Name\_\_Evangelos Stratigakes\_\_\_\_\_\_ Mark \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_/50

## Brief introduction \_\_/3

This feature will be the implementation of the user interface and menu system, which will allow the user to navigate and play the game.

## Use case diagram with scenario \_\_14



### Scenarios

**Name:** Display Main Menu

**Summary:** User is brought to the main menu

**Actors:** User, Image Display

**Preconditions:** Game has been launched successfully

**Basic sequence:**

**Step 1:** Initialize and launch main game loop

**Step 2:** Display screen interface

**Exceptions:**

**Step 1:** Game fails to initialize

**Step 2:** Display error

**Post conditions:** Main menu is displayed

**Priority:** 1

**ID:** C01

**Name:** Select Map

**Summary:** User is able to select the map they want to play

**Actors:** User, Map Manager

**Preconditions:** Map information is successfully loaded

**Basic sequence:**

**Step 1:** Load map information

**Step 2:** Display map menu

**Step 3:** User selects map

**Step 4:** Load and launch map

**Exceptions:**

**Step 1:** Map data is unable to be retrieved

**Step 2:** Display error

**Post conditions:** User is able to choose the map and load it

**Priority:** 1

**ID:** C02

**Name:** Select Character

**Summary:** Choose a character to play the game with

**Actors:** User

**Preconditions:** Character information is loaded to menu

**Basic sequence:**

**Step 1:** Load character information

**Step 2:** Display characters and attributes screen

**Step 3:** User chooses a character

**Exceptions:**

**Step 1:** Character information is unable to be loaded

**Step 2:** Display error

**Post conditions:** User selects a character to play

**Priority:** 1

**ID:** C03

**Name:** Display Character Stats

**Summary:** Display to the user the attributes of the character they wish to play

**Actors:** User, Character Manager, Image Display

**Preconditions:** Character stats are loaded from character data object

**Basic sequence:**

**Step 1:** Load character attributes

**Step 2:** Display stats screen

**Exceptions:**

**Step 1:** Character information is unable to be loaded

**Step 2:** Display Error

**Post conditions:** Character information is displayed

**Priority:** 2

**ID:** C04

**Name:** Display Help Menu

**Summary:** Display a help menu to provide the user with information

**Actors:** User, Image Display

**Preconditions:** Game is running

**Basic sequence:**

**Step 1:** Receive user input

**Step 2:** Display help menu

**Exceptions:**

**Step 1:** User wants to leave menu

**Step 2:** Exit menu

**Post conditions:** Help menu is displayed

**Priority:** 2

**ID:** C05

**Name:** Display End Screen

**Summary:** Displays a screen upon player death or goal

**Actors:** Image display

**Preconditions:** User player character has either died or completed level

**Basic sequence:**

**Step 1:** Check if end condition is met

**Step 2:** Display screen if end condition is met

**Step 3:** User restarts game, progresses to next map, or exits game

**Exceptions:**

**Step 1:** User player character has not died or completed level

**Step 2:** Check if end condition met

**Post conditions:** End screen is displayed, user is allowed to quit or return to gameplay

**Priority:** 1

**ID:** C06

**Name:** Display Game UI

**Summary:** Display user HUD while game is being played

**Actors:** Image display

**Preconditions:** Game is initialized and running

**Basic sequence:**

**Step 1:** Display user interface

**Step 2:** Check for game events

**Exceptions:**

**Step 1:** User wants to exit game

**Step 2:** Exit game

**Post conditions:** User interface is displayed

**Priority:** 1

**ID:** C06

**Name:** Display Event

**Summary:** Display to the user an event that the character encounters that requires a screen or menu

**Actors:** Image display

**Preconditions:** Game is running, event is encountered

**Basic sequence:**

**Step 1:** Check if event is encountered

**Step 2:** Display event if encountered

**Step 3:** Clear event from screen

**Exceptions:**

Step 1: Request for event fails

Step 2: Redisplay event

**Post conditions:** Event screen is display

**Priority:** 1

**ID:** C07

## Data Flow diagram(s) from Level 0 to process description for your feature \_\_\_\_\_\_\_14

### Data Flow Diagrams



### Process Descriptions

Display Main Menu:

WHILE main game loop is initialized and running

Display Main Menu

Receive user input

User selects character

Load character data

Launch Gameplay

Display UI

IF event triggered, display event

IF player reaches goal or dies, display end screen and return to main menu

END WHILE

Launch Game:

Launch Gameplay

Display UI

IF event triggered, display event

IF player reaches goal or dies, display end screen and return to main menu

Display Game UI:

Display UI

IF event triggered, display event

IF player reaches goal or dies, display end screen and return to main menu

Display Event:

IF event triggered, display event

Clear event from screen

Display End Screen:

IF player reaches goal or dies, display end screen and return to main menu

## Acceptance Tests \_\_\_\_\_\_\_\_9

Test 1: Launch game from executable and display Main Menu 10 times

Input – User launches executable from desktop

Expected output – Main game loop executes and displays main menu

Test 2: Select each character 10 times

Input – User uses mouse to select a character

Expected output – Selection is shown, given option to launch game

Test 5: Launch game 10 times from character selection screen

Input – User pushes launch game button in character select menu

Expected output – Game launches and is playable

Test 4: Encounter and display an event 10 times

Input – Character runs over a power-up

Expected output – Message is displayed on the UI

Test 5: Win game 10 times to display an end screen

Input – User wins a game

Expected output – End screen is displayed

Test 6: Die 10 times to display the death screen

Input – User’s character dies

Expected output – Display a death screen

Test 7: User incorrect input to a menu

Input – incorrect input (wrong key, button, etc)

Output - nothing

## Timeline \_\_\_\_\_\_\_\_\_/10

### Work items

|  |  |  |
| --- | --- | --- |
| Task | Duration (PWks) | Predecessor Task(s) |
| 1. Requirements Collection | 2 | None |
| 2. Menu Design | 2 | 1 |
| 3. Screen Design | 2 | 2 |
| 4. UI Design | 2 | 2 |
| 5. User Documentation | 1 | 2, 3, 4 |
| 6. Programming | 5 | 4 |
| 7. Testing | 3 | 6 |
| 8. Installation | 2 | 7 |

### Pert diagram

|  |  |  |
| --- | --- | --- |
| 4 | 2 | 6 |
| 3 | | |
| 0 | 0 | 2 |

|  |  |  |
| --- | --- | --- |
| 6 | 1 | 7 |
| 5 | | |
| 0 | 0 | 2 |

|  |  |  |
| --- | --- | --- |
| 2 | 2 | 4 |
| 2 | | |
| 2 | 0 | 4 |

|  |  |  |
| --- | --- | --- |
| 7 | 3 | 10 |
| 7 | | |
| 11 | 0 | 14 |

|  |  |  |
| --- | --- | --- |
| 10 | 2 | 12 |
| 8 | | |
| 14 | 0 | 16 |

|  |  |  |
| --- | --- | --- |
| 0 | 2 | 2 |
| 1 | | |
| 0 | 0 | 2 |

|  |  |  |
| --- | --- | --- |
| 4 | 2 | 6 |
| 4 | | |
| 4 | 0 | 6 |

|  |  |  |
| --- | --- | --- |
| 6 | 5 | 11 |
| 6 | | |
| 6 | 0 | 11 |

### Gantt timeline

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2 |  |  | 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3 |  |  |  |  | 2 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4 |  |  |  |  | 2 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5 |  |  |  |  |  |  | 4 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6 |  |  |  |  |  |  | 4 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 7 |  |  |  |  |  |  |  |  |  |  |  | 6 |  |  |  |  |  |  |  |  |  |  |  |  |
| 8 |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 7 |  |  |  |  |  |  |  |  |  |
|  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |  |  |  |  |  |  |  |  |