Gesture Based UI Project Design Document

by

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Introduction

For our project for the module Gesture Based UI for the course Software Development, Antaine O Cognhaile and Brendan Toolan decided to do a voice recoginition. Originally both of us were to make our gesture based project using the hardware Myo but however due to the outbreak of Covid-19 this meant that we both did not have access to the Myo hardware that would of have been needed to develop our original idea and both of us had to go back to each of own houses. So we both decided to change up the project by using voice recognition as we would both have access to voice recognition programs on each of our laptops/computers. Our project is a game made using Unitiy and with the programming langauge 'C#'. We picked C# as it is easier to use with Unitity. The game will consist of the player trying to navigate through a maze to reach the end of it. Once the player gets to the end, he/she/they will advanced to the next level. While the player goes through the maze, there will be obstacles for them to avoid. There will also be enemy players that will try to catch the player in the maze. The player will then navigate through the maze using the built in voice recognition.

Purpose of the application

The purpose of this project was to create a game that is able to recognise the voice commands the user would say aloud. The project is a game set in the maze where the user must find there way out of. They navigate through the maze like so using the key arrows on the keyboard. However the user is able to use voice commands such as 'Run' so the player would be able to sprint through the maze and also can say the word jump so the player would be able to jump over any obstacles or anything in there way. The user will also be able to pause the game by just there voice to activate it.

Gestures Indentified

Seeing that we would be using voice recognition for the gestures that will be used in the project it would be safe to assume that the gestures that would be used would be voice commands from the user to run the game. We decided that seeing that we had to change our idea for the project completety due to the ongoing circumstance that is Covid-19 we would create a whole new project that would use voice recogition so the gestures that we would use would be voice based. The gesutes that would be used in our project would voice commands that would let the user to puase the game, make the playable character jump and also make make the player move faster or sprint.

Hardware Used in creating Application

Orginally we were to use the Myo Arm bands that were made available to the whole course to use. However due the Covid-19 pandemic we were both did not have access to the Myo's anymore and it was suggested to us that we use voice libraries that was available to us now. Seeing that we are using unity to create this project we would use the Microsoft Speech Engine for the development of our project. Compared to the Myo armbands that we planned to use, we had to completey change what our project would be.

Acrhitecture for the Solution

Conclusions & Recommendations

References

- https://www.youtube.com/watch?v=-igoV67B5h8
- https://www.youtube.com/watch?v=VnG2gOKV9dw
- https://www.youtube.com/watch?v=b4oqOdBCy3c