelling and tension making element, but more of them in the next chapter.

### **3. ESCAPE ROOMS**

#### **3.1. Brief history of Escape Room Games**

##### **3.1.1 What is an "Escape room"**

An escape room game is a real life puzzle solving game, where a group of people is led to a room full of puzzles and locks, and usually their goal is to solve and open these within a certain amount of time and win the game by getting out of the room. Usually there is 60 to 90 minutes of time to play the game through. Behind the locks can be more puzzles or items to investigate, and by investigating these items the players will get more clues of what to do next. At the end of the game, there is a clear indicator that the game is finished, possibly a door opens or the players find some object that states "exit" and if they reach this before the set time is up, they "win" the game. Puzzles inside the room can vary from a task that takes some logical thinking to solve, it could be an actual puzzle with pieces that players need put together, or simply move certain items from one place to another.

There is usually an escape room host or a game host present. The host is a person that is working for an escape room company and is watching over the players of the escape room game, managing the hint giving system and possible computers that are keeping the game working and doing what is intended. The host also tells players the rules of the game before it starts, what to expect if they have no previous experience of escape room games, explain them the mechanics of the locks in the room (shown in picture 3), and will give them hints if the players get stuck in the game and cannot figure out the task themselves. This information session is usually called a "brief". The host's most important job is to keep the game flowing nicely without telling all the answers right away.



PICTURE 3. Instruction board and locks at Mysteeri Tampere (Sauerland 2021)

There is variety of game styles to choose from; most of the iconic games are prison escapes, murder mysteries and horror rooms, but there is plenty to choose on with family friendly themes too. Most of the games are built inside of physical rooms, but there are also some built in nature and throughout cities. There is also a variety of games to choose as a virtual versions that players can enjoy at their homes or virtual reality with VR-headset. Some physical game providers have also their own digital games that you can rent out, or play at their facilities. For example, Escape Room Helsinki has two VR-rooms by the game developer Avatario.

One game genre that can be found in the history of escape rooms is point-and-click adventure games. This kind of graphical interactive fiction required players to explore locations and examine items to combine them, and solve puzzles by giving commands to a computer.

The first digital escape room game can be considered to be the computer game "Crimson Room" by Toshimitsu Takagi from 2004, being the first in the game genre of players investigating and solving puzzles inside a room. The innovation of Crimson Room was that the whole game was played inside one room, and

the player had to immerse themselves deeper into the virtual environment, examining more closely the objects it contained than had been the norm in previous point-and-click games.

What may seem like a difference between these digital precursors and physical escape rooms is that where point-and-click games typically have a single protagonist, physical escape rooms are almost always group experiences. The similarity stems from the fact that computer games can be, and often are, played with friends, for the same reason that physical escape rooms are: because several players can think of more things than one.

Usually the games are suitable from age ten up, while some games are designed to be played with much younger children. Then some escape room games are only for ages 18 and up for their themes or level of difficulty. Usually the horror or thriller-themed rooms are for adults only, or for 16 and up with an adult supervisor.

Physical escape rooms can be designed in many ways. One way to design the game is working with the milieu, designing puzzles that are unique for the room in question. Another possibility is to buy ready-made puzzle sets from the professional puzzle developer, from individual puzzles to entire room sets. It is also possible to move whole game rooms from one place to another, modifying the puzzles to fit in the new space.

There are different styles to build puzzles itself. The game room can be completely manual, meaning that the host can only observe and guide players through hints without a possibility to open locks from afar, or the game could be built to be remote controllable so that the game host can open any lock from their game controlling device. Both building methods have their own pros and cons, and usually rooms are built using both ways to get the game working as planned.

### 3.1.2 Escape rooms in Finland

The first official real life escape room game was created by Japanese game developer Takao Kato in Kyoto in 2007. The game was a success, and after it the escape room games spread around Asia and Europe, and the first rooms in Finland opened up by the company InsideOut Escape Games (nowadays InsideOut Productions) in 2014 in Helsinki. (Koiranen 2019, 17)

There is a great variety of games to choose from in almost every major city in Finland. Some of the game providers besides InsideOut are Room Escape, Getaway, and Mysteeri. All of these companies have multiple different games available in all their offices, but there are also many companies that have only one playable room, or their games are seasonal. Different providers usually have their own way to build the rooms and puzzles, some are using more of physical puzzles their games, some of the providers count on more of logical brain work. For an example, a traditional escape room task could be arranging four photo frames in a chronological order by the year engraved in their frames, the photos then revealing a route or a code to the next lock.

