Requirements and Analysis Document for ooproj-18

Table of Contents

Version: *final version*

Date: 9/4-13

Author: Group 18

This version overrides all previous versions.

1 Introduction

This section gives a brief overview of the project.

1.1 Purpose of application

The purpose of the application is to be a well made platform game that's entertaining to the user.

1.2 General characteristics of application

The application will be a desktop, stand alone (non-networked), one-player 2D game with a graphical user interface for crossover platforms.

The game will not be turn based, there will be one player who enters to the far left of a wide map (world) with a chosen weapon. The player must then make his way through the world by moving forward (right) or backward (left), jumping, collecting coins and gems and getting past enemies by either avoiding them or fighting them. There will also be power ups giving life in the shape of chocolate bars and energy drinks located in the game world. The game will end either when the character dies, reaches the end of the map with enough points, or when the player himself exits the game from the pause menu.

1.3 Scope of application

The game does not support multiplayer mode and it's not possible to create your own maps, weapons or characters.

1.4 Objectives and success criteria of the project

One fully functional map, the ability to choose between two different weapons. At least one kind of enemy, one game mode and functionality for saving highscore.

1.5 Definitions, acronyms and abbreviations

- GUI, graphical user interface.
- Java, platform independent programming language
- Host, the computer that the application will run on

2 Requirements

In this section we specify all requirements.

2.1 Functional requirements

The player should be able to:

1: Start the application and enter the main menu.
2: Start a new game.
       a) Select character name and weapon.
3: Visit a highscore list, showing the best players.
4: Visit the options menu.
       a) Set music on/off
       b) Set music volume
       c) Set sounds on/off
       d) Set sounds volume
       e) Set fullscreen on/off
       f) Set keybindings
5: Quit the game.
6: Play the game and move along to the end of the map (world) to complete the game.
7: Fight monsters. These monsters can "kill" the character.
8: Collect coins and gems.
9: Pick up chocolate bars and energy drinks for life.
10: Pause the game. When this is done a menu will popup, and the player can choose between these different options:

a) resuming the game

b) restarting the game

c) opening the options menu

d) going back to the main menu

e) quitting the game

11: Reach the end of the map and win or die and lose, thus reaching the game over menu where one can:

a) try/play again

b) reach the main menu

c) quit the game

2.2 Non-functional requirements

Possible NA (not applicable).

2.2.1 Usability

Our ambitions is that people of all ages and cultures will want to play our finished game. We also want people to be able to learn to play the game reasonably easy no matter what computer knowledge they possessed beforehand, this puts a user friendly interface in focus. We want to make a colorful and exciting game with inspiring music in the background. High usability is therefore high priority. The game will be in English, since this is the a good way to reach people from many different cultures.

2.2.2 Reliability

NA

2.2.3 Performance

Any input from the user should move the character without any delay if the move is possible. The map is going to move softly in the background and accompany the player throughout the game.

2.2.4 Supportability

The game we've created is a computer game. This means that we focus on computer development. Applications for smart phones and tablets are certainly very tempting, but our first step is all computers that supports Java. Therefore the GUI is designed for computers.

2.2.5 Implementation

To achieve platform independency the application will use the Java environment. All host

must have JRE installed and configured on his/her computer. The user need to install or download the game to his/her computer.

2.2.6 Packaging and installation

We don't yet know how the game will be packaged or installed or what will be asked of the user, though it is likely that we will provide a README-file documenting the installation process once we do know.

2.2.7 Legal

We have no interference with any rights or trademarks.

2.3 Application models

2.3.1 Use case model

See Appendix.

2.3.2 Use cases priority

1. Move
2. Fight
3. Move into collectibles
4. End game
5. Pause
6. Highscore
7. Start game
8. Change player name
9. Choose weapon
10. Options
    a) Change volume
    b) Change to and from fullscreen
c) Change controls

2.3.3 Domain model

See appendix.

