The Little Plumber

Project – Release 1

CIS 350

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**Project Description**

This project represents our interpretation of the original Mario Bros gam released in 1983. A spin off the original Mario Bros., was created by Nintendo for each major platform release. The Super Mario games are typically set in the fictional world of mushrooms with Mario as the character in play. This project utilized the Mario concept with the player in control of a screen character that advances through a map facing challenges that can assist or hinder the play.

**Features Implemented**

* Level Creation
* Further refine level design and layout
* Multiple levels linked together in secession
* Ability to control characters movement (forward, back and up)
* Create special abilities for main character that can be selected based on environment
* Have unique attacks against opponents
* Create multiple opponents
* Create coins that can be collected by the player that effects score
* Timer/Count down
* A visual representation of player’s score
* Different level environments
* Background music

**Sample Screenshots**

**Movement Right**

Timeline

Description automatically generated with medium confidence

**Movement Left**

Timeline

Description automatically generated with low confidence

**Movement Up**

Timeline

Description automatically generated

**Collision**

Timeline

Description automatically generated with medium confidence

**Collision**

Timeline

Description automatically generated with medium confidence

**Use Case Diagram**

Diagram

Description automatically generated

**Use Case Descriptions**

|  |  |
| --- | --- |
| **Name** | Movement |
| **ID** | UC2 |
| **Brief Description** | Allow the player to direct the character |
| **Actors (primary and supporting/secondary)** | Current Player |
| **Triggers** | The player uses one of the arrow keys to direct the character left or right. The space key is also used to make the player jump. |
| **Preconditions** | The game must be started |
| **Primary Flow** | 1. Left arrow is pressed causing the character to move left.  2. Right arrow is pressed causing the character to move right  3. Space key is pressed causing the character to jump. |
| **Alternate Flows** | The player doesn’t press action keys and stays stationary   1. Possible collision with evil mushroom causing a loss in end of game. 2. Player remains in stationary |
| **Minimal Guarantees** | Player will have successfully moved in a given direction of their choosing |
| **Success Guarantees** | Playing will successfully navigate level |

|  |  |
| --- | --- |
| **Name** | Collision |
| **ID** | UC3 |
| **Brief Description** | Allows player to interact with level objects |
| **Actors (primary and supporting/secondary)** | Current player |
| **Triggers** | The player either runs into or get ran into |
| **Preconditions** | The game level must be started |
| **Primary Flow** | 1. The player collides on top on of an enemy which causes elimination of the enemy.  2. The player collides with a pipe causing a change in level |
| **Alternate Flows** | The player is not responsible for the collision   1. A enemy collides with the player causing end of game. |
| **Minimal Guarantees** | Player will have a collision causing end of game |
| **Success Guarantees** | Player will have a collision resulting in the elimination of an enemy or the change in a level. |

|  |  |
| --- | --- |
| **Name** | Create Game |
| **ID** | UC1 |
| **Brief Description** | Allows player to interact with level objects |
| **Actors (primary and supporting/secondary)** | Current player |
| **Triggers** | The player either runs into or get ran into |
| **Preconditions** | The game must be started |
| **Primary Flow** |  |
| **Alternate Flows** |  |
| **Minimal Guarantees** |  |
| **Success Guarantees** |  |

|  |  |
| --- | --- |
| **Name** | Network |
| **ID** | UC4 |
| **Brief Description** | Allows connection to remote service that user can access web application from |
| **Actors (primary and supporting/secondary)** | Server |
| **Triggers** | The player either runs into or get ran into |
| **Preconditions** | The game level must be started |
| **Primary Flow** | 1. The player collides on top on of an enemy which causes elimination of the enemy.  2. The player collides with a pipe causing a change in level |
| **Alternate Flows** | The player is not responsible for the collision   1. A enemy collides with the player causing end of game. |
| **Minimal Guarantees** | Player will have a collision causing end of game |
| **Success Guarantees** | Player will have a collision resulting in the elimination of an enemy or the change in a level. |

**UML Diagram**

**Coding Standards Report/ Static Code Analyzer (Generated Using Eslint)**

The warnings “const”, and “arrow” that appear are not due to the code having errors. Instead, they just represent coding constraints with respect to what version of JavaScript is being utilized. With the “gameLevel” error, gameLevel is used just to start the game and is not required to be called again. Exceeding the 80 lines of length helps with coding and the readably of the code.

Text

Description automatically generated

**Static Code Analyzer (Google V8)**

Code coverage was only 75.6% usage due to not fully utilizing the implemented library. User generated code was fully utilized.

Graphical user interface, text, application

Description automatically generated

**GitHub Repository**

https://github.com/DirtyWhiskers/CPS350.git

**Roles and Responsibilities**

Quinn:

Michael: