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CSCI 205 Final Project Spring 2021

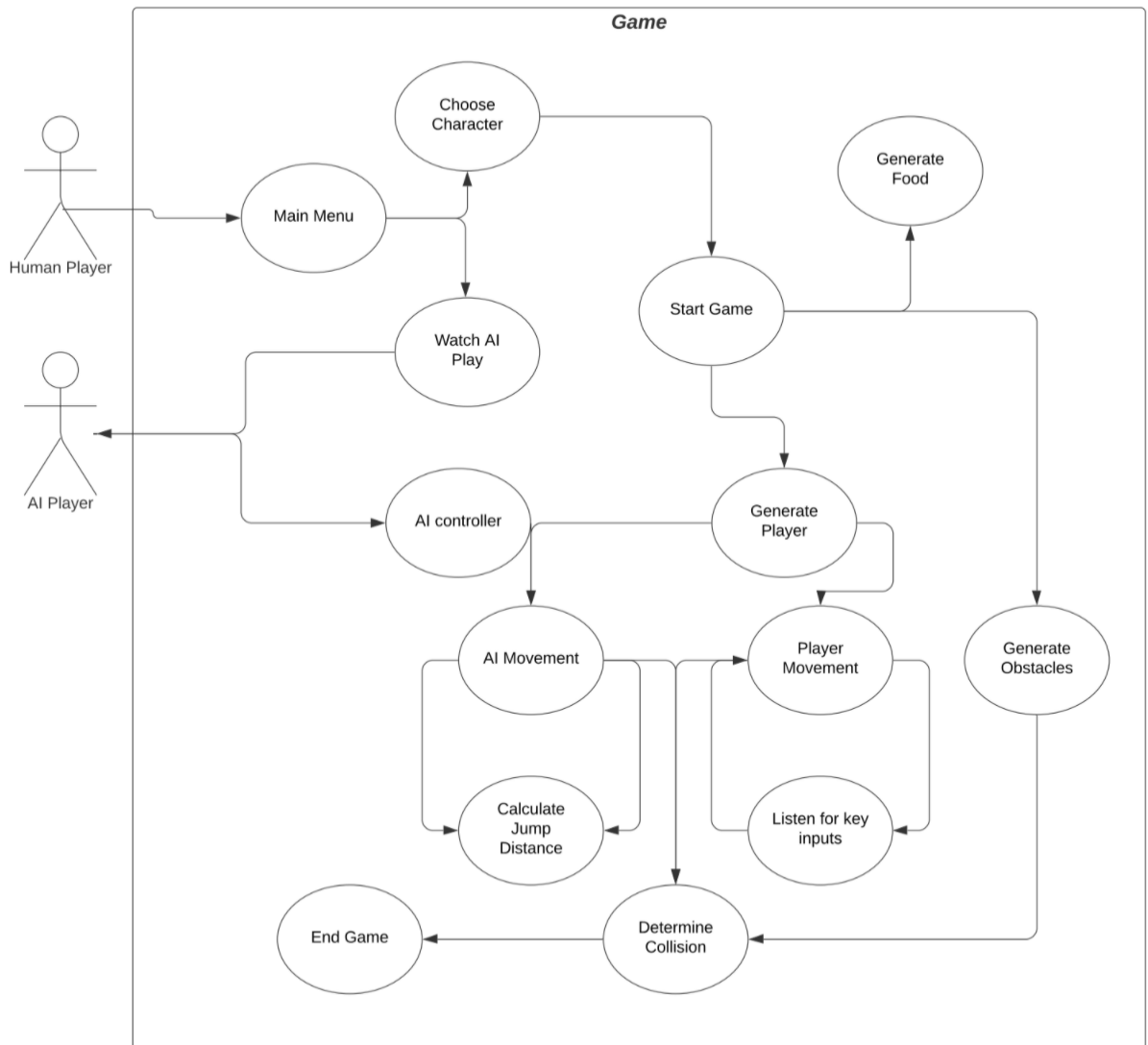
Professor Dancy - 1:50 p.m. section

User Manual

Introduction:

A common problem around the world for technology users is losing connection to the internet. Millions of people around the world use computers every day to browse the internet, completing a multitude of tasks. The issue with this is that a person's internet connection to the internet is not always stable or fast enough to load webpages. To combat this, companies such as Google, as well as ourselves, have implemented things such as games that require no internet connection for people to play in the interim while they wait for their internet connection to become stable again. This game is a mindless activity for people to fill their boredom with as well as something to entertain them.

Another large issue with losing connection to the internet is the frustration that comes along with it. This simple game that we have created is very relaxing for the mind, which allows for the user to calm down any nerves that they have as a result of not being able to complete the task that they previously wanted to do. A basic Use-Case Diagram can be seen below, which shows the many different important players in the system.