Some rooms are heavily based on the story and some are planned just for the puzzle solving with little to no story elements within. Some companies have two identical rooms where a bigger group of people is split up in two different teams to solve identical puzzles, and challenge them to solve the room faster than the other group. Some rooms could also split one group up within one game and the groups need to co-operate to get back together.

There was a plan to get a new game room for the company Mysteeri, it being Mysteeri's first horror themed game room. The designing started from the idea of giving the players a new game experience that would be suitable for the target audience, being a bit challenging but not too easy to play through. The aim was to use both physical puzzles and logical tasks, and to increase the feeling of horror without being too similar to other games available in the same genre or being flooded with artificial blood or gore, being more on the

psychological side of horror. From these starting points, the design of the room began, and the physical room itself was built in Mysteeri's Tampere office, which briefing area is in the picture 4.



PICTURE 4. Small waiting area at Mysteeri Tampere (Sauerland 2022)



## 4. HORROR AS A THEME IN ESCAPE ROOMS

### 4.1. Benchmarking

First of all, before designing anything new it is always good to do some research and benchmarking of the themes and styles that the designer is planning to do. For this task, four horror/thrill themed escape rooms were played and studied from the perspective of a paying customer, but also as a professional room escape worker. All the rooms were located in Finland, and there were two players playing all the games. Some of the minor details may have changed, and solutions for the puzzles are not written down due the possible spoilers for the future players.

To get an idea what kind of games players like to play, there was a survey created in a Facebook group of escape room enthusiasts asking for recommendations of the best horror-themed escape rooms they have played. As table 1 shows, a couple of the rooms were mentioned multiple times, and several of the rooms were mentioned only once. One person could mention more than one room in one comment.

Game provider, room name	Times mentioned
RunOut Tampere, Orpokoti	2
Mysteeri Tampere, C-rappu	1
aMazed Helsinki, Asylum	7
Truescape Helsinki, Hannibal	2
aMazed Helsinki, Lights Off	2
Hollywood Seinäjoki, Teurastaja	1
Runout Seinäjoki, Woodoo	1
Rollagga, Hostelli	1
Wayout Hyvinkää, The Ward	1
aMazed Helsinki, Blackout	1
aMazed Helsinki, Kahlekuningas	1
Labyrinth Games Helsinki, Trapped	1
Escaperoom Helsinki, Heartbroken House	1

TABLE 1: Recommended rooms

A couple of the providers were mentioned more than once, and it may be inferred that these escape room places have either high quality games or just larger numbers of visitors. In figure 1 it is possible to see that half of the answers mentioned some of the aMazed Games's rooms, so it was worth checking if they had games available to play for benchmarking purposes.

