5110 – GP3
Playtesting Report Document
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1. Overview

Classroom 404 is a first-person puzzle game set on a school. The game aims to evoke a sense of urgency, worry, pressure, and stress, mirroring the feelings of students rushing to get to class on time. Also a sense of inferiority and lack of control, due to constant, unexpected changes.

This document outlines the playtesting process we conducted to improve the game. It covers our initial ideas and intentions, the questions we sought to answer, the methods we used, and the findings that informed the changes we implemented.

2. Playtesting Questions and Goals

We started the playtesting phase by finding unanswered questions about our game that we hope the playtest sessions will help answering. We listed the concerns we had about different aspects of the game and the areas we needed feedback for.
These are the main categories that we found:

- **Player's understanding of the core gameplay**
  - Is it clear that the objective of the game is to find room 404, within the first few minutes of playing?
  - Do players understand that they need to use the map to locate room 404?
- **Intended emotions**
  - Are the emotions players experience aligned with the intended aesthetics of the game?
- **Each puzzle/level**
  - Do players understand each level and solve the puzzles as intended?
  - How is the difficulty of each level? Is the game's difficulty curve smooth and balanced?
  - Do players with different gaming backgrounds have a fair chance of engaging with and enjoying the game, or is it heavily reliant on prior experience?
- **Overall opinion on the game**
  - Do players generally enjoy playing this game?
  - If so, do they like all levels equally?

3. Playtesters Demographics

When selecting our demographic, our priority was to include diverse players in terms of gaming experience. We wanted the game to be accessible to a broad audience, and could be enjoyed by players with different gaming backgrounds. That's why we were aiming for a balanced difficulty. We wanted it to be easy enough for inexperienced players while still challenging and engaging for experienced ones.
To ensure this balance, we categorized participants into four groups and recruited two players for each category:

- **Non-Gamer:**
  Individuals who either don't play games at all or do so very rarely (at most once a year).
- **Occasional Gamer:**
  Individuals who don't identify as gamers but enjoy playing games occasionally. They play at least once a year but no more than once a week.
- **Frequent Gamer:**
  Individuals for whom gaming is an important part of their lives. They play frequently, from once a week to daily.
- **Gamer and Game Designer:**
  Participants who not only play games regularly but are also involved in game design.

We recruited 8 participants in total, conducting 6 playtesting sessions remotely and 2 in person. All participants were acquaintances, either friends or family members, so this phase align with the "Test with Confidants" stage, as described in Fullerton's chapter on playtesting stages. While this is not the final stage of play testing, it is an important step before moving on to the tests with strangers.

4. Playtest methods

We used 3 methods for data collection: Interviews, Think aloud and Screen recording.
All three methods were applied to each participant. It involved watching their screen while playing and recording it, asking them to talk their thoughts during playing, and asking them our interview questions after the playtesting session is over.

- **Screen Recording**
  Most of our insights came from observing participants' screens during gameplay. We also rewatched the recordings to gather additional data.
  This method helped us identify issues that players might not be aware of, such as missing important elements or mechanics without realizing it.

Rewatching recordings allowed us to compare participants' experiences, analyze patterns, and collect quantitative data, like the time spent on each level, for further analysis.

- o **Think-Aloud**
  This method required participants to verbalize every thought that came to mind while playing.
  It helped us understand how players interpreted game elements, their first impressions of each level, moments of confusion, and their problem-solving processes.
  Occasionally, participants would forget to talk, so we would ask them questions like "Why did you turn left here?" or "Why did you enter that room?" to remind them.

- o **Interview:**
  Interviews were conducted after the playtesting session to gather data that wasn't captured during gameplay, and fill any remaining gaps.
  Interviews are especially useful because they allow for collecting both qualitative and quantitative types of data.
  Qualitative data were gathered by asking open-ended questions like how would you improve the game. We asked these kinds of questions because we wanted them to mention everything that comes to their mind and not limiting them to pre-existing answers.
  Quantitative data were collected by close-ended questions like what is your favorite level and what level you found the most challenging. It allowed us to have numerical data that are suited for data analysis and data visualization, so we can have a clearer picture of how players perceive the game.

