SOFTWARE REQUIREMENTS SPECIFICATION

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THE B.U.T.Z

VHS ESCAPE

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1. Introduction

VHS escape is an interactive virtual escape room set in a retro world, right out of the 1980s. An immersive experience, VHS Escape will fit into the online gaming world as a unique simulation tapping into both nostalgia and interactive storytelling. Throughout the game, players will unearth the truth of the mystery through finding clues and solving puzzles. The game will feature a vintage VHS aesthetic and incorporate this style into the story. The goal of this project is to demonstrate our ability as software engineering students and show proficiency in programming technologies. Also, we aim to provide players a unique gaming challenge that fully engages them, not feeling overly generic or boring. There is a growing demand for unique digital experiences that go beyond traditional games and bring something "new". Further, the escape room trend has proved extremely popular, naturally moving into the virtual space. In recent years, audiences are also increasingly interested in retro-inspired content to evoke nostalgia. Our game will address all of these business needs by offering VHS Escape.

2. Stakeholders

- Virtual Escape Room Players
  - Casual gamers looking for a unique and nostalgic experience
  - Fans of retro aesthetics and 80's style media
  - Friend groups interested in virtual games
- Software Engineering Team (The B.U.T.Z.)
  - Our group of USC students building the product for our course
  - Responsible for development, design, testing, and deployment
- Course Instructor and TAs
  - Our Software Engineering professor, Mrs. Plante
  - TAs helping in our course
- User Experience Testers
  - Classmates or friends who will interact with our game to provide usability feedback and help us better our product

Personas

Jordan "JJ" Kim, 16
Intermediate puzzle skill
Enjoys exploring the details of every piece of a puzzle.
Advanced gaming level
Regularly plays video games during their free time.

Bio:
JJ is a high school junior who plays a lot of video games with their friends. Curious by nature, they love solving tricky puzzles after lots of struggle. JJ often prefers single-player games, and they enjoy playing them as a stress relief from school.

Quote/Motto: "Nothing feels better than finally figuring it out."
Gaming Environment:
Usually in their bedroom.
Session Length Preference:
30 minutes to 2 hours, no strong preference.
Devices Used:
Gaming laptop
Internet Reliability:
Reliable wi-fi, but can lag during peak family use.
Retro Appeal:
Loves the retro aesthetic, reminds them of playing indie games.
Competition Style:
Lighthearted competition

Personas

Amy Mitchell, 43
Stay-at-home mom
Basic gaming knowledge
Enjoys problem-solving and
piecing together mysteries
Enjoys playing mobile games
on a laptop or iPad.

Bio:

Amy is a stay-at-home mom of two who enjoys playing mobile games when she is able to find the time. She loves problem solving and piecing together puzzles. She enjoys single player mystery games and uses them as a way to unwind after a long day

Quote/Motto: "The best way to escape from a problem is to solve it"
Gaming Environment: At night sitting on the couch in the family room.
Session Length Preference: 20 mins to 1 hour, no set preference
Devices Used: Basic laptop or IPad
Internet Reliability: Very reliable wifi; rarely has issues
Retro Appeal: She loves the retro vibe, which brings back the nostalgia of growing up in the 80s and 90s
Competition Style: She enjoys super kind and easygoing completion
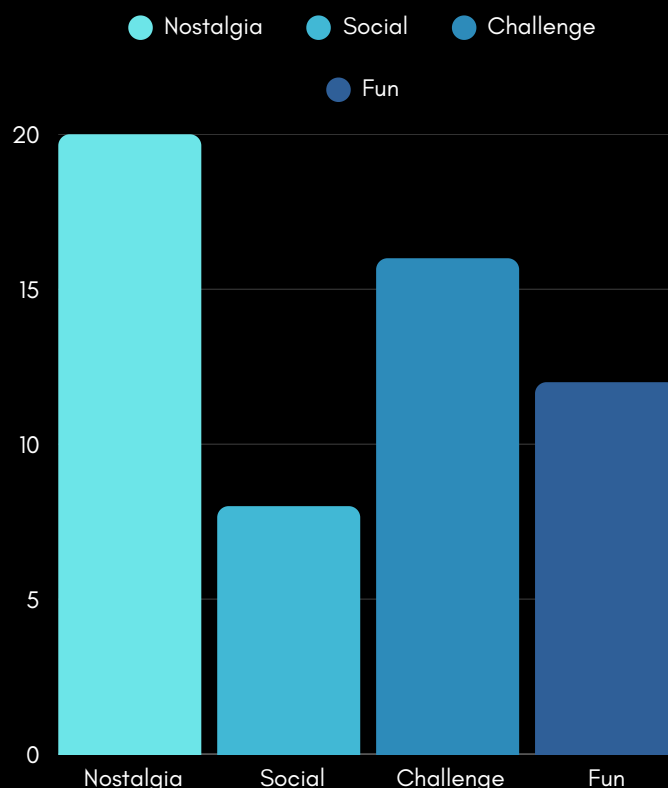
Personas