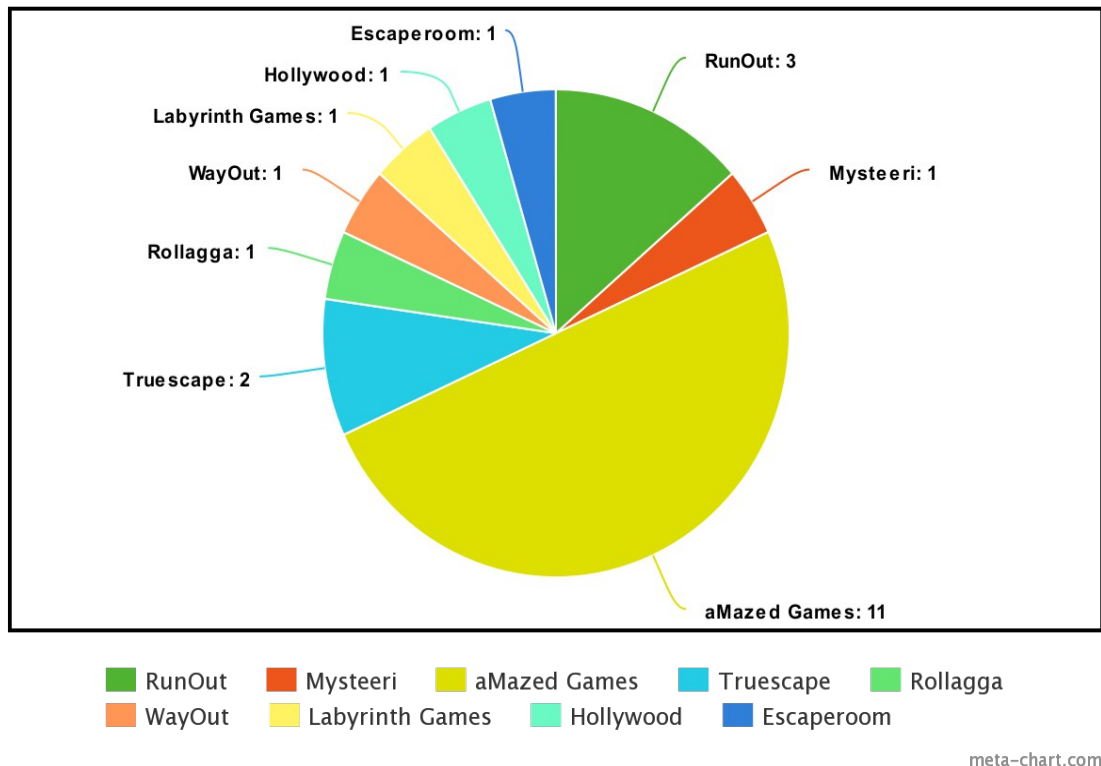


FIGURE 1. Providers mentioned in the survey (Sauerland 2022)

Unfortunately, the most recommended game from aMazed games was out of order, and not playable at the time this was written. Google search could still find the game description, but when trying to reserve the room, it gave an error as shown in picture 5, that the room is not available for reserving right now.





PICTURE 5. Screenshot from amazed.fi webpage

Based on these recommendations, three of the rooms were chosen and one was picked outside of the poll. Here are the overall reviews of the played rooms, without revealing the game providers or the game rooms' names, avoiding possible spoilers for the readers.

#### 4.1.1 Room 1

The first of the rooms was built in the basement of a house, where the story was to solve the mystery of an emptied hostel.

The game started without the traditional opening brief or human contact by getting a text message that gave instructions how to play the game and directions to the game area. At the very beginning it was stated that besides the normal game host there was an actor in the game area, and it pumped up the intensity of the game from the start.

The game progressed very logically and straightforwardly, and the "scares" (weird sounds, flickering lights) were well timed. There was plenty to do in the room for two players, and the tasks were well planned and appropriate to the

theme, nothing struck as not being part of the “story”. Hints were given by a computerized voice, so players didn't know who the talker was. The story progressed as the game continued and opened up as tasks were completed.

What was remarkable was that the presence of the actor made even an experienced escape game player afraid to move from room to room, knowing that the actor could come from any corner and that raised the scare of the game. This room's scares were not made by artefacts, artificial blood, or missing heads, and it wouldn't have fit the story anyway. The smell of the venue (the old basement) played its part in the atmosphere of the game, most likely unintentionally. At the end of the game, the scares were used to remove players from the playing area and it worked well.

#### **4.1.2 Room 2**

The second of the rooms played was more of traditional horror. In the story, players have come to a sanatorium for a job interview when things go crazy.

The game started out of a clean, simple room with a pretty traditional task that, when solved, led to the horror game itself. Game hints were given by walkie-talkie when asked. The game used a very classic madhouse theme with a wheelchair and medicines as part of the puzzles. The tasks fit well with the theme of the room and nothing striking was found that would not have been suitable for the environment or the game.

The assignments were focused on disgust but not too much so that players would still be able to do them even under pressure. One of the tasks was to dig a jar that was full of syringes and it could be hard for a person afraid of needles, but it can be assumed that if someone in the player group is having a phobia of needles, someone else in the group could do it.

The game had great, relevant props (a mannequin, theatre knives, medical jackets for players) and the staging was built with the idea of disgust. The dim lighting certainly forgives a lot of details that were not as refined as they could be. Horror was created by the world of sound and sudden loud noises and bangs, which is perhaps a more "cheap" way to scare, but it was used appropriately in this room. The cramped spaces worked and were not too claustrophobic even for the bigger player of the team. The room was very solvable with a team of two, but there was little time left so it wasn't an easy game.

### **4.1.3 Room 3**

The third game was based on a well-known horror film series, but did not directly follow the story or characters of the film. The game was started by separating the players into different spaces, and without seeing each other, they had to work together to get into the same space. In this game, too, the clues came through a walkie-talkie at the discretion of the game host.

This game relied more on the mood of horror than escape game tasks. It was more of a horror experience with escape game elements than a thoroughbred escape room, and playing the game is much more fun as long as players realize this. The tasks were quite simple, but doing them was a source of fear and thrills. For example, one task required a player to lie on a table, and then from the ceiling upon the lying player rolled down a roll of paper to give instructions for the next task. Another one was to close one of the players in a small cramped space for less than a minute to allow the game to progress.

Towards the end, the game became much more humorous and scares came from sudden noises and jump scares than the atmosphere itself, and according to the survey, this was an element that had annoyed some players in the past. The tasks at the end were mostly a series of things to do rather than solve puzzles, but when the players realized that the game was intentionally easing

and getting more humorous towards the end, they could react and play it without feeling the game getting too easy. Everything was set up nicely and thoughtfully to the end, but the fear itself quickly dissipated in the middle of the game, quickly turning only to disgust and humor.