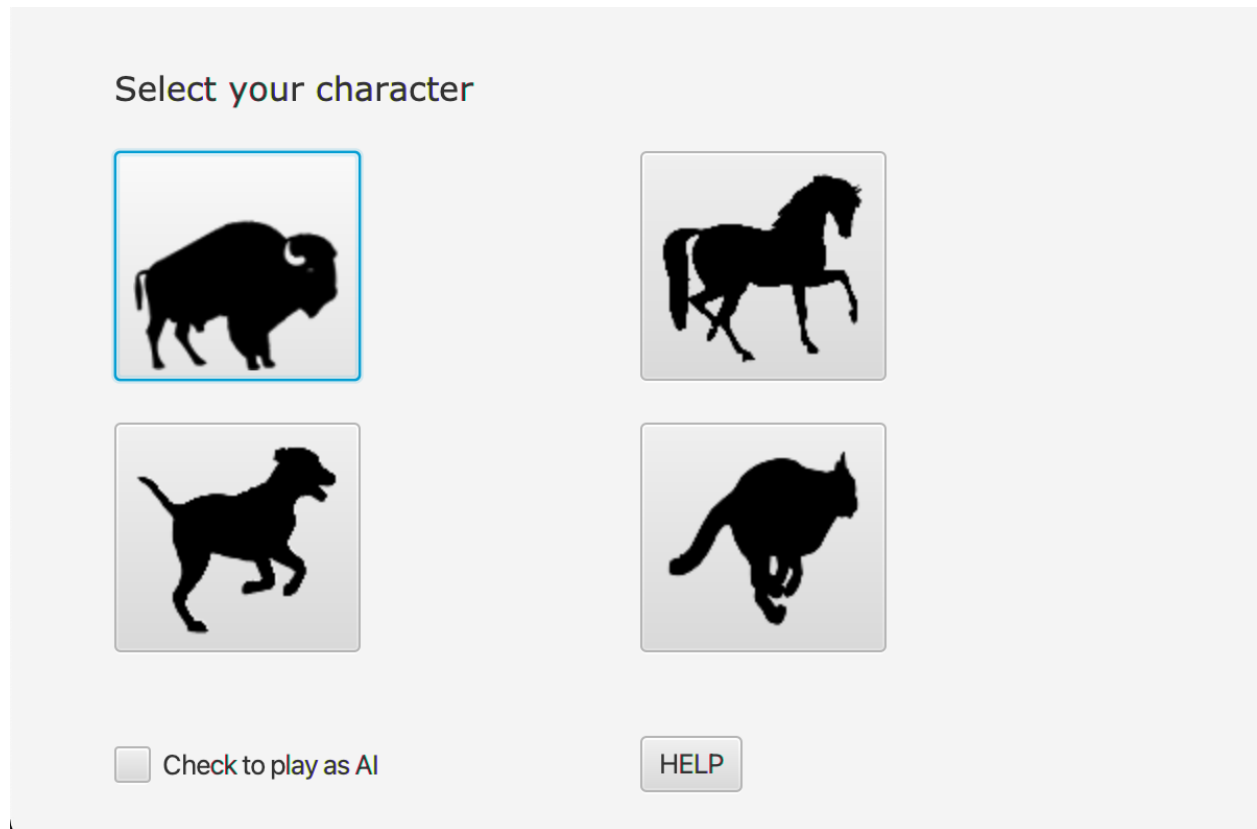
To create this game, there are many aspects that must be considered. First, the actual game has many components that must be considered, such as obstacle generation, player movement, point calculation, and collisions. In addition to these aspects, another aspect to consider is the Artificial Intelligence component that will allow the game to be played without any user input. The AI will have its own movement system, in which it must calculate the ideal jump distance and timing, which will then be

used to affect the player movement, resulting in each of the other aspects of the game being affected.

Instructions:

To use our program, first the user will be prompted with a menu, in which they will be able to select which character they would like to use to play the game. Additionally, there will be a checkbox that will allow the user to utilize the Artificial Intelligence (AI) aspect of the game, in which a robot will automatically play the game in the optimal way, with a goal of obtaining the most points possible. After selecting which character the user wants to use, as well as whether AI will be utilized, the game begins, with their selected character on the screen, with different obstacles moving towards them. The goal of this game is to have the character jump up and over these obstacles in order to avoid contact with these obstacles for as long as possible. This jumping movement can be done by pressing the “W” key, the UP Arrow, or the SPACE bar. This movement can be seen in the images below. The moment that the character comes into contact with the obstacle, the game will end. The longer that the user survives in the game, the higher their score will be, with the score being calculated based on the time alive. Additionally, there will be carrots that scroll across the screen at certain times, which will give extra points if collected by the character. To collect a carrot, simply jump the character at the appropriate time for the character to come into contact with the carrot. As the game progresses, and the user’s score increases, the obstacles will begin approaching at faster speed, gradually increasing as time progresses until the character collides with an obstacle.

Game Menu:



Demonstration of character jumping:

SCORE: 60

SCORE: 213

