UNIVERSITY OF YORK

DEPARTMENT OF COMPUTER SCIENCE

ENG1 Assessment 1
Group 18 - Octodecimal

Requirements

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Introduction

According to the product brief, we must create a single-player game in which we have to oversee a second-year computer science student's activities in the final week before their examinations start. The player can see the current day of week and time according to ID UR_TIME. Players will receive a score at the end representing how well they did in their exams.

The game is able to play on all Windows devices as it is ID UR_DEVICE_SPECIFICATIONS. We decided to create a game where it should be able to play the game without requiring any network connection. This is one of our IDs which is UR_NETWORK.

A higher score could be achieved when the player studied for enough time. This can be achieved by studying in different places, within the required limit each day, and eating at a reasonable time. Plus, players need to spend the right amount of time for themselves doing recreational activities to increase score. This description really suits our ID UR_TASKS. However, for the first part of our project as discussed with the customer, the objective of the game will be to sleep at the end of day 7, and a summary screen is shown with the amount of each activity that was completed during the week. This is ID UR_GAME_CYCLE which shall be implemented in the game.

After plenty of discussion, we came up with requirement ideas that consist of a game cycle, daily cycle, summary screen, tasks, movement, sleep, energy bar, time, limit, network, music, map, actions, actions, activities, avatars, device specification and main menu. This idea came out after going through Assessment during a bunch of meetings. Also, customer meeting help us change a few things according to their needs. We no longer need to provide a score, we need a top-down view perspective and a game able to select an avatar. For avatar selection, we labelled it as UR_AVATARS.

Based on the requirement plan, these are the general game summary plan that we agreed on. First, player has an on screen energy bar, which decreases when performing tasks. Current energy bar that can be seen is ID UR_ENERGY_BAR. On screen time passes when performing tasks. Then, Map of Heslington East has accurate locations. Also top down, camera zoomed in on a character who can free-roam around the map with the WASD keys. This feature is what we call ID UR_MOVEMENT. When the timer reaches midnight, or energy bar reaches zero, the player must go to accommodation to sleep. However, they can go to bed whenever they want. This is our ID UR_DAILY_ROUTINE. On a new day, the day counter increases (Mon, Tues etc). To perform tasks, players must travel to locations. When they're there, a pop-up box appears with stats (activity name, time taken, energy used). By the end of Sunday, see the game over screen and a summary page is shown with the number of each activity that was completed. This is our ID UR_ACTIONS. The player is able to select an avatar at the beginning of the game. Despite that, we also discussed other ideas that it is not necessary to implement. For example, the saving system is not needed and moving does not go down when doing activities. ID UR_MUSIC for sound effects which are not being implemented in the game because it is not compulsory.

After 15 days of discussion, consideration and meeting between team members and customer we decided to finalise requirements with 3 requirements tables which are user requirements, functional requirements and non-functional requirements table which can be seen below. This table is based on IDs of User Requirements as stated in the introduction.

Requirements

User Requirements Table

ID	Description	Priority
UR_GAME_CYCLE	Players must complete daily tasks including studying, eating, sleeping and activities within 7 in-game days	Shall
UR_DAILY_ROUTINE	Players are required to sleep at the end of each day to progress to the next day and refill their energy	Shall
UR_TASKS	Players can interact with different locations around the map to complete different tasks including studying, eating, sleeping and activities.	Should
UR_MOVEMENT	Players can roam within the map freely using the WASD keys	Shall
UR_ENERGY_BAR	Players are able to see their current energy level	Shall
UR_TIME	Player can see current day of week and time	Shall
UR_DAILY_CYCLE	Players must perform various activities within the 16 hours in-game time limit (not including sleeping) each day	Shall
UR_MAIN_MENU	Player can see the main menu screen to start and quit the game	Shall
UR_LIMIT	Player cannot start activity without required time or energy except sleeping	Shall
UR_NETWORK	Player should be able to play the game without requiring any network connection	May
UR_MUSIC	Player are able to hear sound effects and music throughout their gameplay	May
UR_MAP	Players are able to explore the map that will resemblance the University of York	Should
UR_ACTIONS	After 7 in-game days, players will receive a counter of how much of each activities were completed within the week	Shall
UR_ACTIVITIES	Player should be able to perform 3-5 activity a day and not go over that limit	Shall
UR_AVATARS	Player are provided a selector of avatars to choose from	Shall
UR_DEVICE_SPECIFICATIONS	Player are able to play the game on all Windows devices	Should

Functional Requirements Table

ID	Description	User Requirements
FR_DAILY_TASKS	The system will track and manage the completion of daily tasks like study, eat, and sleep with an internal weighting score	UR_GAME_CYCLE
FR_SLEEP_CYCLE	The system will enforce a sleep cycle, requiring the player to sleep for day progression. The system should replenish different amount of energy depending on the time the user went to sleep i.e. Sleeping at 8pm replenish full energy whereas midnight replenish only a quarter	UR_DAILY_ROUTINE
FR_MAP_MOVEMENT	The system will allow user to move around the map within a specified region and user must always be snapped to the centre of the screen at all time while viewing from a top-down view point	UR_MOVEMENT
FR_TASKS_INTERACT	The system will allow users to interact with various places to perform different tasks. The system should provide an indicator i.e. a cut scene to show an activity was performed	UR_TASKS
FR_ENERGY_TRACK	The system will keep track of the energy level and always display it on screen for the user	UR_ENERGY_BAR
FR_GAME_CYCLE	The system should end the game when the user has sleep on Day 7	UR_GAME_CYCLE
FR_TIME	The system will keep track of the current day and time and always display it on screen for the user. The time will not pass unless an activity occurred	UR_TIME
FR_LIMIT	The system does not allow any activity without sufficient time or energy except sleeping	UR_LIMIT
FR_MUSIC	The system should allow the user to adjust or mute any in-game sound effects and music	UR_MUSIC
FR_MAP	The map art style should remain consistent throughout the whole game and keep colorblind accessibility in mind. The map should also shows a resemblance of the University of York along with player characters around the map	UR_MAP
FR_ACTIONS	The system should have a counter that tracks how much of each activities per perform and presented to the user at the end of the game session	UR_ACTIONS
FR_ACTIVITIES	The system should not allow player not exceed a maximum limit of 5 activities per day	UR_ACTIVIES
FR_AVATARS	The system should provide a selection of avatars for the player to choose from	UR_AVATARS
FR_MAIN_MENU	The system should provide a main menu where user can pick avatars, start/exit the game and view the game credits	UR_MAIN_MENU

Non-Functional Requirements Table

ID	Description	User Requirements
NFR_GAME_SESSION	Users will not be able to save the current game session and the game must be completed within the session	UR_GAME_CYCLE
NFR_GAME_DURATION	Each game session should have a playtime of around 5-10 minutes	UR_GAME_CYCLE
NFR_DEVICE_SPECIFICATIONS	Users should be able to play the game on Windows devices	UR_DEVICE_SPECIFICATIONS