CS 319 - Object-Oriented Software Engineering

Final Report

Dave Davesson

Group 6

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Contents

1. Implementation

The process of implementation of the project is a very challenging one, considering the various difficulties. First of all, we have to do some changes in class diagram, like adding new classes for different panels of game for main menu. Another major change is that we have to change methods for lots of classes. For example, in class diagram, we mostly used init() and update() for user interface classes, but in implementation, only a constructor that is capable to control all changes is used.

There are some obstacles while the implementation period. For example, creating and making the map visible on screen was no easy feat for us. Several classes are used for each object in the map and Tile and TileMap classes used to combine them into a single map. The maps are created via the "Tiled" program, and originally the map is saved as a .tmx file, with each tile is a (32x32) .png picture. If the map is exported as a .js file, it gives an array containing each element of the map as different numbers. Lastly, the map is printed as a 2D array for visibility.

Another obstacle is for Dave to walk and jump. For each press of keyboard (the arrow buttons), and with the use of timer class, Dave moves around pixels. Some methods and variables are made to make Dave's movements. For each move of Dave, the pixel that is used for Dave changes. Also, for sliding the map for a more enjoyable play, the same movement has done. After some point on the map, the tiles slide a little bit and it is denoted by multiplying the array's location by 32.

Our greatest challenge was to implement the Dave's collusion with other objects. While Dave walks, it understands the objects that is beside him.

We tried to overcome these obstacles by our coding knowledge and experience. Also, it can be said that preparing the user interface, we saw that using txt files, rather than filling some static String variables, made the process easy and less time consuming.

2. Status Report

It can be said that most of the project's work has done, but some features are bugged and incomplete. Aside from those incomplete features, like collusion, the game still have some playable features.

- Character Movement: %100 done.
- User Interface: % 70 done.
- Tile Controlling & Map: % 100 done.
- Collusion: %70 done.
- Map Sliding: %90 done. (sometimes gives bugs)

The reason for user interface to not work properly is that in High Scores section, there is a bug that every visual object are gathered at a point. Other than that, the JSlider and level selection become redundant since there is only one level and there are no sound in game.

3. User Guide

3.1. Introduction

Dave Davesson is a platform game that is inspired by the famous MSDOS game, Dangerous Dave. Compared to its predecessor, it offers better graphics and some different features. Also, the levels are designed in such a way that it gives the same taste as the original.

3.2. Running the Game

a) System Requirements

- The game can run on both operating systems, both 32 and 64 bit.

- The game can work on any computer that has the latest JRE (Java Runtime Environment)

- The game's resolution is 800x600, so any computer who supports this resolution can play.

b) Installation

- The game has a .jar file, and the users can click on the file to play the game.

3.3. Playing the Game

- **Main Menu**

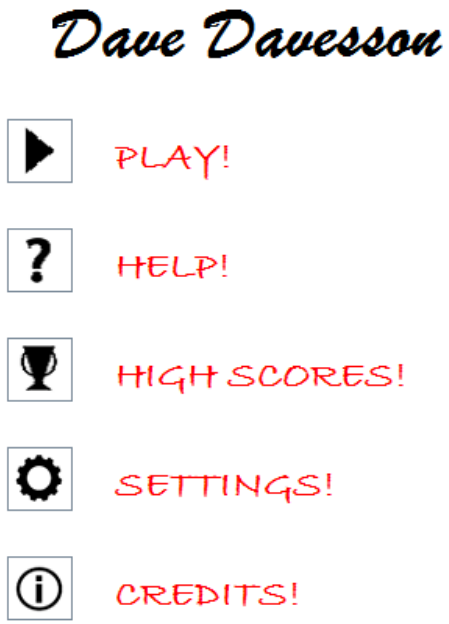

Figure 1

When opening the game, the player will encounter the main menu. In here, the player can choose one of the options.

