

Virtual Escape Room



Software Requirements Specifications

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The Floaters

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1. Introduction:

The emergence and prominence of online connectivity and the internet provide a multitude of opportunities for friends to interact together without the need to be physically present. The popular online chat application Discord has over 614 million users, most of which are people who communicate with each other in distances that span the globe. This also introduces the need to have a space in which these people can interact in a way that is more than just a chatroom. We hope to create a virtual “escape room” that is both intellectually stimulating and fun for multiple people to complete together. Our virtual escape room will have plenty of challenging puzzles with interesting setpieces and a story that ties it all together.

Source: <https://www.datainsightsmarket.com/reports/virtual-escape-room-game-1390739>

2. Stakeholders

- College Students
 - Undergraduate students seeking social activities with friends
 - Students in long-distance friendships maintaining connections
- Families
 - Parents seeking quality time activities with children
 - Extended families connecting across distances
- Friend Groups
 - Young adults maintaining friendships
 - Social circles seeking virtual hangout activities

Personas

Michael Smith



"It is not enough to have a good mind; the main thing is to use it well."

Age: 21
Occupation: College Undergrad
Family: Single
Location: Columbia, SC

Personality

Introvert	Extrovert
Thinking	Feeling
Sensing	Intuition
Judging	Perceiving

Goals

- Wants a fun night with friends
- Enjoys staying inside his dorm
- Wants to be intellectually stimulated/challenged

Frustrations

- Doesn't like time-wasting features (complicated menus, long loading screens, etc.)
- Dislikes puzzles that are too easy

Bio

Michael Smith is a Computer Science major at the University of South Carolina's Columbia campus. He is currently looking for internships or other programs and opportunities in order to build his resume for his career after college. In his free time, he loves to do logic puzzles and word games.

Motivation

Incentive
Fear
Growth
Power
Social



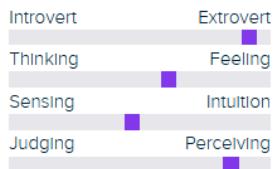
Kate Morris



"The world is full of connections waiting to be made and experiences waiting to be shared."

Age: 25
Occupation: Traveler
Family: Single
Location: Varies

Personality



Social Empathetic Adventurous

Goals

- Wants to maintain strong friendships from long distance
- Enjoys exploring new places and finding friends
- Seeks long distance activities and collaborations with her friends

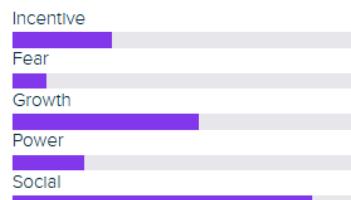
Frustrations

- Feels that current chat apps don't offer enough connection to her friends
- Wants more interactive ways to reach her friends

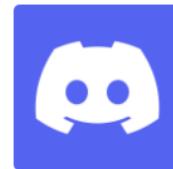
Bio

Kate Morris is a 25-year-old who thrives on social interaction and new experiences. Her love for travel means she has friends scattered across several cities and countries. While she's used chat applications like Discord and SMS to keep in touch, she often feels a longing for more immersive and shared activities. As an extroverted individual, she makes friends easily and is always looking for ways to strengthen those bonds, especially with those who aren't physically nearby.

Motivation



Brands/Influencers



Carlos Wright



"The best memories are the ones we build together, one piece at a time"

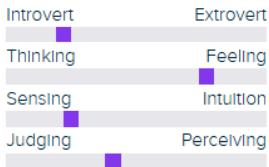
Age: 45

Occupation: Office Worker

Family: Married, 3 children

Location: Chicago, IL

Personality



Patient Encouraging Family-Oriented

Goals

- Wants a fun and mess-free way to connect with his family.
- Likes to help his children develop their critical thinking skills.
- Wants his children to feel successful and not get discouraged.

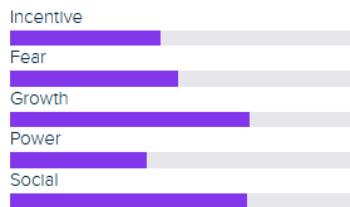
Frustrations

- Struggles to find activities that all three of his children can enjoy together.
- Wants to avoid arguments or frustration when his family gets stuck on a problem.

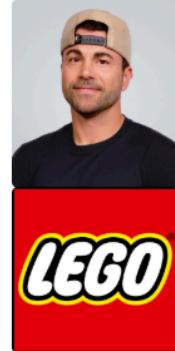
Bio

Carlos Wright is a 45-year-old office worker dedicated to his family. With a wife and three children aged 8, 12, and 16, finding quality time that everyone can enjoy is his top priority. He is looking for engaging, low-stress ways to bond with his family after a long day at work. He values activities that are not only fun but also help his children grow intellectually. Carlos is a patient and supportive father who wants to facilitate collaboration and ensure his kids feel a sense of accomplishment without becoming overly frustrated.

