Requirements

Introduction Paragraph

To begin, we first collectively studied the brief in detail and began to create a general context of our project so we were able to formulate relevant and useful questions to ask our stakeholder in an interview. We created a general outline of what our game could potentially look like based on the contents of the brief and using the created questions designed to probe and refine our initial idea to suit the user requirements elicited. We ensured the questions asked were focused primarily on the expected capability of the game rather than design choices to not limit our creativity in the process, that being said we did include some design/implementation questions that we deemed necessary to ensure the core theme of the game remains intact.

Using the elicited user requirements which we collected and recorded from the interview, we discussed and modified our initial plans by creating a complete list of technical system requirements. We devised them into user requirements that we further broke down into functional, non-function and constraint requirements as appropriate. We presented each user requirement with a description of a general outline of what the intention of the requirement is and a priority of inclusion to quantify how imperative this feature is within our game. Each requirement was allocated an appropriate and useful unique ID to be referable in different contexts. We then linked each type of system requirement to the relevant user requirements they satisfy via the ID.

Statement of user and system requirements

User Requirements

ID	Description	Priority
UR_TUTORIAL	The system will provide a tutorial to teach the user how to control the character	HIGH
UR_MAZE	The system shall have a fixed maze for the player to navigate through	HIGH
UR_LOSS_SCREEN	The game shall display a loss screen when the user loses the game	HIGH
UR_VICTORY_SCREEN	The game shall display a victory screen when the user successfully completes the game	HIGH
UR_HOME_SCREEN	There shall be a home screen when the game first starts and that the user returns to after finishing the game	HIGH
UR_SETTINGS	The system shall provide settings options for the user	MEDIUM
UR_PAUSE_MENU	The system shall allow the player to pause the game	MEDIUM
UR_SCORE	The user shall get higher score for finishing the game quicker	HIGH
UR_POSITIVE_EVENTS	There will be 3 visible events that affect the player in a positive way	HIGH
UR_NEGATIVE_EVENTS	There will be 5 visible events that affect the player in a negative way	HIGH
UR_HIDDEN_EVENTS	There will be 3 hidden events that affect the player in fun ways	HIGH
UR_HARDWARE	The game shall be able to be played on any laptop or PC	MEDIUM
UR_PLAYER_CHARACTER	There will be a player character that can be controlled by the user	HIGH
UR_FAMILY_FRIENDLY	The design of the game should be appropriate for all ages	HIGH
UR_PLAY_ONCE	The game shall be designed to only be played once per user	MEDIUM
UR_UNIVERSITY_THEME	The game shall have a university related design	HIGH
UR_DIFFICULTY	The game shall have a fixed difficulty	HIGH
UR_ACCESSIBILITY	The game shall be accessible to a wide audience of different players	LOW

Functional Requirements

ID	Description	User Requirements
FR_TUTORIAL_SCREEN	The tutorial will be displayed on the home screen	UR_TUTORIAL
FR_TUTORIAL_CONTENTS	The controls as well as the objective will be displayed	UR_TUTORIAL
FR_MAZE_LAYOUT	The game will have a consistent maze layout for each playthrough and it should all fit on the screen at once	UR_MAZE
FR_MAZE_FUNCTION	The maze shall have collision to stop players passing through the walls	UR_MAZE

FR_MAZE_PERSPECTIVE	The maze shall be viewed from a top down perspective and the maze will be shown to the player as they move through it	UR_MAZE
FR_MAZE_EXIT	There shall be an exit for the maze	UR_MAZE
FR_LOSS_TIMER	The player will lose the game if the 5 minute timer runs out or the player touches an enemy	UR_LOSE
FR_LOSS_SCREEN_CONTENTS	The loss screen shall have text displaying that the player has failed and a button to return to the home screen	UR_LOSS_SCREEN
FR_VICTORY_SCREEN_TEXT	The victory screen shall have text displaying that the player has won and their score	UR_VICTORY_SCREEN
FR_VICTORY_SCREEN_BUTTONS	The victory screen shall contain a button to take the user back to the home screen	UR_VICTORY_SCREEN
FR_HOME_SCREEN_CONTENTS	The game title shall be displayed on the home screen and it shall have a button to start game button	UR_HOME_SCREEN
FR_SETTINGS_TEXT	There will be settings options to allow the player to change the controls, which will be displayed on the home screen	UR_SETTINGS
FR_BUTTON_TO_PAUSE	The pause menu will be displayed when the spacebar is pressed	UR_PAUSE_MENU
FR_PAUSE_MENU_CONTENTS	The pause menu will say that the game is paused and there shall be a button to resume the game or return to the start screen	UR_PAUSE_MENU
FR_SCORE_SET	The players score will be equal to the time left when they complete the game	UR_SCORE
FR_LUCKY_TILE	When the event is triggered the player will get a random effect of revealing the maze, or giving increasing the players score	UR_POSITIVE_EVENTS
FR_CHATGPT	When the event is triggered the player will get an effect that allows them to skip the next quiz event	UR_POSITIVE_EVENTS
FR_STAFF_LANYARD	When the event is triggered the player will gain invincibility for 1 minute from all enemies	UR_POSITIVE_EVENTS
FR_CHECK_IN_CODE	When triggered the player has to type in the code that appears on the screen correctly within 10 seconds, or the player loses 30 score	UR_NEGATIVE_EVENTS
FR_DEAN_ENEMY	When triggered an enemy will be spawned to follow the player around the maze	UR_NEGATIVE_EVENTS
FR_QUIZ	When triggered the game will be paused and an input screen will appear with a quiz question that needs to be answered for the player to continue playing, if answered incorrectly they will lose 50 score	UR_NEGATIVE_EVENTS
FR_GLASSES_ON_BOB	When triggered glasses will be spawned at the start of the maze and the player has to collect them	UR_NEGATIVE_EVENTS
FR_SOF1_RETAKE	When triggered the game will be paused and a screen will appear asking the player to answer a simple coding question which will allow the player to continue when answered correctly	UR_NEGATIVE_EVENTS
FR_BOB_JUMPSCARE	When triggered the screen will be covered will an image of bob for 5 seconds	UR_HIDDEN_EVENTS

FR_TUITION_FEES	When triggered the player will have to either lose 5 coins or 30 score if they don't have enough coins, which will be spawned at the start of the game around the maze	UR_HIDDEN_EVENTS
FR_TIMETABLE_CHANGE	When triggered the player will be randomly teleported to somewhere in the maze	UR_HIDDEN_EVENTS
FR_CHARACTER_SPRITE	The player character shall have a 2d pixel art sprite	UR_PLAYER_CHARACTER
FR_CHARACTER_CONTROLS	The player character will be controlled using the WASD or arrow keys	UR_PLAYER_CHARACTER
FR_PRE_GENERATED	The maze layout will be fixed with all the events and the exit being in the same place	UR_PLAY_ONCE

Non-functional requirements

ID	Description	User Requirements	Fit Criteria
NFR_COLOUR_BLINDNESS	There will be distinct colours for the different game elements	UR_ACCESSIBILITY	90% of players with colourblindness were able to successfully play the game

Constraint requirements

ID	Description	User Requirements
CR_OS	The game shall be playable on computers running MacOS, Windows and Linux	UR_HARDWARE
CR_DEVICE	The game shall be playable on any laptop or PC	UR_HARDWARE
CR_APPROPRIATE_DESIGN	The visuals and gameplay shall be playable by users of any age	UR_FAMILY_FRIENDLY
CR_FIXED_DIFFICULTY	The game shall always be the same every time it is played and the score awarded for different events and times will be the same	UR_DIFFICULTY