

Virtual Escape Room

Software Requirements Specification



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CSCE 247: Software Engineering

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1. Introduction

Purpose

Virtual Escape Rooms are a new form of entertainment that has been quickly gaining popularity. These games allow players from all over the world to engage in a game of puzzles and riddles, keeping players entertained and engaged for long periods of time. Along with being entertainment, it also allows players to be examined on their teamwork abilities, as well as their problem-solving and communication skills. Through this project, we will create a fully equipped Virtual Escape Room that will serve those purposes. While still being an online game, it will give players the experience of a real-life escape room with the added benefit of being able to meet people from all over the world.

Source:

<https://escapely.com/team-building/virtual-escape-room/#:~:text=Our%20group%20virtual%20escape%20room,participants%20play%20an%20active%20role>.

Scope

This document will cover:

- Personas of stakeholders and future users
- Constraints for this project
- Descriptions of the website and its uses
- Competitive Analysis to show the purpose of this website

2. Stakeholders

ROBERT SHAW

PROFILE

Gender

:

male

Age

:

34

Education

:

MBA

Occupation


:

Business and Accounting

Address

:

Wall Street



BIOGRAPHY

Robert is a business oriented man in his early 30s who is souly driven by work. He enjoys going out with his buds and playing some video games on the weekends. He has no software engineering background and only cares about how applications look on the outside, now the way they were programmed.

MOTIVATIONS

Robert is motivated by money and succses, he strives to run the start-up company he currently works for, He dreams of becoming a powerful Fortune-500 CEO. Robert has no friends or family, business is the only thing on his mind.

GOALS

Fortune 500 CEO

Start a Family

Become a millionaire before 30

Make it on Forbes 30 under 30

FRUSTRATIONS

Not making enough money

Being to egotistic

Feeling lonely

Paying Taxes

PERSONALITY

Introvert

Extrovert

Thinking

Feeling

Judging

Perceiving

Sensing

Intuition

TECHNOLOGY

Software

Social Media

Mobile App

BRANDS

• Patagonia

• Bud Light

• Toyota

ANGELA BROWN

PROFILE

Gender

:

Female

Age

:

22

Education

:

Bachelor's degree

Occupation


:

Software Engineering

Address

:

1234 Park Avenue



BIOGRAPHY

Angela was born in Charlotte. She just finished her bachelor's degree in software engineering at the University of South Carolina. Angela is seeking her first job out of school. She enjoys working in teams, coding in her free time, and spending time with her family.

MOTIVATIONS

The motivations for Angela include her desire to launch her career in software engineering, expand her coding skills, and work with teams in her future roles. She hopes to be able to have a nice balance between her goals and family.

GOALS

Maintain work balance since it's difficult in a field like this.

Get her first stable job with a good team to work with.

The work she does makes an impact in people's lives.

Build a strong network through meeting people.

FRUSTRATIONS

Lacks professional experience, since she has not worked yet.

Worries that work will take over her life.

Being a part of a team that doesn't take work seriously.

Loves what she does, just hopes she is good enough.

PERSONALITY

Introvert

Extrovert

Thinking

Feeling

Judging

Perceiving

Sensing

Intuition

TECHNOLOGY

Software

Social Media

Mobile App

BRANDS

• Google

• VS code

• Github

PAUL GOODROW

PROFILE

Gender : Male
Age : 28
Education : Bachelor's degree
Occupation : Environmental Science
Address : 800 East blvd, Charlotte NC



BIOGRAPHY

Paul is a 28-year-old man, living in Charlotte, NC. He had a major in Environmental Science, but has a background in Computer Science, and has strong opinions about his technology. He enjoys playing video games and board games.

MOTIVATIONS

Paul is motivated by environmental causes and wants to make a good impact in the world. He is motivated by his passions of being outdoor, hiking, snowboardin, mountain biking, and long distance swimming.

