

# COP290 Assignment 2 Report

## 2 Player Maze Game

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### 1 Story

The story follows the Mario brothers Mario and Luigi on their quest to retrieve the legendary Red Diamond on Avery island taught to be protected deep in the dungeons by ghost pirates allies of king Avery. The diamond sits right in the middle of the dungeon and many daredevils have tried and failed to get their hands on the famous Red Diamond. Now the Mario brothers have taken it upon themselves to get the Red Diamond in their grasp but they know it won't be easy. So they have sought the help of a witch who has provided them with a magic potion that can make them invisible to enemies for a short amount of time. They only have a limited quantity of these potions so they have to use them strategically to get their hand on the Red Diamond. Enjoy the "DIAMOND RUSH".

### 2 Game Rules and Description

There are two modes of play, the single player with Mario and the two-player mode with one player controlling Mario and other player controlling Luigi. The players need to guide the characters dodging the ghosts which are blind and change their direction only when they encounter a wall. The players are required to collect all the coins scattered across the dungeon in order to open the gate for the vault where the Red Diamond is stored. Without collecting the coins the diamond is sealed securely. As soon as all the coins are collected there is an increase in the ghost's speed as they can sense that the diamond is in danger and enter a state of panic. In this state, the ghosts travel faster than the players, and to dodge the ghosts in this mode the players are given a special power that can make them invisible for 3 seconds but the caveat is that it can be used only thrice. So the players have to use the power strategically. The players start with 3 lives initially. If they collect the diamond before they run out of lives they win the game otherwise the game is over.

## **3 Game Controls and features**

### **3.1 Single Player**

In single player mode only Mario is present on the screen and after collecting all the gold coins the gate of the diamond vault opens and Mario can collect the diamond. The player can be controlled using Arrows keys: UP for up, DOWN for down, LEFT for left, and RIGHT for right. The power can be used by pressing SPACE which allows Mario to be invisible to the enemies for 3 seconds. It can be only used thrice. Mario will spawn at the top left corner of the screen after dying and that is the only place where the ghosts cannot kill him.

### **3.2 Double Player**

In double player mode Mario as well as Luigi is present on the screen and after collecting all the gold coins and silver coins in this case the gate of the diamond vault opens and anyone of Mario or Luigi can collect the diamond. Mario can be controlled using Arrows keys: UP for up, DOWN for down, LEFT for left, and RIGHT for right. The power can be used by pressing SPACE. Luigi can be controlled using AWSK keys: W for up, S for down, A for left, and D for right. The power can be used by pressing LSHIFT. Luigi will spawn at the bottom left corner of the screen after dying and that is the only place where the ghosts cannot kill him. Note that Mario can only collect gold coins and Luigi can only collect silver coins and both coins need to be collected in order to open the diamond vault and obtain it.

### **3.3 Music and Sound effects**

Appropriate music and sound effects are used throughout the game to make it more interesting and enjoyable. There is a intro music which plays at the main Menu and transitions to in game music in the game which changes to an high tempo music during the panic state of the ghosts. Sound effects are used for coin collection and players getting killed by the ghosts.

### **3.4 Map Generation**

A random map is generated for each game play. The coins position is random and scatters them throughout the map. The enemies spawn a bit less randomly as their spawn zone is located near the diamond.