Motivation



Brands/Influencers



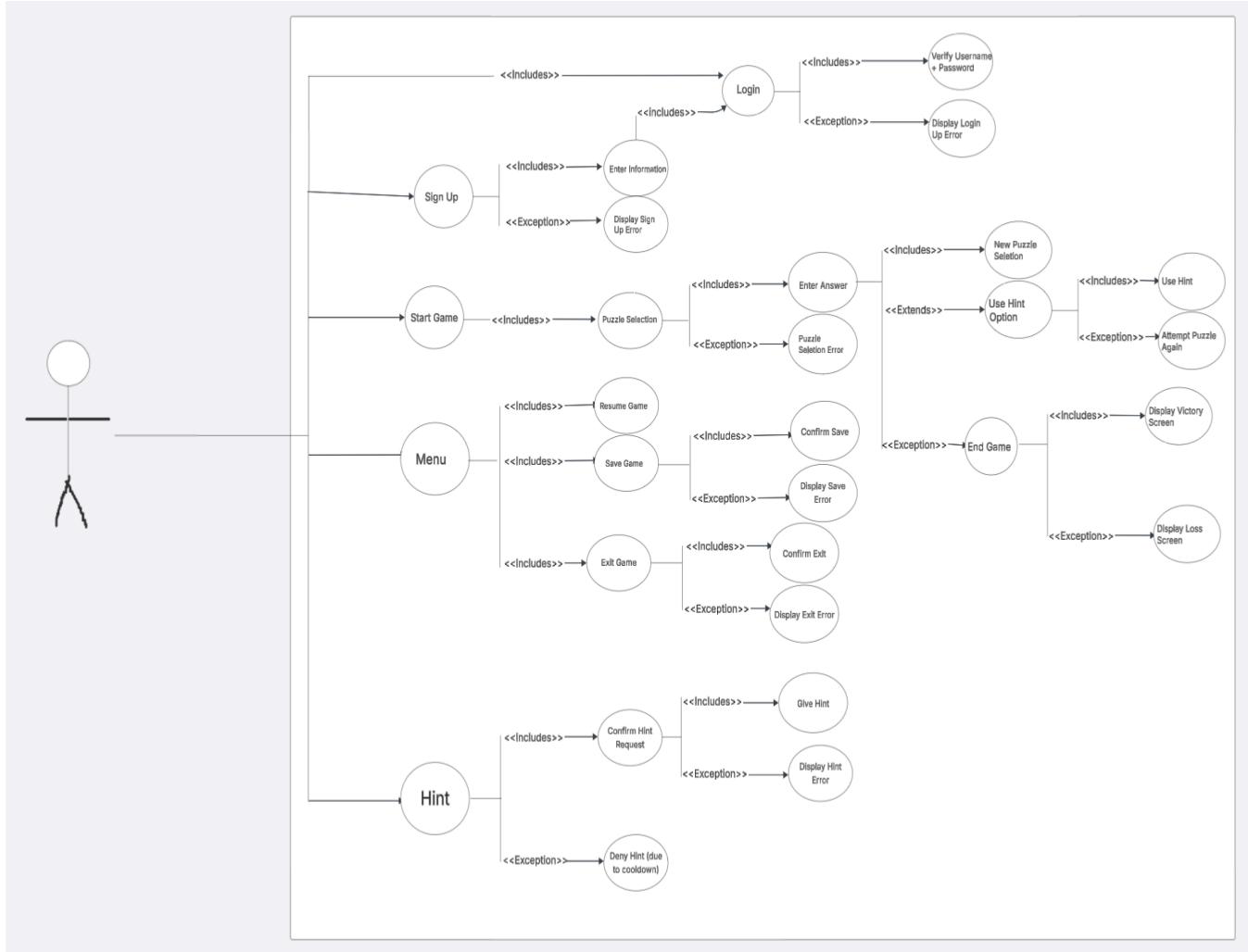
3. Constraints

- Time:
 - This project must be completed within one semester
- Money:
 - There are no funds allocated to this project; the budget is \$0
- Technology:
 - The project will be created using Java

4. Overall Description

The Virtual Escape Room will be free-to-play and available through a web browser to anybody who would like to play. It requires the ability to access the internet, since there may be multiple users playing together from different locations. It should also provide a way for teammates to interact in-game, whether through text or audio chat. Since the game will have a timer, it could also store a database of completion times to enable leaderboards for competitive players.