- **Play**

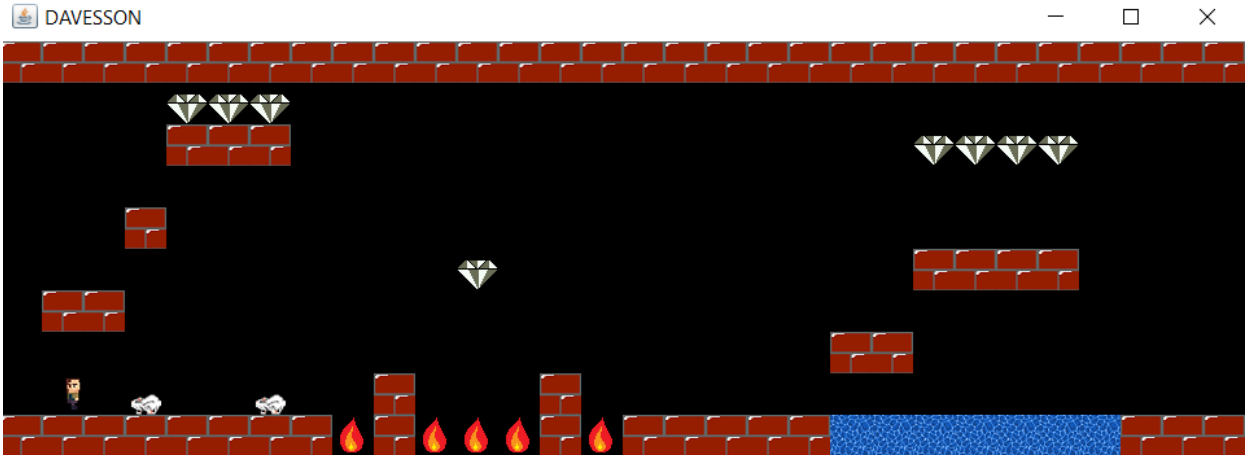

Figure 2

This is the screen in which the player will play. The flames, water and mouse indicate dangerous areas and the diamonds are extra points that player can collect along the path to the door.

- **Help**

Figure 3

This section includes directions for playing the game. The button at the bottom left makes user to return to main menu.

- **About**

Figure 4

This section shows the developers that is behind “Dave Davesson”. Like Help section, the button at bottom left makes user to return to main menu.

- **High Scores**

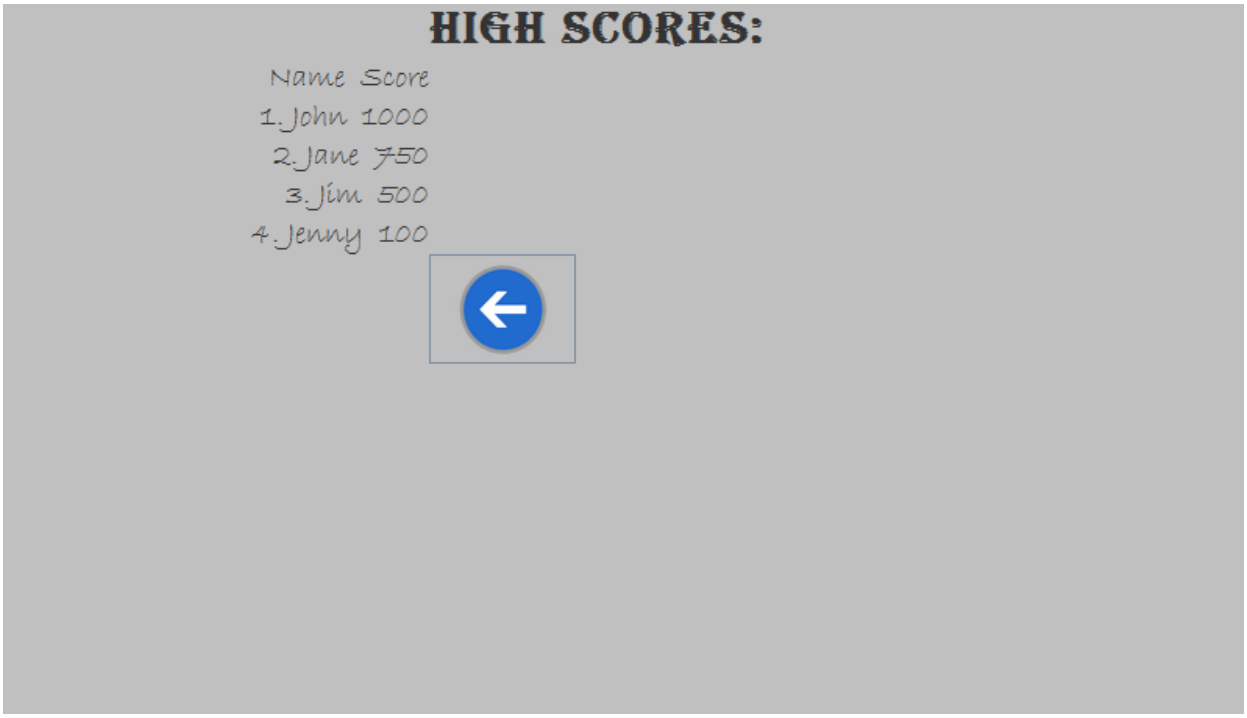

Figure 5

This panel shows the scores that users do in game. Like the other panels, the back button enables user to return to main menu.

