Audio Recognition App

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Introduction

We are computer science students at Southern Illinois University. Our campus provides a wide diversity of student ethnicities. However, with so many different languages being spoken on campus, it can sometimes be difficult to convey a message to another colleague we may run into and might need to work with on a project because something in english might translate to something else in their native language. Thus the idea was born where we could make a mobile app where you can speak into your phone in English and then translate what you said into a different language of someone you might run into on our campus.

Project Description

The software we would like to create would allow for a user on an android based mobile device to speak English into their phone, and then translate that message into a different language of their choosing.

Design and technologies

To design the app we decided to use Electron or Cordova as the means for mobile app development and handling most of the system calls required by writing simple JavaScript, HTML, and CSS. To handle the language processing we will use P5js as it will allow us to take mic input and easily perform dsp to then organize user speech and convert it to usable data. We can then use ML5js to take that data and throw it through a machine learning algorithm we choose provided by those libraries to convert the data gathered from speech to Strings. We can then use a google translate api from google's cloud api service to then take the String data in english and convert it to a phonetic of the chosen language through some drop down of supported languages. Then to finally use either google translates api or a different machine learning api to phonetically analyze String and output to the phone speakers.

Other designs

Speechify takes text and converts it to speech instead of taking speech and turning it to text.