Gold Girl

Java Game Report

Kenny Li & James Flood

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1.0 Introduction

We have been tasked to develop an offline Java game that is inspired by the 1980’s game Pacman for a twelve-year-old girl. The aim of the game is for Pacman to consume as many pellets as possible, while avoiding collision with the ghosts.

We have developed our game using Java 9 and JavaFX and designed it similar to the original game but altering features such as different enemies, win conditions and power ups while having a storyline to cater for the client.

2.0 Minimum Requirements

The minimum requirements that were set by the client are:

1. A welcome screen with the option to select single and local multiplayer.
2. Stationary characters and a countdown timer before the game starts.
3. Allow player characters to be controlled by the keyboard while having the AI characters move automatically.
4. Have a windows size between 1024 x 768 and 1440 x 990.
5. Allow player characters to consume pellets upon collision, with an increase in score.
6. Restricts the player character to move through walls, unless there is a gap on the side of the wall which allows the character to wrap-around through the sides of the window.
7. When the characters collide, there must be an appropriate notification.
8. The game must have a two-minute limit per level. Pressing the ‘PgDn’ key should skip the time to 0.
9. The game must be able to be paused and resumed by pressing the ‘p’ key and be able to exit to the main screen by pressing the ‘Esc’ key.
10. A win condition must be evaluated then have an exit screen with a summary, that allows the user to return to the main menu.
11. There must be appropriate sounds played throughout the game depending on actions and collisions.

3.0 Base Features

3.1 Welcome screen with multiple game modes

We have designed our menu using Scene Builder with a window size of 1024 x 768 pixels. The user has the choice to either use keyboard inputs or mouse inputs to navigate in the menu. From the menu, there is the option to play, set options, see credits and exit the game.

When the play button is pressed, the user will be able to have the ability to choose to play either single or multi player and pick whether they would want to play story mode or select a specific map to play on.

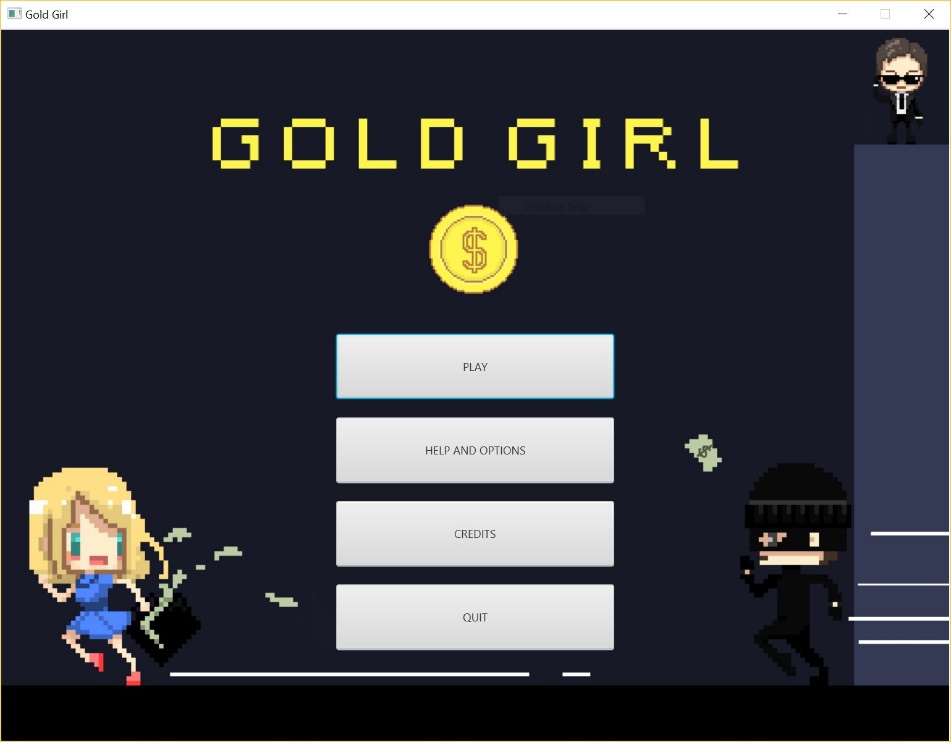


Figure 1: This shows the Main Menu of the game

3.2 Gameplay

When the game starts, the map, player and enemies are loaded onto the window. A countdown timer will start before any characters are allowed to move. After the timer reaches 0, the game time is set to two minutes and all the AI characters will start moving and the user will be able to move Gold Girl.

The movement of Gold Girl is restricted by the walls on the map. When Gold Girl collides with coins, they are consumed, playing a sound while increasing the score. When Gold Girl collides with an AI character, the score will decrease by a percentage while playing a sound to show the collision. The AI character will also slow down for a set time.

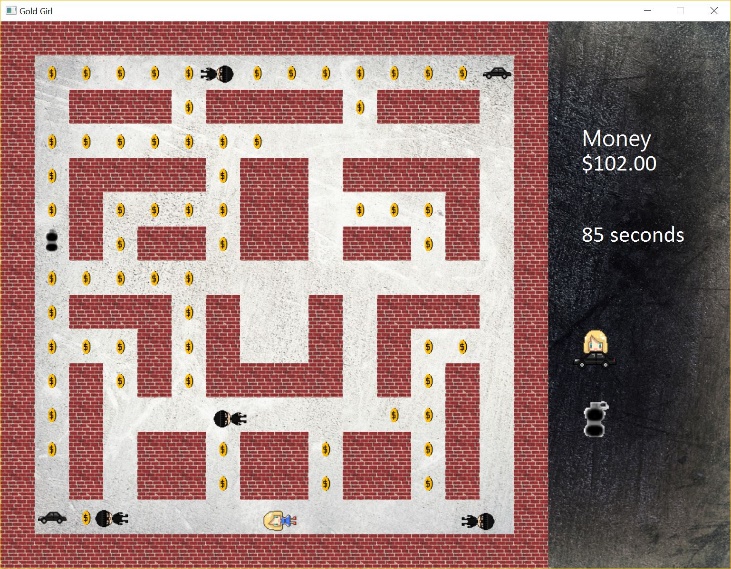


Figure 2: This shows a screenshot taken midgame during the first level

3.3 Game win conditions

There are multiple ways to trigger the game to win. The user can either collect all the coins spread on the map or play until the game timer runs out. Once the game ends, an exit screen will appear, providing the score and giving the user the ability to return to the main menu by pressing the ‘Enter’ key.

Figure 3: This shows the game after the character has completed the game