Riley Smith, 23
Gaming Content Creator
Expert gaming knowledge
Enjoys solving puzzles and
playing internet games to post
on social media.

Bio:

Riley is an internet
gamer who posts
content about various
types of games to her
audience on social
media. She enjoys
solving "mysteries" with
her viewers and often
plays in her free time
apart from her posted
content. She is always
on the hunt for the next
best games to introduce
to her audience.

Quote/Motto: "Games that tell a great story are my favorites."
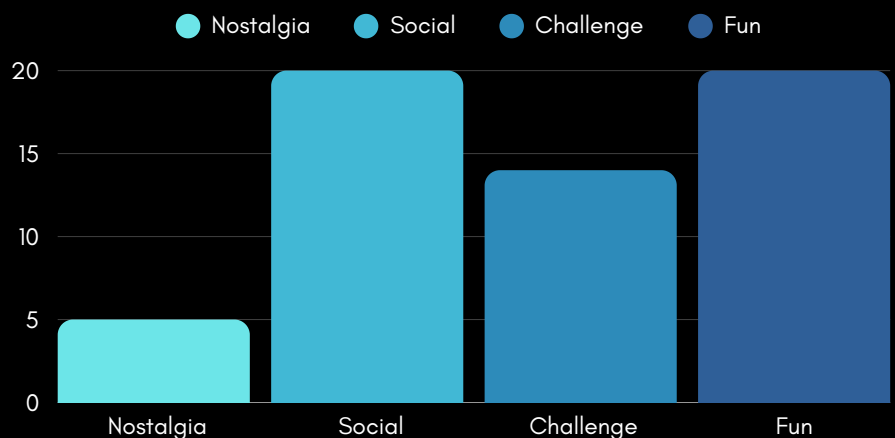Gaming Environment: In her home streaming to her followers.
Session Length Preference: 20 to 30 minutes to make for concise videos.
Devices Used: Gaming setup: PC with multiple monitors.
Internet Reliability: Good wifi connection, sometimes lagging issues on her streams.
Retro Appeal: Enjoys the unique retro aesthetic to connect with nostalgia of her audience.
Competition Style: Likes all levels of competition especially when she can include her followers or gaming friends.

● Nostalgia   ● Social   ● Challenge   ● Fun

	Nostalgia	Social	Challenge	Fun
20		20		20
15			14	
10				
5	5			
0				

3. Constraints

Time Constraints
- Each section of this project must be completed by a strict deadline

Monetary Constraints
- This projects development has be allocated a budget of $0
- Only free/open-source tools, frameworks, and assets (images, sounds, fonts) can be used

Technical Constraints
- Must function without requiring high-end hardware (optimized for average devices)
- Java must be the only programming language used

4. Overall Description

This game must be playable on a computer. The game will be a simple point-and-click escape room game with a retro VHS theme. Players will click on objects in the environment to uncover clues and solve basic puzzles that allow them to progress. The game will include a small set of rooms, a simple inventory system, and visual effects that replicate a VHS look.