- **Settings**

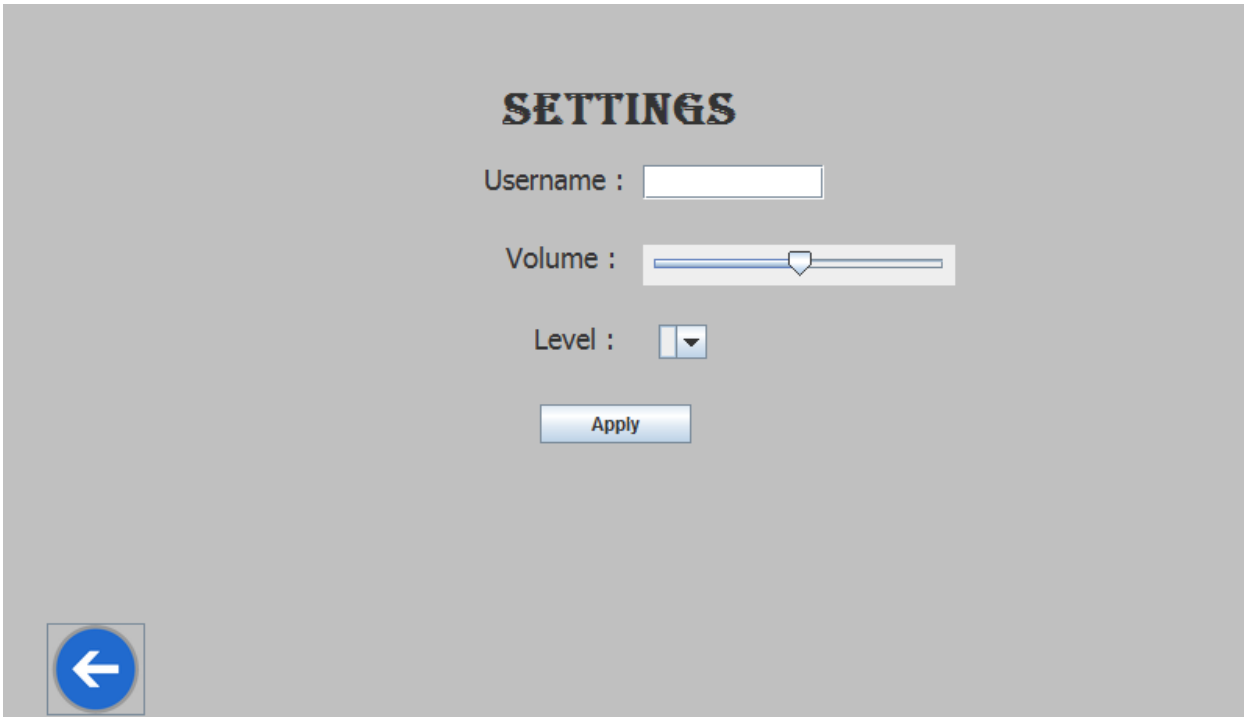

Figure 6

This section edits the settings, like username that is going to get used on high score system, the volume of game and the level selection. The apply button makes the changes permanent. Like previous sections, the blue arrow button enables user to return to main menu.

3.4. Map Editing

While playing Dave Davesson, the user can edit his/her level. First of all, the game contains an array which has the tiles that're referring to an object.

1: Black Background

2: Brick

3: Flame

4: Water

5: Diamond

6: Mouse

7: Pistol

8: Door

9, 10, 11, 12, 13, 14: Player movements (left, right and jump)

The player can edit those numbers manually, but it may be difficult. However, the levels are originally prepared with a program called Tiled. The player can use the pixels that refers to the objects for creating a level. The created level must be exported as .js file, because that exporting process gives the array that holds the map with given object numbers.

4. Class Diagram Final