The interviews were made of a list of fixed questions for all of the participants, but also, they were sometimes questions that added during the playtests for that particular participant based on how they have played the game.

Also, we had a dynamic approach with interview questions and updated it after each interview. For example, in the first few interviews I would start my questions right after the playtest, and ask them about general thoughts on game at the end and they wouldn't have many answers to this question. But after a few interviews, I decided to let participants talk their first thoughts right after the game finished, and then start my questions, because usually that's where they have a lot to share and they will forget soon if they don't share them right away.

5. Protocol

This is the step-by-step process for our playtesting session:

1- Pre-Game (5min):
- Begin by talking about the confidentiality of their data and asking for consent for recording their screen.
- Talk to them about project overview
- Talk to them about the goal of the session which is finding the game problems and improvements that we need to make and it's not judging their playing performance and it doesn't matter how they play the game.
- Explain the think aloud protocol and ask them to talk aloud their thoughts while playing.

2- The Game (20min)
- Start the screen recording and the game.
- Sit and watch their screen in silence to avoid giving any bias or direction, unless situations like these happens:
    - There is a question that needs to be asked immediately, because the player will probably forget about that until the interview time.
    - They stopped talking and forgot the think-aloud method and needs reminder.
    - They get stuck and request a hint; provide hints so they can continue progressing through the levels. Also write down how often they ask for hints and for which levels.

3- Post-Game (15min):
- Start by asking consent for recording their voice.
- Start asking interview questions one by one.
    Here is the list of our interview questions based on the most updated version:

    1- what do you think of the game?
    2- How did you feel during the game?
    3- What was your favorite level? Why?
    4- What level you found the hardest? Why?
    5- How was the game challenge level for you?
    6- How was the time limit of the game? too short? too long? or just right?
    7- Did you feel there was a logical progression in difficulty?
    8- Are there any puzzle/level that you felt don't belong?
    9- How did you feel about the game controls and movement?

10- What did you think of the audio and visual design of the game?
11- What's one thing you would improve about the game?
12- Did you enjoy the game?

- ○ Allow participants talk as much as they want or if they want to mention any other game or experiences. Ask follow-up questions as needed.
- ○ End the interview recording when the questions are finished and the participants have nothing to add.
- ○ Thank the participant for their time and collaboration.

6. Results

The data collection for this project came from notes taken during the playtest sessions and additional notes made after the sessions, based on the recordings of interviews and players' screens. The data was gathered from participants' direct statements (during think-aloud or interviews) and from our own observations. Below are examples of what we noted in each of these categories:

1- **Participant Statements:**
- ○ Suggestions for improving:
  - "Would there be a "Hint" button in the final version?"
  - "Can I change the camera FOV?"
- ○ Pointing out a problem
  - "The scene is too dark."
- ○ Feedback on controls
  - "Why the shift button is not sprinting?"
- ○ Feedback on the difficulty level

2- **Our observations:**
- ○ Participant running into a technical problem.
  - The participant is constantly clicking everywhere on the door in order to open it.
  - The participant is stuck in the dark after running of time and getting returned back to the dark classroom, and they can't leave the classroom until the time runs out again.
- ○ Problems with the game difficulty
  - Participant stuck in a level for a time longer than we intended.
  - Participant passing a level by accident before understanding the puzzle

In addition to these categories of qualitative data, we also gathered quantitative data for more in-depth data analysis and organized them into tables.

Here is one of these tables based on players feedback and performance for each level:

	A	B	C	D	E	F
1	Levels	Num. of Fails	Favorite	Hardest	Num. of Hints	Solve by Accident
2	Tutorial 1	2	0	0	0	4
3	Tutorial 2	3	0	0	1	3
4	Blockade 1	8	2	3	3	0
5	Blockade 2	6	1	0	1	1
6	Erased Plates	0	0	0	0	2
7	Bathroom	10	4	3	5	0
8	Lights Off	5	1	2	2	0

Column A: List of all game levels (playtesting prototype version).

Column B: Total number of times all players failed that level.

Column C and D: Number of times that level was chosen as the player's favorite or hardest level, based on interview answers.

Column E: Total number of times players requested a hint for that level.