5. Business Use Cases
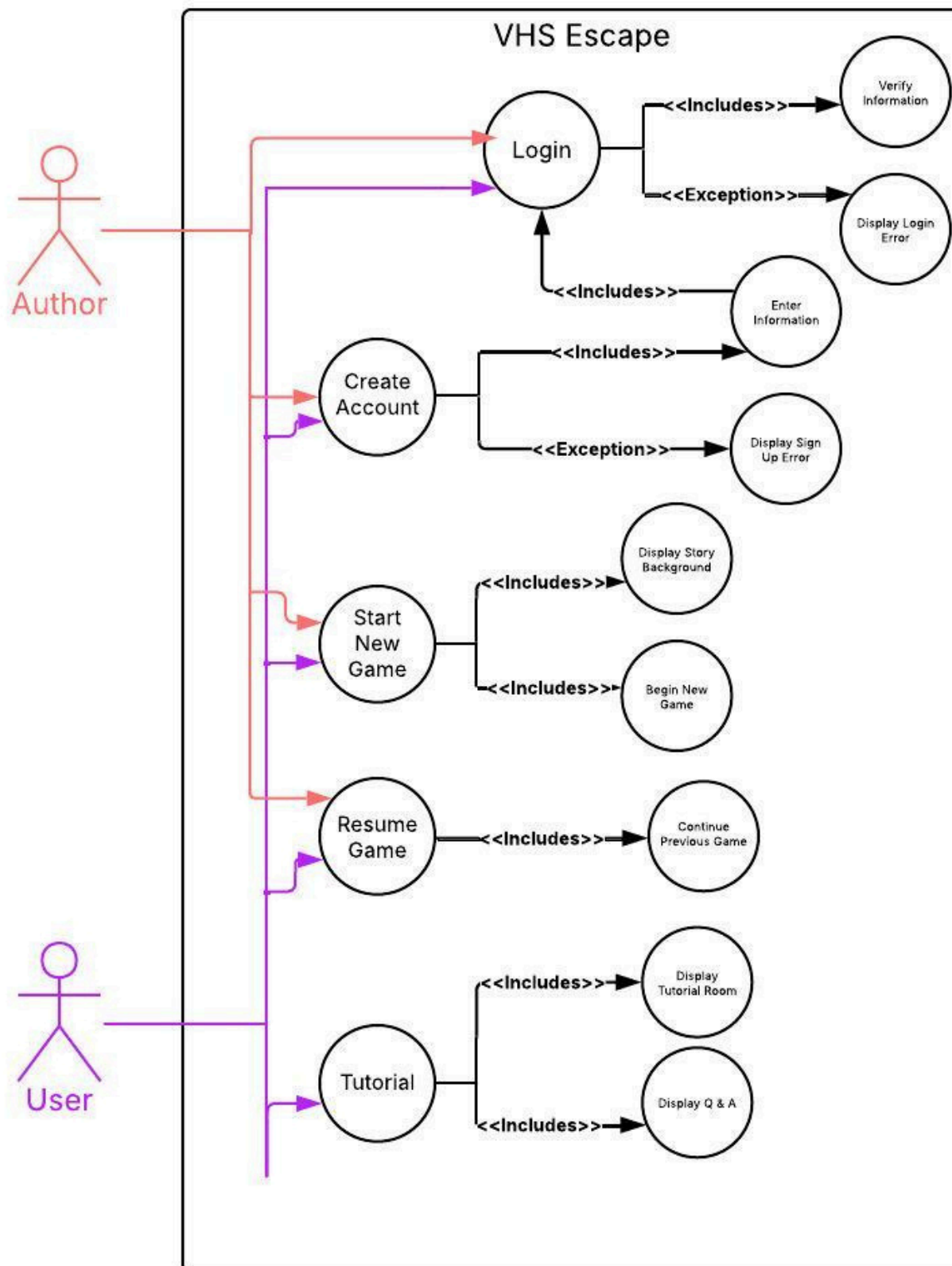
6. Functional Requirements

Functional Requirements Spreadsheet:

[Link to Excel Spreadsheet](#)

Full Link:
https://emailsc-
my.sharepoint.com/:x:/r/personal/cnthayer_email_sc_edu/Documents/The%20
B.U.T.Z%20Software%20Requirements%20Spreadsheet.xlsx?
d=we1edab1a587c4be48b46ffa68db21b27&csf=1&web=1&e=mXftJA

7. Non- Functional Requirements

Look and Feel Requirements
- The user interface shall be deisgned to be intuitive and easy for beginner users to navigate, with clear visual cues and instructions. The design will pay homage to classic 90s arcade games, giving users a nostalgic yet modern experience.

Usability Requirements
- The system shall be accessible and enjoyable for users of all ages and skill levels, ensuring that anyone—from casual players to experienced gamers—can interact with the game comfortably.

Performance Requirements
- The system shall be capable of running smoothly on any device connected to the internet, including desktops, laptops, tablets, and mobile devices, without compromising the gaming experience.

Maintainability and Support Requirements
- The system shall be compatible with multiple operating systems, including Windows, Linux, and macOS, and shall be designed for easy updates and maintenance.

Security Requirements
- User data and account information shall be stored securely, with appropriate measures to protect privacy and prevent unauthorized access.

Legal Requirements
- The system shall comply with all relevant state, local, and international laws, including data protection and intellectual property regulations.

8. Definitions and Acronyms

Course Instructor and TAs
- This refers to our professor and teaching assistants (TAs).
- They guide us, answer questions, and help evaluate our work.

Java
- Java is the programming language our developer will use to create VHS Escape.
- A programming language is like a set of instructions we give to the computer so it knows what to do.

Operating System (OS)
- An operating system is the main program that makes a computer run.
- It connects everything together:
  - Lets you control the computer (clicking, typing, touching).
  - Helps apps and games run.
  - Manages the computer's hardware (keyboard, screen, memory, files).
- Examples include Windows, macOS, Linux, Android, iOS.
- Think of it as the boss/manager that tells all parts of the computer how to work together.

9. Competitive Analysis

	An Elmwood Trail
Strengths	One strength of An Elmwood Trail is how immersive the game is. The game can be played on handheld devices and allows the player to go through things like messages and files, creating a highly immersive gaming experience. Another cool feature of the game is the fact that the player is able to influence the investigation by making difference decisions. This also allows the game to be re-playable as the player can make different decisions leading them down a different path. The game also does a great job of making the player use their critical thinking and problem solving skills. The game does this by integrating clues with unnecessary information.
Weaknesses	One weakness found with this game is that is posseses some text and dialogue issues. Some of the written language can come off weird or poorly written which can break that deep immersive experience. Another weakness is that the jump from epsiode to episode within the game aren't very seamless. This can cause player confusion and make it seem like they are now playing a different game.
Target Audience	This game is great for mystery lovers who enjoy detective stories and fully immersing themselves into another world. It is also ideal for people who like to go back and play games again to find the other storylines they may have missed the first time.

	Monument Valley
Strengths	One big strength of the game is the breathtaking game design and visuals. The game also doubles as a amazing gallery of different landscapes creating a beautiful aesthetic and experience for the player. Another strength of the game is the emotional engagement it has with the player. The calm storytelling and movement throughout the game allows it to feel more poetic and relaxing compared to other stereotypical puzzle/mystery games. The game has also received so much praise and recognition from the gaming industry. It has won multiple awards including *Best iPad Game of 2014* and an *Apple Design Award*.
Weaknesses	One downfall of the game is the shorter gameplay length. The original game is only made up of 10 levels allowing it to be completed quickly with little to no replay value. Another weakness of the game is the limited complexity of the game itself. While the game is comprised of beautiful designs and clever puzzles, higher level puzzle enthusiasts may find the game too simple.
Target Audience	The game is ideal for those who are new or have very little experience with problem solving and puzzle games. The game would also appeal to art loves due to the complex designs and visuals within the game.