#### **4.1.4 Room 4**

The fourth room was one that was not mentioned in the polls at all, but was chosen because its description said the room was a new immersive escape room experience and may not be best suited for players looking for high scores or difficult puzzles, but it would be great for players looking for new experiences and immersion.

The story of the game is about a boy who experienced and saw things that others did not and had now fallen into a coma, and players should get the boy awakened by visiting his memories. The premise of the game was interesting and the game started by exploring the boy's room, from which a few traditional puzzles got deeper into the story, and elements of excitement were brought in. The puzzles were (as advertised) very immersive and there were very few traditional lock opening puzzles. The puzzle elements in the game were re-used nicely without confusing the players about what should be possible to use again.

The thrill of the game came from the revealing of the story and how the boy himself "guided" the game and the players. The sounds were used judiciously and the mechanics of the game's puzzles were re-used to keep players on their toes. For example something suddenly falls off the wall where a puzzle was just solved. This was the most atmospheric and "serious" of the games played, considering it wasn't directly a game of horror but revealing an interesting story. Two people got through the game playing at a calm pace and at no point did they feel like a rush that would have messed up the atmosphere of the game.

## 4.2. Conclusion of the rooms played

All four rooms played included somehow the theme of horror or thriller that was searched for. One of the biggest thrills in the games was the noticeable presence of an actor. The fact that you knew that something "non-mechanical" could scare you at any moment created the greatest tension and anticipation. The thoughtful and limited use of the actor adds considerably more level and excitement to the game of horror.

The story that accompanies the game is also very important. It's good that the story is clear and relatively simple, yet unique and not borrowed directly from a ready-made source. When the story is simple, it can also be followed in an oppressive environment. However, it should not be too simple, or it could easily be predictable. A good twist always makes a story better.

Of the rooms played, rooms 3 and 4 were perhaps the most opposites of each other; one was played with clear horror aesthetics with its artificial blood and body bags, while the other came with excitement as the story unfolded and actions of sudden jump scares happen. However, these rooms are not directly proportional to each other, the latter not being a direct horror themed room. But both created an exciting atmosphere, in very different ways.

Rooms 2 and 3 on the other hand were closest to each other, with room 2 having a clearer story at the beginning and keeping the same atmosphere until the end, while room 3 radically changed in a more humorous direction at the end of the game. Both were very traditional horror in their sets and basic atmosphere. Both rooms had a bit of manual work from the game host (banging on doors, throwing things) but nothing comparable to acting. Room 2 had a more distressing atmosphere until the end and stayed more involved in its theme as Room 3 pulled the game into a joke in the final stages.

Both rooms can be examples on how to build spectacular and believable environments, what techniques have been used in painting and propping, and how to keep hidden things that are not important to players to see. Both rooms

also had dim lighting to suit the atmosphere of the game. In both rooms, the story created pressure for players and the need to get out of the room quickly, which is often a working motivation to get players to solve puzzles if there is no other bigger mystery to solve in the game. In room 2, this pressure to escape was stronger than in room 3, although there was something in both stories that “chased” the players and would get them if they didn't escape before the time was up.

Another big difference between the two rooms was the number of puzzles and their difficulty. Room 2 was clearly a traditional escape room with puzzles and their resolutions in the centre of the action, while in room 3 the puzzles were mostly spice in the horror experience. In room 3, the puzzles required more physical movement and players arranging themselves in specific places than in room 2.

Room 1 was the most unique of these games due to the room environment being a real cellar. It was interesting to go to the game area without the usual initial human encounter with the game host before the game starts, and the private entrance to the game area allowed a contactless game to start immediately. Direct entry to the game created an excellent immersion and started the game with really high stakes. Would it be possible to keep the starting brief, explaining the rules and ways, in a normal escape game as minimal so that the game story could be experienced as deeply as possible, keeping the game itself safe for the players without detailed rule explaining? It is also important to think about what players will see before going into the room, and this route should also support immersion and diving into the story.

There was a smoke machine used in Room 1 and it also created a great atmosphere as the players could not see all the details right away, and in the first room you had to really go and look closely at everything you could find and it created excitement about anything you could find.

One of the underrated elements was well present in Room 1: the smell. The smell came naturally because of the location of the game, but it fit the game perfectly and brought its own dimension to the immersion of the story. The smell as an element of the puzzle is not a new thing; there are puzzles where players have to solve out the correct letter / number combination by placing the smelling bottles in their correct places. The scents are also used to create an atmosphere in Disneyland theme parks, for example, where a certain themed area smells different and in a ride where there are bananas and monkeys visible in a certain area, there is a sweet banana smell. These are called "smellitizers". (White, 2022) It would be interesting to take such use of smells to create an ambience, for a purely atmospheric use.

