Term Project Final Report

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1. **Introduction**

Our term project this semester was to create an application using a language and programming environment of our choice, in an attempt to learn the importance of relevant UI concepts. We created a 3D game called “Jump”.

1. **Description**

The application is a 3D environment 1st Person perspective game in which the user is tasked with collecting orbs while avoiding an enemy in order to complete the level (by collecting all the orbs). The application that we created has a single level with topography we created, created orbs, as well as imported game assets acquired from the Unity Assets store (trees, grass, troll). The game has a start screen with three options: Start, Tutorial, Quit.

1. **Main Tasks**

The program tasks that can be performed are:

1. Start Game
   1. Starts a new game
      1. Player can move using the WASD keys on the keyboard
      2. Player can pause the game using the P key
      3. Player can adjust the view of the 3D environment by using the mouse
      4. Player can change from walk to run mode by using the Shift key
      5. Player can duck using the C key
      6. Player can jump using the Space key
      7. By moving around and collecting in-game objects called “orbs”, the player will increase their score and the game will end once the player has collected all orbs in the playing field.
2. Tutorial
   1. Brings up a screen showing the keys that can be used in the application
3. Quit
   1. Quits the application
4. **Final Prototype (see attached zip file)**
5. **Description of the architecture:**

The following is a representation of the tasks and menus for the application:



In the process of designing the application, we decided to eliminate the Load Game option, as it would extend the time necessary to complete the project. Additionally, we changed the “Adjust Settings” menu into a simple Tutorial menu. We also eliminated the View High Scores menu, leaving a “Start Game”, “Settings”, and “Quit” menu from the Start Screen. The final implementation looks more similar to the following:



1. **Implementation**

The program is written in C#, using Unity3D as the game engine and development environment. The final executable (lol.exe) can be embedded in any webpage that has the Unity3D Web Player installed, or run from the desktop, provided that the data files are accessible to the executable.

1. **Difficulties**
   1. Time was probably the largest difficulty in this project, as many of the originally planned interface items were necessarily left out of the final implementation, due to time constraints.
2. **Conclusion**

The project was a very interesting to implement and was a great learning experience, not only for learning the Unity3D environment, but also C# as well as the steps involved in going from concept to initial deployment of a 3D game.