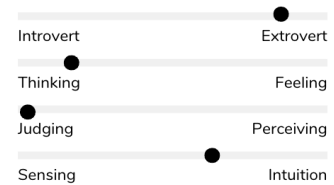
GOALS

Move to Colorado and snowboard professionally
Saving the environment
Make new friends
Swim a Marathon

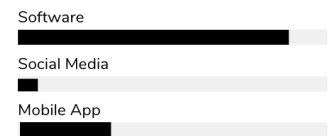
FRUSTRATIONS

Overly complex and confusing software
Difficult games that he can not win
Poor work ethic

PERSONALITY



TECHNOLOGY



BRANDS

- Life is Good
- Burton
- Hydroflask

3: Constraints

Time

- The project must be due by a specific deadline (End of semester)
- Limited time for everything, such as testing, creating, etc.
- Team Availability could cause constraints.

Workload

- The project must be managed so that the workload doesn't become a constraint or issue.
- Tasks need to be divided evenly.

Team Constraints

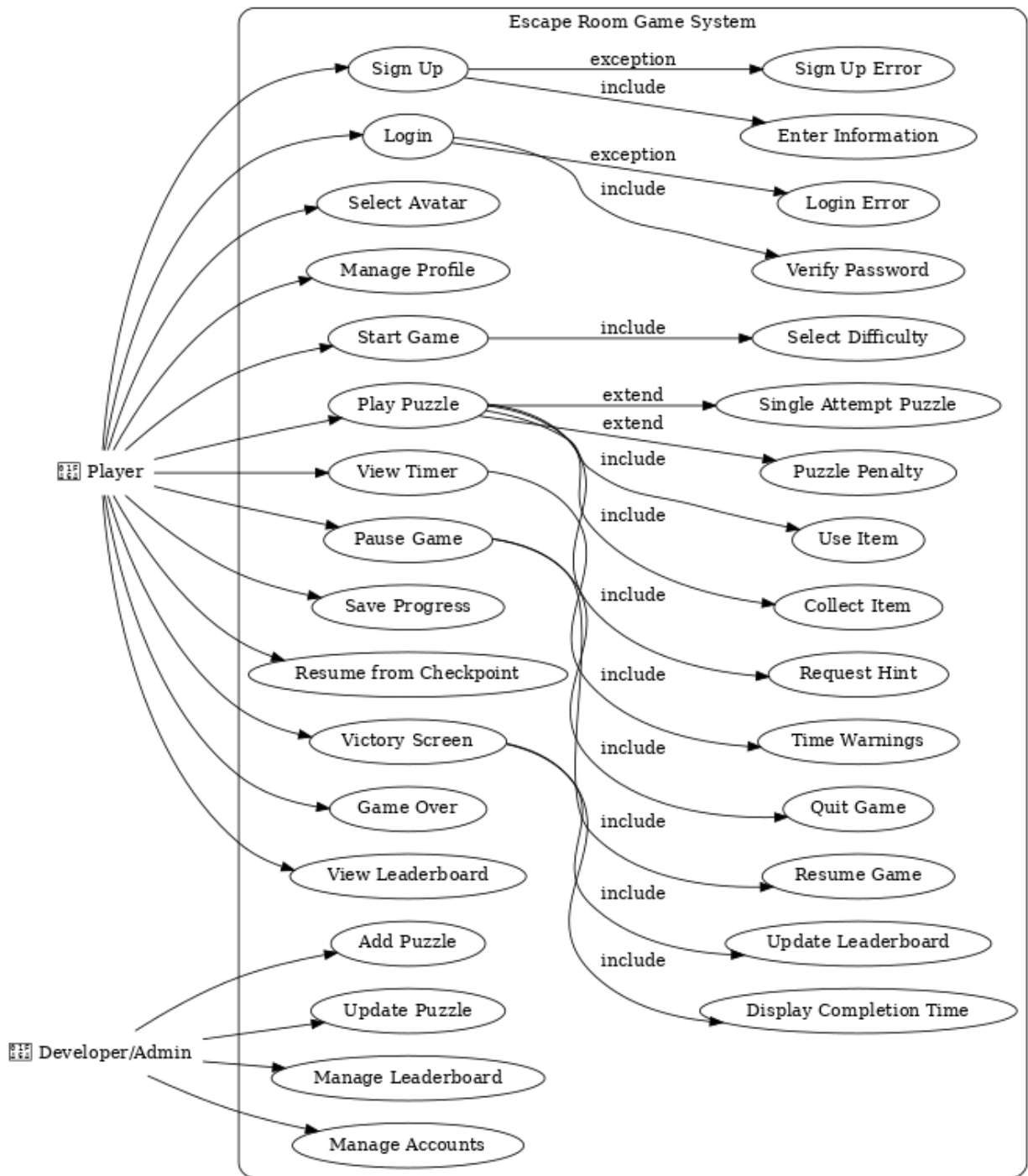
- We all have limited experience with technology when it comes to this.
- Most of us are still learning.
- Only using Java.