One of the puzzles in room 1 was particularly memorable, as it was solved by putting on certain clothes. All of the clothing was loose and easy to wear, and it would be interesting to use such an element in some escape room game in the future. In room 2 and 3, water could be found as an element that was not directly part of the solution to any problem, but could, when used properly, bring appropriate disgust for finding a key, for example. However, the use of water must be considered through hygiene; Would it be too much effort to switch the water between games so that dirt and bacteria would not spread between the player groups? Is it worth it, or would there be a similar nasty feeling simulated by something else when you put your hand in a jar?

## 5. BUILDING THE ROOM

This section reviews issues related to game room construction, how to use the new techniques learned in benchmarking phase, and apply them into a semi-finished game room. The physical construction of the room itself will not be discussed here, keeping the focus more on creating elements of horror and designing/building out the puzzle(s). There are some basic rules of how to build an escape room that were used here, and are important to mention.

When designing an escape room game, it is important to make the game environment both interesting and safe to investigate. There should be nothing in the room where the player can hurt themselves, unintentionally or intentionally, or anything that the player can easily break down with normal examination and playing. However, it must be considered that players are not usually toddlers, so they need to take some responsibility for their actions.

Before any escape room game, a couple of the main rules are explained to the players by the game host:

1. There is no need to break any items or furniture in the room
2. It is not necessary to move heavy or fixed objects
3. It is not necessary to climb on anything, furniture or friends.

In addition, different companies have different ways or symbols that display objects players do not need during the game and need not care about, such as fixed room lights, light switches, outlets or other room technical stuff. These things can be marked with a piece tape, a stop sign or something similar, and that is a clear indication to players that this object is not needed to solve the puzzle.

Sometimes, especially in horror-themed games, players need to write a waiver that frees the venue from responsibility for any physical and mental injuries if there will be climbing, falling objects, or an actor who might physically touch the players. These factors are always told to the players before the game and the



players go playing knowing that there may be something "dangerous" in the room. However, the game must not be intentionally constructed in such a way that the player is at risk of injury. Usually such a form is mainly intended to intimidate and create an atmosphere.

### **5.1.1 Visual atmosphere, painting**

When expressing any different genre of horror, it's important to figure out what kind of things players can expect from the type of game being built. At what time, in the world and in the story does the game take place? Do you want to create a scary and disgusting environment right away, or build an atmosphere that changes as the game progresses through the little things, and how subtle the narration of horror can be if players can be found from different backgrounds? For some players, small things are the scariest, while others are not startled by anything. It is important to be able to balance these things, but at the same time stay true to the company's own style of telling stories and creating puzzles.

The room that was built at the time of writing this thesis was chosen to be psychological horror. The intention was not to disgust the players with artificial blood or loose toes but to create tension as the game progressed. The jump-scaring of the players was also not on the list, but rather allows the players to frighten themselves.

As already mentioned in the benchmarking, the appearance of the room staging is one of the most important atmosphere creators in a horror game. It is important that the player gets inside the experience and that, for example, the blinds in the office do not spoil the atmosphere if the story is in a grimy dungeon.

When a room is built, it is often restricted by the facilities and original construction of the room. Sometimes there are restrictions on what can be

painted, how to build walls, or laying electrical wires. In these cases, it is important to plan how the original structures could be utilized, or hidden as unobtrusively as possible.

The colour scheme of this game was formed by very different themes for different sections of the game, which are meant to confuse the player and create tension when players never know what things to expect. The first section is very gloomy and dim, while the second is calm and serene on the contrary. The last section has the most staging related to the theme of horror, and this room had to be invested the most in order to keep the atmosphere intense.

The original brick walls of this third room were initially painted in a solid color, but after the test games, it was noticed that the room did not impress the players as much as it could. The room was too clean and bright. Lessons learned from benchmarking phase were introduced to the room by sponging and splattering the brick wall with dark paint that made the space look dirty and worn without the need to actually break things, as the picture 6 shows. It also allows the players to touch the props without messing themselves up. The same color was also painted on some of the furniture and props to make them look dirty and aged up. The shadows of the space were strengthened with black spray paint, which made the space look dimmer without reducing the lighting that was needed to see the puzzles.



PICTURE 6. The painted wall and aged up prop (Sauerland 2021)

### 5.1.2 Scent atmosphere

One big element that was wanted to get into the room was the use of scents to create the atmosphere. Different parts of the game could smell different, but how do you make this understandable to players and how do you prevent odours from spreading to different areas? And how to take into account potentially odour-sensitive people?