## 4 In-Game Pictures

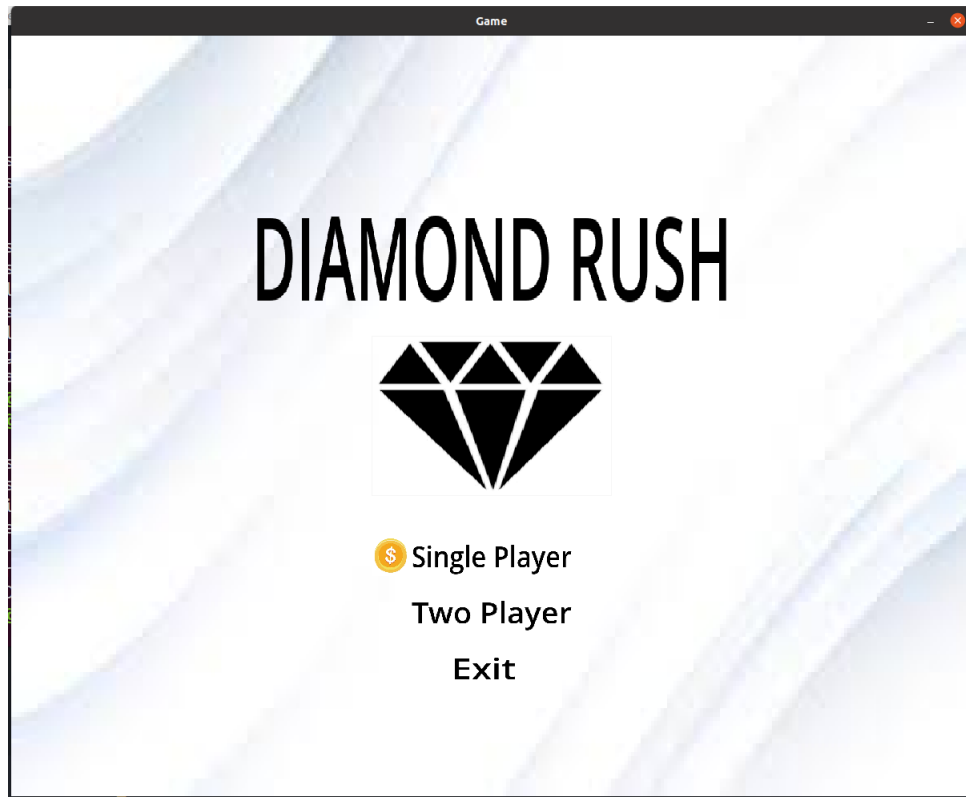


Figure 1: Main Menu

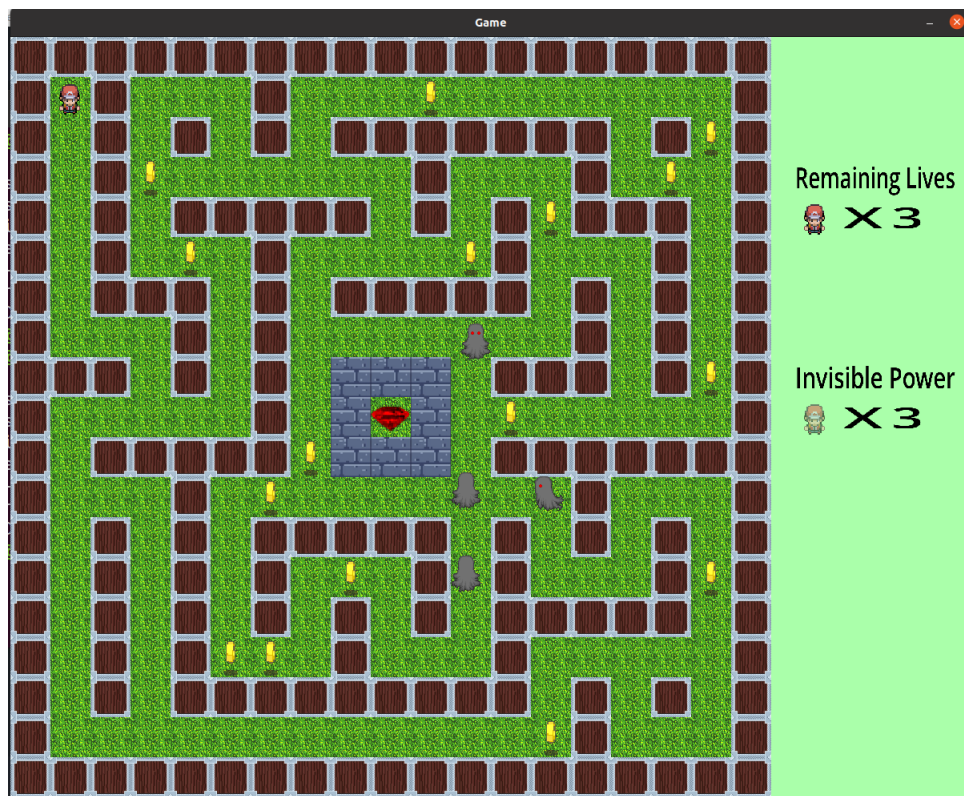