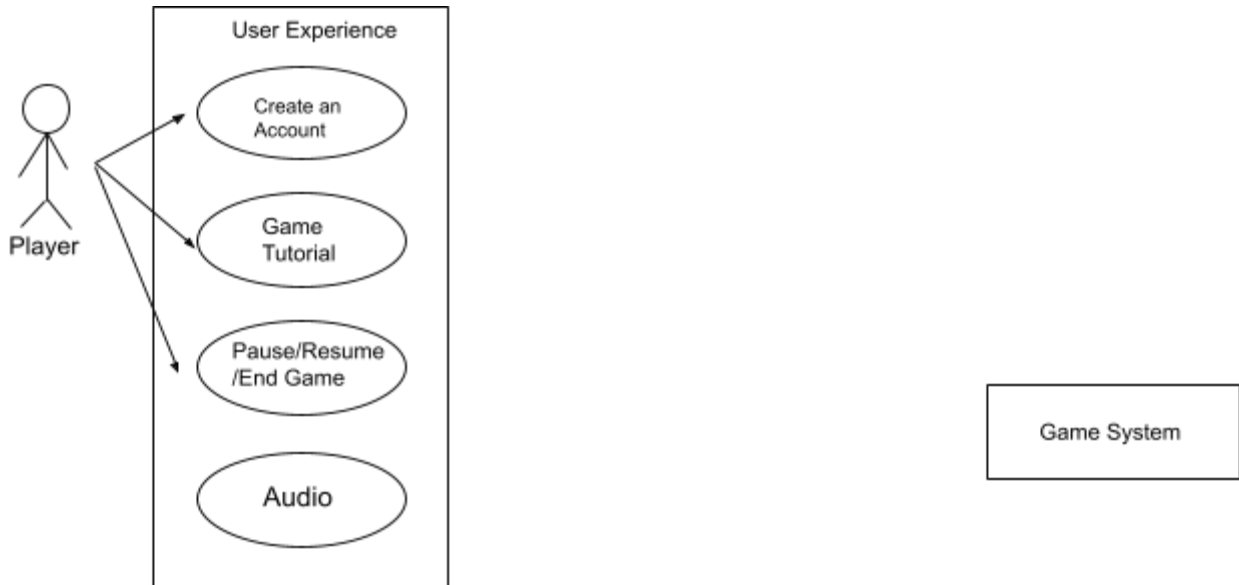
4: Overall Description

“The Escape Room” will be a video game open to anyone but primarily geared towards older teens and adults. It will have a spooky theme and be a fun game for all to play and be surprised by. The software will be primarily developed in VS Code and will also connect with GitHub. The game will be designed to be played on PCs and laptops, and should work on any operating system (Macs, Linux, and Windows).

5. Business use cases

https://www.canva.com/design/DAGyWM2nlHo/uHZ_i6tfLfHwiASR0ClNg/edit?utm_content=DAGyWM2nlHo&utm_campaign=designshare&utm_medium=link2&utm_source=sharebutton





6. Functional Requirements

https://docs.google.com/spreadsheets/d/1FSnbqbam7K5-BCvX_ljWj8Td4hJakPmjBAR4ADbZkuc/edit?usp=sharing

7. Non-Functional requirements

THEME

- The game shall have a spooky/creepy theme
- The game shall have effects such as darkness, glitches, etc.
- The game should avoid bright colors

STORY STRUCTURE

- The game shall have a branching storyline.
- Dialogues shall reflect the consequences of player action.
- The game shall have a non-linear plot.

USER EXPERIENCE

- The game shall provide a tutorial if too difficult.
- All text in the game shall be readable on any screen size.
- The game shall support any computer that it's being played on.

POLICY AND LEGAL STANDARDS

- The game shall include appropriate content based on mature themes.
- The game shall properly license anything that's needed.

8. Definitions and acronyms

I do not believe there are any words in the document that would need to be defined.

9: Competitive Analysis

	Escapely (Virtual Escape Rooms)
Strengths	<p>Escapely distinguishes itself in the virtual escape room market through its live-hosted format, which creates a highly interactive and guided experience. Each game includes a dedicated host who monitors progress, gives hints when necessary, and ensures that players remain engaged throughout the session. This significantly enhances teamwork and communication, since the host serves as both a moderator and facilitator. The professional hosting also makes the platform appealing to organizations that value structured interaction, such as corporate clients looking for team-building exercises. In addition, Escapely offers a wide variety of themed rooms, each designed with polished visuals, logical puzzles, and a professional structure that ensures consistency and quality. This level of organization sets Escapely apart from smaller competitors who rely on static puzzle designs and self-guided play. By marketing itself as a premium, professional-grade platform, Escapely has carved out a unique space in the market and established itself as a leader in virtual team-building entertainment.</p>
Weaknesses	<p>Despite these strengths, Escapely has several notable weaknesses. First and foremost, it is a paid-only platform, which limits accessibility for casual users who are unwilling or unable to pay premium prices for entertainment. Unlike some competitors, Escapely does not provide free trials or lightweight versions of its games, which can discourage potential users from trying it out. Another limitation is the lack of on-demand play. Because games require scheduling and a live host, they cannot be launched spontaneously. This scheduling requirement makes the platform less appealing to casual players or groups of friends who want to play immediately. Finally, because Escapely is heavily marketed toward businesses, the experience can feel overly structured or formal for players who simply want fun, lighthearted entertainment rather than a team-building exercise. This narrow focus on corporate clients means that Escapely risks alienating the larger casual gaming market.</p>
Audience/Focus	<p>Escapely is focused primarily on the corporate and professional market, including businesses, schools, and organizations looking for team-building opportunities. Its pricing, branding, and product design are all tailored to clients</p>

	<p>who want a structured experience with measurable benefits in teamwork and collaboration. While groups of friends or families can participate, the platform's cost and formality make it less likely to attract casual users. Escapely is best understood as a premium team-building solution rather than a general entertainment platform.</p>
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	<p>Virtual Escaping</p>
<p>Strengths</p>	<p>Virtual Escaping has positioned itself as one of the more accessible virtual escape room experiences on the market. Its strongest appeal comes from its browser-based access, which eliminates the need for players to download software or install applications. This makes the entry process extremely smooth for users who may not be technically inclined, such as students or families who simply want to play without complications. Another significant strength is its multiplayer functionality, which allows groups to join from different locations and solve puzzles together in real time. This cooperative element simulates the feel of an in-person escape room and helps strengthen social bonds among participants. The platform also appeals to a wide audience because it includes both free demo rooms and paid premium rooms, lowering the financial barrier to entry while still offering advanced content for those who want to invest in a deeper experience. The puzzles themselves are interactive, varied, and generally straightforward, which makes the platform welcoming to beginners and casual players who may find traditional escape rooms intimidating.</p>
<p>Weaknesses</p>	<p>The weaknesses of Virtual Escaping stem largely from its simplicity and limited scope. While the browser-based model is convenient, the visual design and user interface are relatively plain compared to competitors that invest heavily in immersive graphics, professional sound, and cinematic storytelling. Another weakness is the limited number of themes and puzzle rooms available. Once players complete the available scenarios, there is little incentive to return, since the puzzles do not change and the storylines are fixed. This leads to a lack of replayability, which is a major drawback in keeping users engaged long-term. Some more experienced escape room fans may also find the puzzles to be simplistic, as the difficulty level is meant for a wide spread audience instead of advanced problem solving.</p>
<p>Audience/Focus</p>	<p>The focus of Virtual Escaping is on casual entertainment for groups, such as - friends, families, or classmates, trying to do an affordable activity that can be played remotely. It is not marketed heavily towards corporations or professional organizations, and it does not claim to provide structured</p>