The design of the scents started with thinking about the smells of the game areas if they were located in the normal world. The designer team wanted clear and recognizable smells that would not completely confuse the players, but would only create an atmosphere and tell a story. Scents should also be considered as an extra in this room, keeping in mind the players that are not able to smell. Like mentioned before, sometimes scents can be part of a puzzle, but it was not a goal in this case.

Based on these thoughts the second space was decided to smell like vintage perfume shown in picture 7, which turned out to be very easy to implement. It was enough when the perfume was sprayed on the door frames and a few assorted objects in the room, and the scent created its very own atmosphere in the space.



PICTURE 7. The perfume used the second space (Sauerland 2021)

The first and last spaces were more challenging when planning smells suitable for the game environment, the first area being a hallway and the last overall dirty and "forgotten". The smell of either should not be pleasant like some floral scents are, but nothing that would make players feel ill either. How to create this scent so it would be easy and cost effective to maintain and at the same time quick to replace when needed?

Research started from searching for different room scent diffusers, but unfortunately the scents were usually too "nice" for the rooms they needed to be. While googling "weird scent sprays", came upon some prank fart sprays, but it was decided that those were too intense for the game too. One the searches found some essential oils that have some intensive and atypical smells, and more on that later. Lastly, the search engine suggested using Wunder-Baum, a scented piece of cardboard that is used to refreshen the air inside of people's cars.

A visit to the store brought some different "wonder trees" that were described as something that didn't tell the real scent of it. Out of these options "Black Classic" and "Leather" had most of the scent scenery that was suitable for the game areas. Neither of these scents created the exact feeling that was looked for, so the next move was to move on fragrance oils. Essential oils as mentioned before were considered, but there were no suitable scents available online or in stores within a reasonable traveling distance.

The main difference between fragrance oil and essential oil is that essential oils are organic and natural scent makers, and fragrance oils are usually synthetically made. Essential oils are more safe to use with soaps and aromatherapy, and anything that is in contact with skin, and fragrance oils are better in candles and room scents. Essential oils are usually more expensive too, but they stay better for longer. For this purpose either one oil type would work.

There was a plan to combine either one of the scent trees to some of the fragrance oils and maybe get the right combination for either one of the problem

areas. "Leather" was picked up as a base scent for the last game area, supporting the items and props within that room. "Black Classic" did not have any particular item smell, but being a musky and a bit damp it could work within the first game area, the hallway. Four fragrance oil scent blends were brought to support these base scents. Here are the scent names and translated descriptions of the scents:

"Ruutupaita" ("Checkered Shirt"): "Masculine scent with leather and masculine oriental wood scents. Apple on the upper note, sage and bourbon pepper on the middle note, amber, benzoe, patchouli on the bottom note."

"Savu" ("Smoke"): "Gives woody smoke scent into a product."

"Taikametsä" ("Magic Forest"): "Bergamot, fresh apple, eucalyptus; cinnamon bark, clove leaf and white flowers as the middle note; dry notes of cedar, rosemary, tonka and icy musk."

"Paronin Piippu" ("Baron's Pipe"): "Soft and full-bodied scent. Fine pipe tobacco or freshly cut tobacco leaf and a slight hint of cherry wood."

Of these were mixed three different blends and presented to be reviewed for a small group of people within designing team. The first one had 50% of the Ruutupaita and 50% of the Paronin Piippu, the second one was the same but with a bit of Savu and the third one was 60% of Ruutupaita, 30% of Paronin Piippu and 10% of Taikametsä. Everyone in the small group of the designers agreed the second one to be the most suitable for the last room, so it was used to bring some "scent points" in the room. The scent was added to a couple of the props and puzzles that required players to interact with cloth.

The first test players for the scented room did recognize that the smell in the second space was what it was supposed to be, but the third area's scent was too powerful, so the room was ventilated and the scent level adjusted to be less overwhelming by washing up some props and adding the fragrance again with a better considered amount of the product. The scent tree was adjusted by covering it up partially, so the scent did not spread so strongly. After these

adjustments there were three other game groups scheduled for that day, and one of them mentioned the scents without a prompt, and two of them after asking of noticing any differences between the game rooms.

### **5.1.3 Building a puzzle: Mailbox**

When designing a room where being scared is a big part of the experience, it is a good idea to consider how difficult the puzzles are needed to be, as it greatly determines the target audience for the game. The difficulty level in this room was planned to be kept medium so that the threshold to play in the room would not be so high for players who have not played anything before.

There were plans to have some physical tasks at the beginning of the game, with the idea of a traditional escape room, i.e. unlocking locks. One of the tasks was supposed to be a part of a mailbox, from where the player has to reach for a key that opens the next lock. The puzzle needed to be designed so that the task itself would be completely safe for the players to investigate, but suitably intrusive that the solution would take a while. One also had to think about where to get a mailbox that any player's hand could fit through, when commercial mailboxes are not specifically made for it. Eventually, as picture 8 shows, it was possible to order large enough mail hatches from a craftsman, and once they were installed in place, the building team was able to start designing what would be inside the hatch.



PICTURE 8. Mailbox work in progress (Hartikainen 2021)

During the design phase, various materials that could be used within the box were reviewed. As an element, simple water was a fascinating idea to use in this puzzle, but as mentioned earlier, it would have been difficult to implement in terms of hygiene, especially during the pandemic. The same problem would have been with different slimes and jellies, which should always be replaced between games. Then the box should be built to be easy to open and waterproof, and time should be allowed between games to switch content. So any liquid based things were struck out.

One version was the idea that there would have been a sound of a dog barking when the mailbox was opened. Based on that, we started to design "teeth" inside the mailbox that would hit the player's hand when searching for the key at the bottom. The teeth of the first version would have been made of a hard Fimo material that can be moulded like modelling putty and then cured in an oven to be hard and durable. When we started looking at this plan from a safety perspective, it was clear that the Fimo mass is too hard and the teeth made from it would be too sharp for the players to scramble and search around.



When figuring out the next material the main question was that what materials could be used for building sharp but safe spikes? Fabric fringes and urethane mass were considered, but in the end the team came up with the idea to use sanitary silicone. The silicone used in the bathrooms is a bit oily in nature and creates a strange feeling in itself, especially if you don't know what's going on in there when you investigate the box. Silicone stays in shape after drying and is easy to glue to different types of materials.

A piece of plastic mat was attached on the box to "hang" from the sides, free from the middle, creating the illusion that the bottom of the box is not a flat square but something vague. The "teeth" made of silicone were glued to this mat so that they would not be visible when the hatch was opened, but would immediately hit the player's fingers when the bottom of the hatch was reached as picture 9 shows. The entire inside of the box was then painted black, and all the things inside were covered in wood slabs to make it look like a regular mailbox.



PICTURE 9. Insides of the mailbox (Sauerland 2021)



During the test games, the players mentioned the box as “disgusting,” but because at this point in the construction of the game, no dog barking sound had been put into the hatch as an effect, the players did not recognize the silicone spikes as teeth. In the end, the whole idea of a dog’s voice was left out and the box is just a disgusting sensory box. This task at the very beginning of the game creates a suitable atmosphere but is not too difficult to solve.

## 6. DISCUSSION

It is interesting to see what opportunities escape room games can bring within the theme of horror, bringing players new and safe experiences with distressing themes and topics, and letting players safely experience and enjoy these events without the real need to fear. It is also great to watch how escape room games start to gain a foothold as people's pastimes, how the associated prejudices seen and experienced as an escape room worker subside and new players get to know the hobby.

Benchmarking in other horror-themed escape room games opened eyes and brought a lot of new ideas that could be implemented to the game rooms in the future. Fear is personal, but these findings seem to indicate that interactive horror experiences, not being tailored to any single individual, will benefit from hitting as many common objects of fear like bodily harm, loss of control, loss of sight or other faculties, as possible.

Interactivity and puzzle-solving present a unique problem regarding the horror genre. Fear is an emotion, but puzzles and mysteries require rational processing. Each works against the other. An effective horror experience requires the participants to feel isolation and helplessness, but true interactivity means their actions must have an effect. Escape rooms have the isolation component built in; clever and careful puzzle construction is needed to evoke (an illusion of) helplessness.

During the project, a number of new skills were accumulated, both in physical construction and in design to support storytelling in these games, which will certainly be useful in the future and what could hopefully be helping others along the same lines, at least when training new people to this job. The work still continues as the maintenance of physical puzzles, filling the story of the room, and repairing the props will go on, being the daily routine of an escape room worker. In this work, the room is never finished, but there is always something that can be improved a little more, and that is the best thing about it.

It will be very interesting to see what kind of puzzles and rooms will still emerge in the industry when new entrepreneurs and new ideas are brought into the field, and it would be great to get to know more about the different games and styles of building games.

## REFERENCES

Corkill, E. Real Escape Game brings its creator's wonderment to life. Read on 11.4.2022. <https://www.japantimes.co.jp/life/2009/12/20/to-be-sorted/real-escape-game-brings-its-creators-wonderment-to-life/#.UVfsthc0Wul>  
Hall, L.E. (2021). Planning Your Escape. Simon & Schuster.

