CALIFORNIA STATE SCIENCE FAIR
2014 PROJECT SUMMARY

Name(s)

Ethan B. Elshyeb

Project Number

34207

Project Title

Creation of a Digital Voice Assistant Capable of Learning from Its Users

Abstract

Objectives/Goals

The purpose of this project is to create a digital voice assistant application for Android which can learn from the people using it. If a user tells the application something, it should add that item into the database, using a key-value system where the subject is the key and the direct object is the value. When a user queries information, the application should return the value which matches the requested key.

Methods/Materials

Materials used were a Windows 7 computer and an Android device+cable. I tested the application by asking Speak 9 items using the "tell me" method, and recording the success rate. Then I added 9 items into the database and recorded the new success rate.

Results

Before entering data, my application had a success rate of 1 out of 9. After entering data, my application had a 9 out of 9 success rate. The results show that my experiment was successful, as it was able to return back every item I entered.

Conclusions/Discussion

This project utilized a speech recognition system and a speech synthesis system, both provided by Android. It uses PHP for the server and MySQL for the database.

One key point I have noticed after developing this application is the exstensability. What I realized is that the key point of the application is not its current limited functionality but rather what is possible using the system I have created. I am currently working on adding an events system where people will be able to add events and then find events relevant to them based on date, time, and location, with the ability to automatically show nearby events based on the user's GPS location. This will be a major step forward by introducing relevant real-world use capabilities into the application.

Summary Statement

My project is about creating a digital voice assistant which is capable of gathering data from its users, uploading it to the web, and enabling others to find that data.

Help Received

Friend helped come up with idea; Mother helped edit report; Family helped test application.