	The Room
Strengths	One strength of the game is the atmospheric design. It is a standout feature of the game combining realistic and gloomy visuals with audio that increases the suspense and mysterious vibe of the game. Another highlight is the intricately crafted puzzle boxes that can be found within the game. Players must physically manipulate the boxes and trigger different mechanisms to unveil hidden elements. This boxes open up in levels increasing player involvement. This allows for highly immersive gameplay. This game has also received its fair share of industry recognition. The game has won multiple awards like *Apple's iPad Game of the Year* in 2013 and the *BaFTA for Best British Game*.
Weaknesses	One weakness of the game is sometimes abstract narrative. Due to the minimal narration, players who are seeking deeper story development may not be satisfied by the game. The game also has very little replay value. Since the gameplay follows one path, after completion there is very little incentive for playing agin.
Target Audience	This game is ideal for players who enjoy tactile puzzle solving, limited clues and critical thinking. Players who also have an appreciation for intricate designs would also be fans of this game.

Summary

	Strengths	Weaknesses	Focus
An Elmwood Trail	• Immersive • Re-playable	• Dialogue Issues • Not Very Seamless	Mystery lovers who love an immersive experience
Monument Valley	• Visuals/Design • Engagment	• Short Gameplay Length • Limited Complexity	Those with little experience to puzzles and problem solving
The Room	• Industry Praise • Intricacy	• Abstract Narrative • Little Replay Value	Those who enjoy tactile problem solving

After completing the competitive analysis above, our group has learned a lot about the strengths and weaknesses of other mystery/escape games that are available to play. We have deduced that our game will need to be both visually and mentally appealing to the user. An Elmwood Trail is an extremely immersive game that allows the user to feel like they are really in the game, but the game is not seamless. This causes a break in the once flawless experience being had by the user. Players of these kinds of games also enjoy a bit of a challenge. We will make sure the game is intricate enough that more avid problem solvers enjoy the game but also not too intense to ensure that those with little to no puzzle solving experience can also take pleasure in the game. This will allow players of all different problem solving levels to appreciate our game. In conclusion, we aim to create a game that has appealing designs and visuals, but is more seamless then An Elmwood Trail allowing us to create an immersive and unique experience for user of any level of gaming knowledge to enjoy.

10. References

- GeeksforGeeks – What is an Operating System? https://www.geeksforgeeks.org/operating-systems/what-is-an-operating-system/

- An Elmwood Trail Wiki – Techyonic https://techyonic-an-elmwood-trail.fandom.com/wiki/An_Elmwood_Trail_Wiki

- Wikipedia – Monument Valley (video game) https://en.wikipedia.org/wiki/Monument_Valley_(video_game)

- Steam – The Room https://store.steampowered.com/app/288160/The_Room/

11. Appendices

Appendix A – Definitions
- Course Instructor and TAs – Refers to the professor and teaching assistants, who evaluate student work and provide guidance.
- Java – A programming language that we are using to create the VHS Escape game.
- Operating System (OS) – The main program that runs on a computer and allows all other programs to work. It manages the computer's memory, processes, and hardware.

Appendix B – Related Games and Inspirations
- Monument Valley – A puzzle-based mobile game that uses optical illusions and visual storytelling. This game inspired aspects of puzzle design in our project.
- The Room – A puzzle game available on Steam that focuses on interactive environments and object manipulation. Elements of its gameplay influenced our design ideas.
- An Elmwood Trail – An interactive mystery/puzzle game that provided ideas for narrative integration and clue discovery.

Appendix C – Reference Materials
- GeeksforGeeks article on Operating Systems (to help explain what an OS is in simple terms).
- Wikipedia article on Monument Valley (video game).
- Steam page for The Room.
- Fandom wiki for An Elmwood Trail.