Disney World. Haunted Mansion. Read on 14.3.2022  
<https://www.disneyworld.eu/attractions/magic-kingdom/haunted-mansion>

Encyclopedia Britannica. Horror story. Read on 23.2.2022  
<https://www.britannica.com/art/horror-story>

Encyclopedia Britannica. Dracula-film. Read on 23.2.2022  
<https://www.britannica.com/topic/Dracula-film>

Escape Room Helsinki. VR Games. Read on 31.3.2022.  
<https://escaperoom.fi/type/vr-games/>

Hellerman, J. Defining the Horror Genre in Movies and TV. Read on 11.4.2022.  
<https://nofilmschool.com/the-horror-genre-in-movies-and-tv>

Helsinki Horror Walk. Read on 14.3.2022  
<http://helsinkihorrorwalk.com/index.html>

Kerr, M. Why do we like to be scared? Watched on 14.2.2022  
[https://www.youtube.com/watch?v=gL\\_6bKFILio](https://www.youtube.com/watch?v=gL_6bKFILio)

Koiranen, J. 2019. Pedagogiset pakopelit: opas. Helsinki, Ääres eduEscape  
Literary Terms, Horror: Definition and Examples. Read on 18.1.2022.  
<https://literaryterms.net/horror/>

Mormann, Florian & Dubois, Julien & Kornblith, Simon & Milosavljevic, Milica & Cerf, Moran & Ison, Matias & Tsuchiya, Naotsugu & Kraskov, Alexander & Quian, Rodrigo & Adolphs, Ralph & Fried, Itzhak & Koch, Christof. 2011. A category-specific response to animals in the right human amygdala. Nature neuroscience. 14. 1247-9.

Nicholson, S. 2015 Peeking Behind the Locked Door: A Survey of Escape Room Facilities. Read on 11.5.2022  
<https://scottnicholson.com/pubs/erfacwhite.pdf>

Olsson Parts. "Tuoksukuuset". Read on 25.2.2022  
<https://www.olssonparts.com/fi/fi/product/46865>

Parri, J. Jaskan Pubi, Tampere. Read on 24.2.2022  
<https://www.mysteeri.com/pakohuone-tampere/jaskan-pubi/>

Parri, J. Meidän Tarinamme. Read on 29.3.2022. Translated on 29.3.2022 from Finnish. <https://www.mysteeri.com/tarinamme/>

Serras, L. Fragrance Oils vs. Essential Oils. Read on 3.3.2022  
<https://www.fragrancex.com/blog/fragrance-oils-vs-essential-oils/>

Shahzad F. Aristotle's Catharsis: Some Theories 2018. JETIR June 2018, Volume 5, Issue 6. Read 14.2.2022  
<https://www.jetir.org/papers/JETIRC006047.pdf>

Straube, T., Preissler, S., Lipka, J., Hewig, J., Mentzel, H.-J. and Miltner, W.H. 2010. Neural representation of anxiety and personality during exposure to anxiety-provoking and neutral scenes from scary movies. *Hum. Brain Mapp.*, 31: 36-47. <https://doi.org/10.1002/hbm.20843> Read on 30.3.2021

Särkänniemi. Karmiva Karnevaali. Read on 14.3.2022  
<https://sarkanniemi.fi/fi/karmiva-karnevaali>

Tuoksuöljyt, Limepop. Read on 3.3.2022. Translated on 3.3.2022 from finnish.  
[https://www.limepop.fi/epages/Limepop.sf/fi\\_FI/?ObjectPath=/Shops/2014113007/Categories/Eteeriset\\_oeljyt\\_tuoksut\\_ja\\_makueljyt/Tuoksuoljyt](https://www.limepop.fi/epages/Limepop.sf/fi_FI/?ObjectPath=/Shops/2014113007/Categories/Eteeriset_oeljyt_tuoksut_ja_makueljyt/Tuoksuoljyt)

Väkevä, V. Helsingin Sanomat: Tämä nainen toi pakohuoneet Suomeen. Read on 10.1.2022 <https://www.hs.fi/nyt/art-2000002873598.html>

White, S. Science of Disney: Smellitizers by PHD Princess. Read on 24.2.2022  
<https://phdprincess.com/blog/disney-smells>

Zillmann, D. 1983. Excitation transfer theory. Transfer of excitation in emotional behavior. In J. T. Cacioppo & R. E. Petty (Eds.), *Social psychophysiology: A sourcebook*

Zuckerman, M. 2009. "Chapter 31. Sensation seeking". In Leary, Mark R.; Hoyle, Rick H. (eds.). *Handbook of Individual Differences in Social behavior*. New York/London: The Guildford Press. 455–465.