2.3.4 User interface

The application will use a fixed (non skinable, non themeable) GUI following standard conventions. Our components are placed relative to each other and the
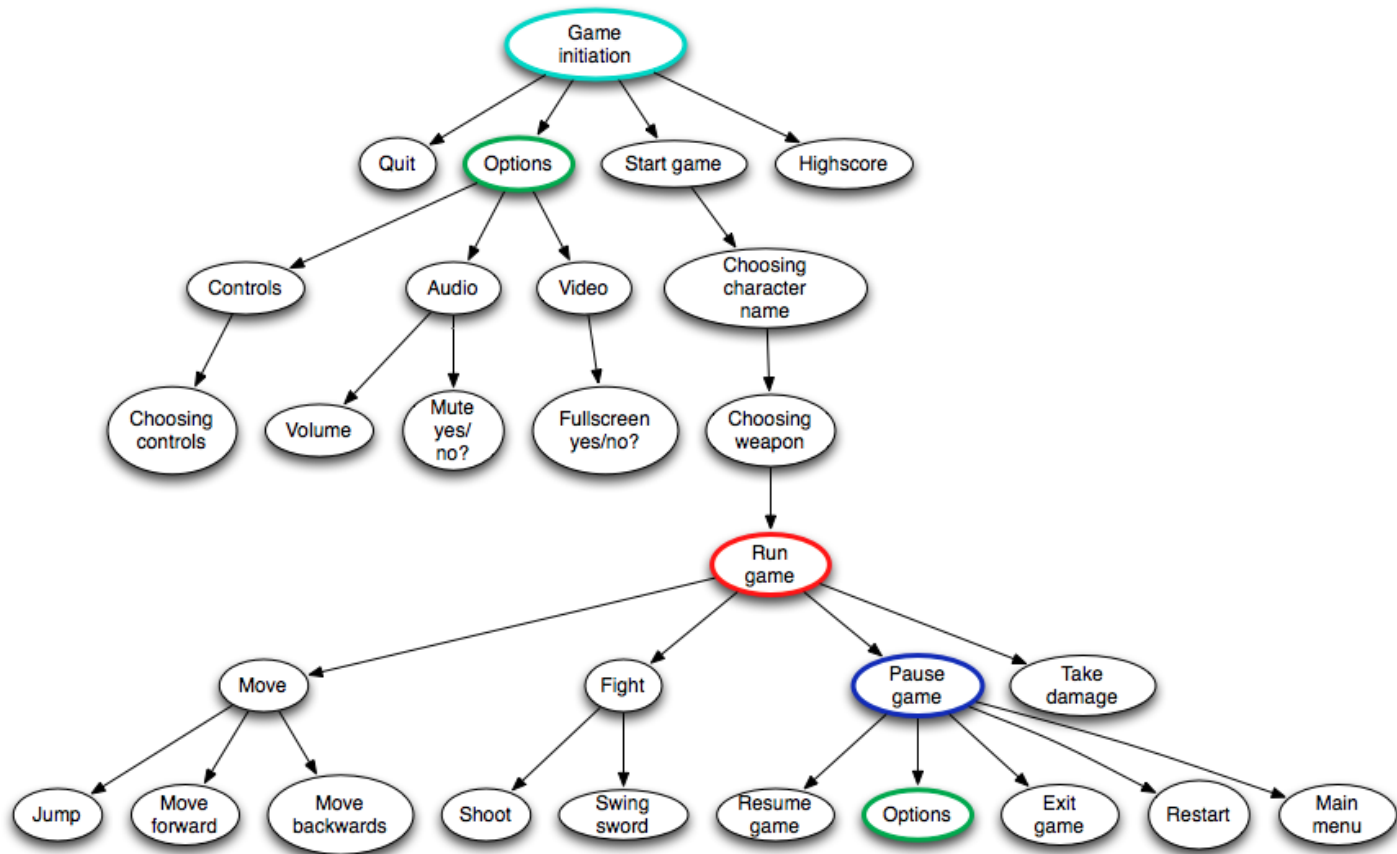
window size which makes it possible to run the application in different window sizes. The only sizes that are implemented are full screen on a computer with a resolution of up to 1920 x 1200 pixels and window mode in 900 x 600 pixels.

2.4 References

NA.

Appendix

Use case model:

Domain model:

```
                        ┌──────────────┐
                        │  The game    │
                        └──────┬───────┘
                               │
                        ┌──────┴───────┐
                        │    Map       │
                        └──────┬───────┘
                               │ has
                               ▼
                        ┌──────────────┐
                        │  Map item    │
                        └──────────────┘
```

The game → Map → has → Map item

Map item connects to:
- Live entity
  - hp
  - weapon
- Static item
- has → Position
  - x
  - y
- Collectible items

Live entity connects to:
- Character
  - name
- Moving foe
- has → Weapon
  - damage
  - range

Static item connects to:
- Static foe
  - damage

Collectible items connects to:
- Money
  - value
- Health
  - hp boost

Weapon connects to:
- Sword
- Gun
  - has → Bullet
    - range

Money connects to:
- Coin
- Gem

Health connects to:
- Energy drink
- Chocolate bar