5. Use Cases



6. Functional Requirements

[Software Requirements Spreadsheet](#)

7. Non-Functional Requirements

- Look and Feel Requirements
 - The visual theme shall be consistent across all screens
- Usability Requirements
 - A new user shall be able to understand the gameplay shortly after launching the game
- Performance Requirements
 - The game shall be able to run without an internet connection
- Maintainability and Support Requirements
 - The game shall be able to run on any Windows, Mac, or Linux system
- Security Requirements
 - The user's information shall be stored securely
- Cultural Requirements
 - The game shall be made in English
- Legal Requirements
 - The system shall comply with all state and local law

9. Competitive Analysis

	Adventure Escape Mysteries — Legend of the Sacred Stones
strengths:	<p>The Adventure Escape Mysteries game contains many different story-driven puzzles to choose from. This wide range of options allows for the user to find an adventure that appeals to them. They also have the ability to download the games so that they can be played without needing to access the internet. Furthermore, it allows for the creation of user accounts. This lets you start the game on one device, then log in on another device later and continue from where you left off.</p> <p>The Legend of the Sacred Stones was one of the stories available to play. It had an engaging story for the player to get invested in. The graphics were good and the gameplay mechanics were straightforward. The game was also segmented into chapters, creating convenient stopping points to play the game in more than one sitting.</p>
weaknesses:	<p>The biggest shortcoming of Adventure Escape Mysteries was the fact that it is singleplayer-only. This would be unappealing for an audience who is looking to play the game as a group, and a dealbreaker for those who are playing together remotely.</p> <p>One other frustrating aspect of this game was the hint system. To obtain hints, the user was expected to purchase them with real money. If a player were to get stuck on a puzzle, there would be no other way to advance through the story than to buy a hint, which could ruin their experience.</p>
audience/focus:	This game is best-suited for casual gamers who enjoy playing solo puzzle games. It's a relaxing, low-stakes game that can be played at any pace while feeding a craving for fun puzzles.

	Online-Escape-Room “Escape The Tomb”
strengths:	With only a couple of pictures, the game has a minimalistic style, but it is visually effective at conveying a consistent theme. Most of the puzzles are easy to comprehend, and the hint system is helpful for players who get stuck. The generous 60-minute time limit is plenty to complete the puzzles, which come in a variety of types to ensure that the gameplay doesn't feel repetitive.
weaknesses:	A downside to this game is that some of the puzzles are a bit obtuse. The interface was clunky and immersion-ruining. Story-wise, the ending was very abrupt and left a lot to be desired.
audience/focus:	This escape room is aimed at adults in a group of 4-6 and can either be played in the same room together or online with one person acting as the host and the rest watching the screen.

	Enchambered “Alone Together”
strengths:	The Enchambered “Alone Together” game has a unique cooperative puzzle design where each player's screen contains certain clues that will help solve the puzzles on their teammates' screen. This makes sure both players are actively communicating and equally participating. The game is played on a browser-based platform that requires no downloads or installations, making it available for players on different devices. The two-player focus creates a personal gaming experience. It also makes the players work together, so one player can't dominate the experience.
weaknesses:	Since the platform is only designed for two players, it leaves out a larger friend group and families. The asymmetric design can create problems when communication is not strong. The puzzle depends on clear verbal communication which will exclude players with hearing impairments and creates language barriers.
audience/focus:	The audience is specifically designed for two players. It targets close friends, couples, and families. Not designed for large groups.

Summary

	Strengths	Weaknesses	Audience
Adventure Escape Mysteries — Legend of the Sacred Stones	- easily digestible (can be played in chapters) - user accounts - offline access	- singleplayer only - pay-to-win hint system	Solo gamers who enjoy relaxing puzzle games
Escape the Tomb	- few graphics - challenging puzzles - hint system	- clunky UI - some obtuse puzzles	Adult friend groups of 4-6
Enchambered “Alone Together”	- co-op design - real time collaboration - live guides - high design quality	- two-player limitation - communication dependent - limited Content - no replay value	Close friends, couples

Our competitive analysis provided valuable insight, giving us a lot to consider while designing the virtual escape room. We would like to live up to the strengths of some of these games, such as crafting an engaging storyline and unique puzzles to keep the players invested. A fair hint system is also essential to prevent frustration and aid player progress when needed. An intuitive user-interface is crucial so that the game is easy to understand and play, especially for users who may not be as proficient with technology. We've decided that it would also be a good idea to allow for a wide range of potential player counts, driving appeal for anyone who wants to play, whether solo or with a large group.