Sergio Yanez

Andreas Maeurer

Geoni Griffin

10/10

SLP 2018

Final Project Part C: Goals and Methods

Speech-to-Code

* Project goals and how you will measure success on those goals. Specific metrics that are simple and quantitative are best.

these are components... the overall goal is presumably to help users do X

Capture voice input of common and intuitive programming, spoken in natural language.
Convert the audio into raw text strings.
Interpret and translate the text into runnable Java code.
Send the output to text editor via simulated keyboard input.
Implement search, indexing, editing, etc. on program.

metrics?

* Datasets you will use.

need some data to build the language model

We won't use any external data sets but we will create some. Like our grammar list which will consists of regular expressions to interpret voice command inputs. We will use "Java Coding Samples" to give to real world users to read and use the data to evaluate our program as well. We will collect user inputs to test implementation and execution of project. Another possible data set is a partial copy of the Java API.

a better test would be to have them use the system to achieve their own goals

* Standard algorithms or software you will use.

We will write our grammar for inputting voice commands that a program can convert into JAVA code, commands, etc. We intend to use Google Cloud services for initial voice to text processing. The interface and keyboard input will be ran using C++. This will allow the program to be standalone and useable with any text editor.

* What will be new and original in your system? Limiting this to one thing is best.

the technical novelty is...?

It works like snippets but you control it with your voice. It makes the coder not to worry to write every tedious part of a language (methods, classes) by hand. It will be somewhat intuitive.

* Schedule, including milestones and realistic estimates of the time required for each.

Our initial goal will be to implement capturing the audio and transcribing it. We will also get output to work as simulated keyboard inputs: Estimated completion 10/26.

Next we will be implementing a basic interface and conducting research how users would intuitively give instructions or program using their voice: Estimated completion 11/02.

Simultaneously we will be building the grammar and interpreter to map to various commands, operations, data structures, etc.: Estimated completion 11/23.

Also building the translator to produce runnable Java code will be continuously ongoing during the project and the work will be evenly divided between us all. It will probably take up the bulk of the project time: Estimated completion 11/30.

less important from the perspective of this class

Presumably, but not simultaneously afterwards.