Name(s)

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Project Number

J1414

Project Title

Eye Cue: Creating a Computer Game for the Blind

Abstract

Objectives/Goals

The purpose of my project is to design a computer game that can be played successfully by sighted and blind players. My hypothesis is, if the correct audio cues are used then visually impaired and sighted people can play the same game successfully.

Methods/Materials

The computer program GameMaker was used to create the game on a PC, with the program WaveEditor for sound editing and the program Paint to create the sprites. The game is a maze that simulates a city street. During the design and making of the game multiple game objects were created, tested and rejected. The finished game contains four levels of increasing difficulty and one bonus round. The game was tested by sighted and blind players. All players tested the game with the computer display covered and sighted players also tested with the computer display uncovered.

Results

The results show that 50% of all sighted players, playing with the computer display covered, completed all four levels of the game. A total of 43% of all blind players completed all four levels of the game. The average time to complete all four levels when the display was covered was 11 minutes.

Conclusions/Discussion

My hypothesis was supported because I was able to create a computer game that could be played successfully by sighted and blind players Some players were able to complete all four levels of the game and some were not. Even though the times to complete the game varied I think all of the tests were successful.

Summary Statement

The purpose of my project was to create a computer game that could be played successfully by sighted and blind players.

Help Received

My dad helped me learn how to calculate and store the game time, scores and how to make a timer for the game. He helped me learn how to destroy a specific object when there are multiple objects. He helped me with the traffic light logic and fixing some bugs in the code.