Group 13 **Fall 2014**
Hardik Prajapati ~ Keith Thomas ~ Gowdhaman Sadhasivam ~ Junior Luna

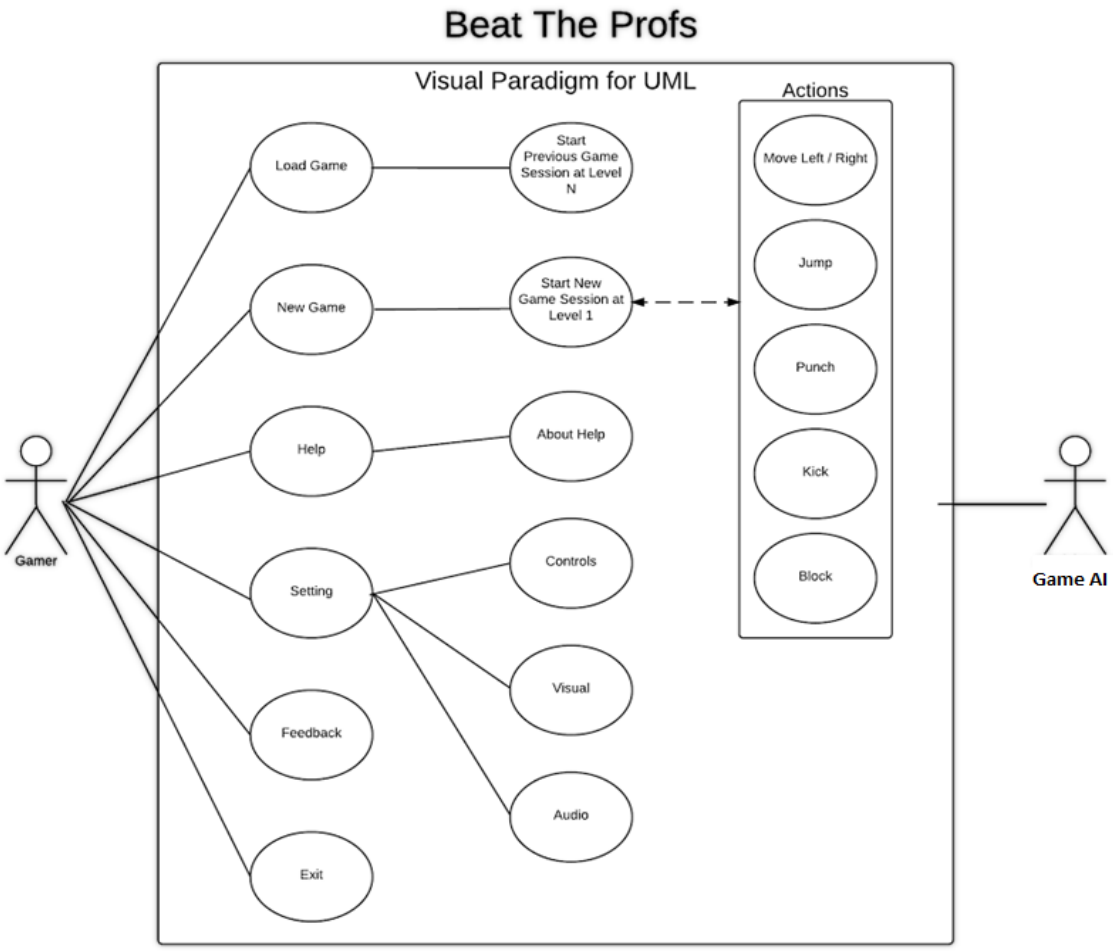
Beat the Profs

Final Executive Statement

Overview

Beat the Profs is a beat-em-up arcade game that takes place in and around UIC's campus and allows you to play as a freshman computer science student. The story is that the computer science professors at UIC have turned evil and gone rogue. They are planning to take over the world with a robot they have programmed, so of course you must help! In each level, you the player will have to fight your way through a swarm of graduate students, teacher assistants, and assistant researchers in hopes of getting to the boss of each level, a CS professor with special attributes. Beat the Profs is a single-player game that will be supported on all operating systems.

Use Case Diagram



Key Requirements

- Pixel art of the arcade-era, 8-bit or 16-bit.
- Main menu provides the user options of playing the game, changing game settings and quitting the game.
- Each level of the game should have a new and different environment.

- Each professor (boss) has different attributes and characteristics.
- The final boss of the game will be a cyborg.
- Game will be available free for download via Apple's App Store, Google's Play Store, and a custom web link.
- A high-score table will track the player's scores. (No global high-score table)
- An option to load the game from the player's previous save state.
- Three action moves will be available to the user: Punch, Kick, and Jump.
- The player will have three lives, and either have to restart the level or the entire game in the case that all lives are lost.

Design Goals

The game should be well-maintained, and designed well with minimal bugs and crashes. This can be achieved by keeping in mind Object-Oriented analysis and design while developing the product. The following are key factors that should be kept at highest priority during the design of this game:

- Adaptability - The application should run on all platforms. The player should not have to worry about operating system requirements.
- Efficiency – Game should be responsive and able to run at high speeds. Responsiveness is an important aspect in the system because with any performance delay, the user's experience will be detracted from and possibly even non-existent in the case of 0 FPS.
- Reliability - Game should be free from bugs. It should not be crashed with any action input given by the player.
- Usability - User-friendliness is an important aspect of the game. The product shall have a well-designed user interface so that the player can easily play the game without any previous gaming experience.

Design Architecture

Beat the Profs will use a three-tier architecture model that includes interface layer, application layer and storage layer. The interface layer allows players to interact with the game engine with key controls which players can use to send input to the game engine. In addition to that, the interface layer has menu options that allows the user to change the game settings. Application layer controls the event flow and provides a response to players for each event the user triggers by clicking key controls in their devices. The storage layer records the player's score according during gameplay and stores the highest score achieved by the player. The storage layer also maintains the state of the game that allows players to resume the game from last play.