Column F: Number of times a level was solved accidentally, without understanding the puzzle or using the map as intended.
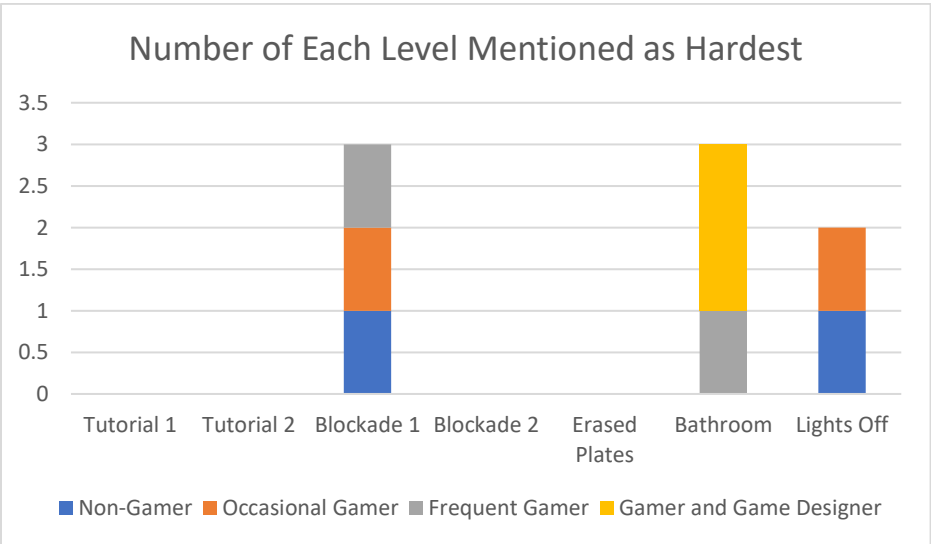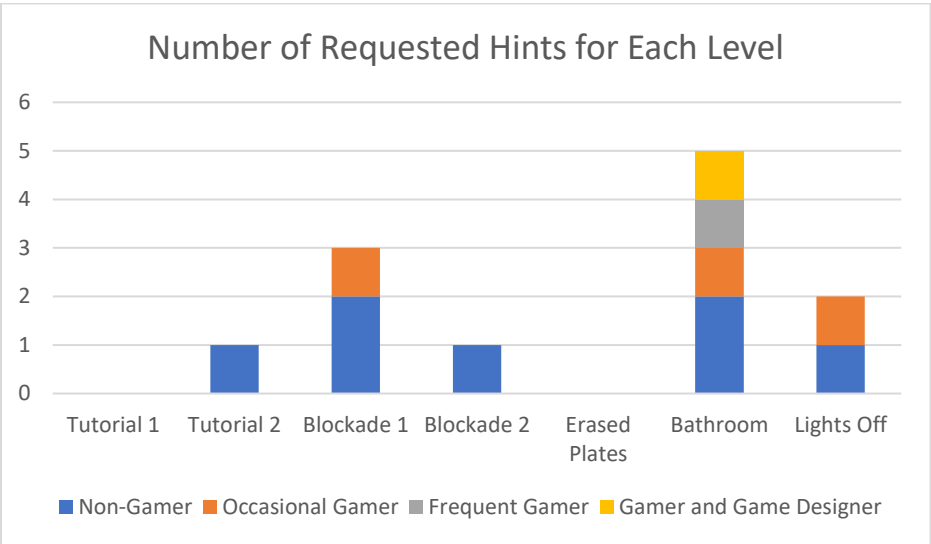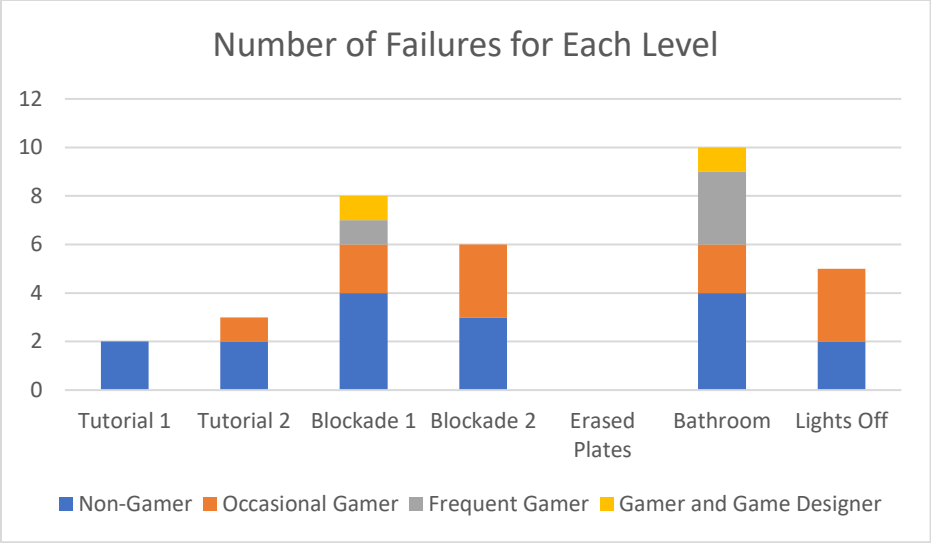
7. Data Analysis

We used the table above as the main basis for our data analysis. To make the data clearer and more organized for drawing conclusions and making decisions, we decided to apply data visualization.

Our primary goal was to better understand the difficulty level of each level to ensure the game has a smooth and logical difficulty curve.

In our analysis, we used three indicators to assess the difficulty of each level:

1. The number of player failures on each level

2. The number of times players mentioned each level as the hardest in the interview

3. The number of times players requested a hint during each level

We created three stacked bar charts based on these measures to compare them and analyze their relationships.

Number of Failures for Each Level

Number of Requested Hints for Each Level

Number of Each Level Mentioned as Hardest

Here are our conclusions based on these charts:

- The *Erased Plates* level is the easiest and needs a bit more difficulty.
- The *Bathroom* level is the hardest and should be placed at the end as the final challenge, so beating it signifies completing the game.
- The *Blockade 1* level is a significant step up compared to the last two levels and is not accessible for non-gamers. To make the game more accessible to them, additional tutorials are needed. While the tutorials are generally good, they are insufficient for non-gamers.
- The *Lights-Off* level is not as challenging as we first thought.
- A hint system could make the game more accessible for players, as many would likely quit if they became stuck on a level.

8. Solutions

Based on the findings mentioned in previous sections we came to three categories of solutions based on the discovered problems:

1- **Instant Changes:**

These are the obvious problems such as glitches and technical bugs that we could easily fix and it was clear that it's need to be done and doesn't require further analysis. Some examples of the changes we made:
- Added more lights to level due to players complaining about the scene low light.
- Fixing flicker effect when opening the door, by removing door collision temporarily, when the player opens it.
- Extending the door trigger box to all of the door, so that players can open it by clicking anywhere on the door instead of only the knob.

2- **Bigger Changes:**

These are the changes involving design decisions of the game that required deeper data analysis and comparison of collected data from different channels and participants in order to make sure this is the right decision. These are some examples:
- Added a layer of difficulty to the *Erased Plates* level by flipping the map
- Moved the *Bathroom* level to the end, making it the final challenge.
- Placed the *Lights-Off* level in the middle of the game instead of end.

3- Future Changes:

These are the changes that were beyond the scope of this project time and requirements. But could be considered, if we want to work more on this game in the future:

- o Adding pause menu with options such as mouse sensitivity and FOV.
- o Adding some more tutorial levels before *Blockade 1* level.
- o Adding a Hint system for the game.
- o Finding a solution to prevent players from solving puzzles by accident or removing levels with this issue.

9. Limitations

This playtest was a "playtest with confidents" stage based on the Fullerton's stages of playtesting, as we recruited testers among people that we already know. As a result, the responses to questions requiring them to evaluate the game may not be fully reliable. In answer to the question "Did you enjoy the game?", they all said they did and they all gave positive compliments about the game.

We understand that game development is an iterative process, and this is just the beginning. Therefore, we can't claim the game is finished. As mentioned in the solutions section, there are still improvements to be made, and further playtests will reveal even more areas for refinement. However, for the scope of this class, we decided to wrap up the project at this point.