	<p>team-building. Virtual Escaping is marketed to people of all ages and does not provide any content that should be hidden from specific age groups. Overall, it is positioned as an easy alternative to in-person escape rooms, making it a good fit for casual users who want a quick cooperative puzzle-solving experience without a financial or technical barrier.</p>
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	<p>Enchambered Together</p>
<p>Strengths</p>	<p>Enchambered Together stands out for its simplicity, accessibility, and cooperative design. It is entirely browser-based and free to play, which makes it one of the easiest escape room experiences for new users to access. There is no need for downloads or complex setups, which reduces barriers for users who may be hesitant to engage with unfamiliar software. The game is uniquely designed for two players, where each participant receives different pieces of information and must communicate with their partner to solve puzzles. This focus on cooperation creates a highly interactive and intimate experience that emphasizes teamwork and communication more strongly than many other competitors. Because of its simplicity and lack of cost, it has become a popular option for couples, friends, or students who want a fun and accessible puzzle challenge. The game also demonstrates how effective puzzle design can make a simple platform engaging, even without advanced visuals or production value.</p>
<p>Weaknesses</p>	<p>However, the narrow scope of Enchambered: Together Apart is also its biggest weakness. Since it is only designed for two players, it does not scale to larger groups, which greatly limits its audience. Once players complete the puzzles, there is also very little reason to replay, since the solutions do not change and the content is finite. The lack of replayability means that users will only engage once or twice before moving on to other platforms. In addition, the visual design is fairly basic, lacking the immersive graphics, sound design, and narrative depth of higher-budget escape rooms. While the cooperative gameplay is strong, the overall product feels small compared to competitors that offer multiple rooms, themes, and levels of difficulty. Finally, because it is free, it lacks the financial backing needed to continually expand and develop new content, leaving it at a disadvantage in the long-term competitive market.</p>
<p>Audience/Focus</p>	<p>Enchambered is aimed at casual players who want a quick, free, and</p>

	cooperative activity that is easy to access. It works especially well for couples or pairs of friends who are interested in testing their communication skills while solving puzzles together. However, it does not target larger groups, corporate clients, or professional organizations, and its limited scope makes it less versatile compared to other competitors.
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Summary:

	Strengths	Weaknesses	Focus
Escapely	+Easy browser access +Free and paid rooms +Multiplayer support	-Basic visuals, -Limited themes, -Lower replayability	Casual groups of friends, families, students
Virtual Escaping	+Live-hosted guidance +Team-building focus +High-quality themes	-Premium only (no free play) -Must schedule -Less appealing for casual use	Corporate teams, professional organizations
Enchambered Together	+Free +Simple setup +Strong cooperation design	-Only for two players -Very short -Not replayable	Casual pairs (friends, couples, students)

Following the competitive analysis above, we learned about the strengths and weaknesses of existing virtual escape room platforms, and this knowledge will guide us in creating our own product. Virtual Escaping demonstrates the importance of accessibility and affordability, but it lacks the depth and replayability that players want in the long term. Escapely shows how interactivity and live engagement can elevate the experience, though its high costs and scheduling requirements make it less attractive to casual players. Enchambered succeeds in being simple and cooperative, but its narrow scope limits its audience. From the analysis of these three products, we can conclude that our product should take the best qualities - accessibility, interactivity, and cooperation - while addressing their shortcomings by implementing greater replayability, more varied content, and support for both casual and professional audiences. Overall, our product will combine these elements into a clear, easy-to-use design, making our virtual escape room stand out as a versatile and engaging option.