Figure 2: Single Player Mode

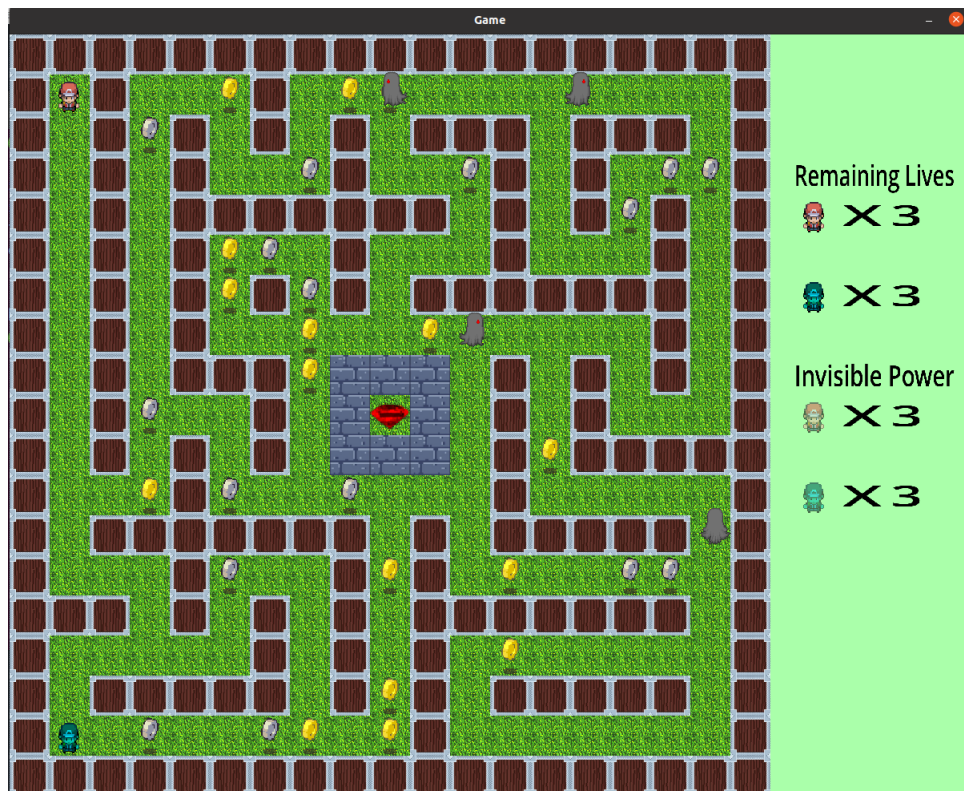


Figure 3: 2 Player Mode

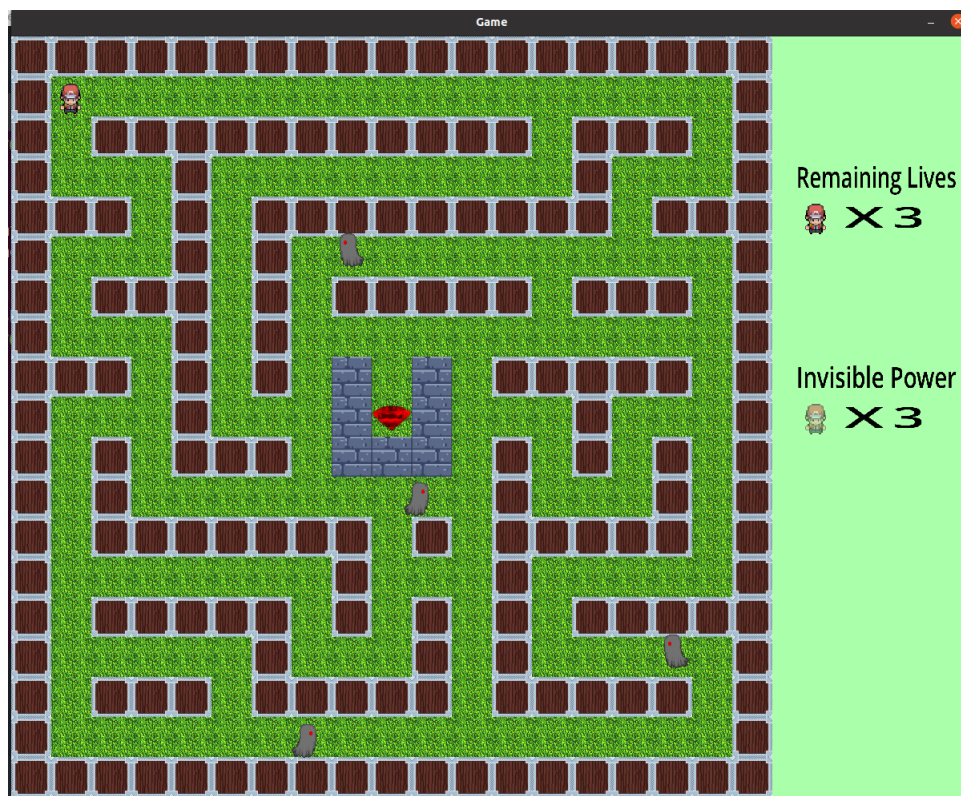


Figure 4: Gate open after collecting all the coins



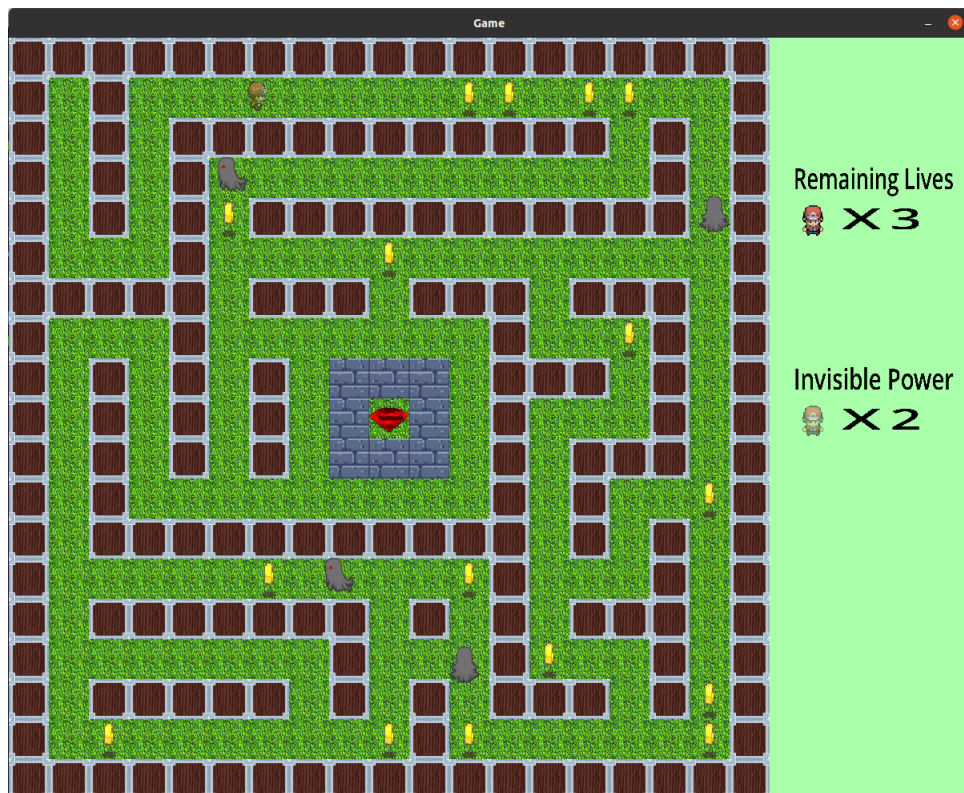


Figure 5: Player enter stealth mode to avoid ghosts