

ME, ECE, IE Capstone Design Programs

Background

- Julian is 22 years old and uses an eye-gaze device as his primary communication tool
- Eye gaze is a form of interacting with a computer system using a mouse that is controlled by a user's eyes to accomplish daily tasks and/or communicate.

Objective

- Develop an easier to use keyboard user interface that increases Julian's typing speed and accuracy along with improving his overall experience with the device.

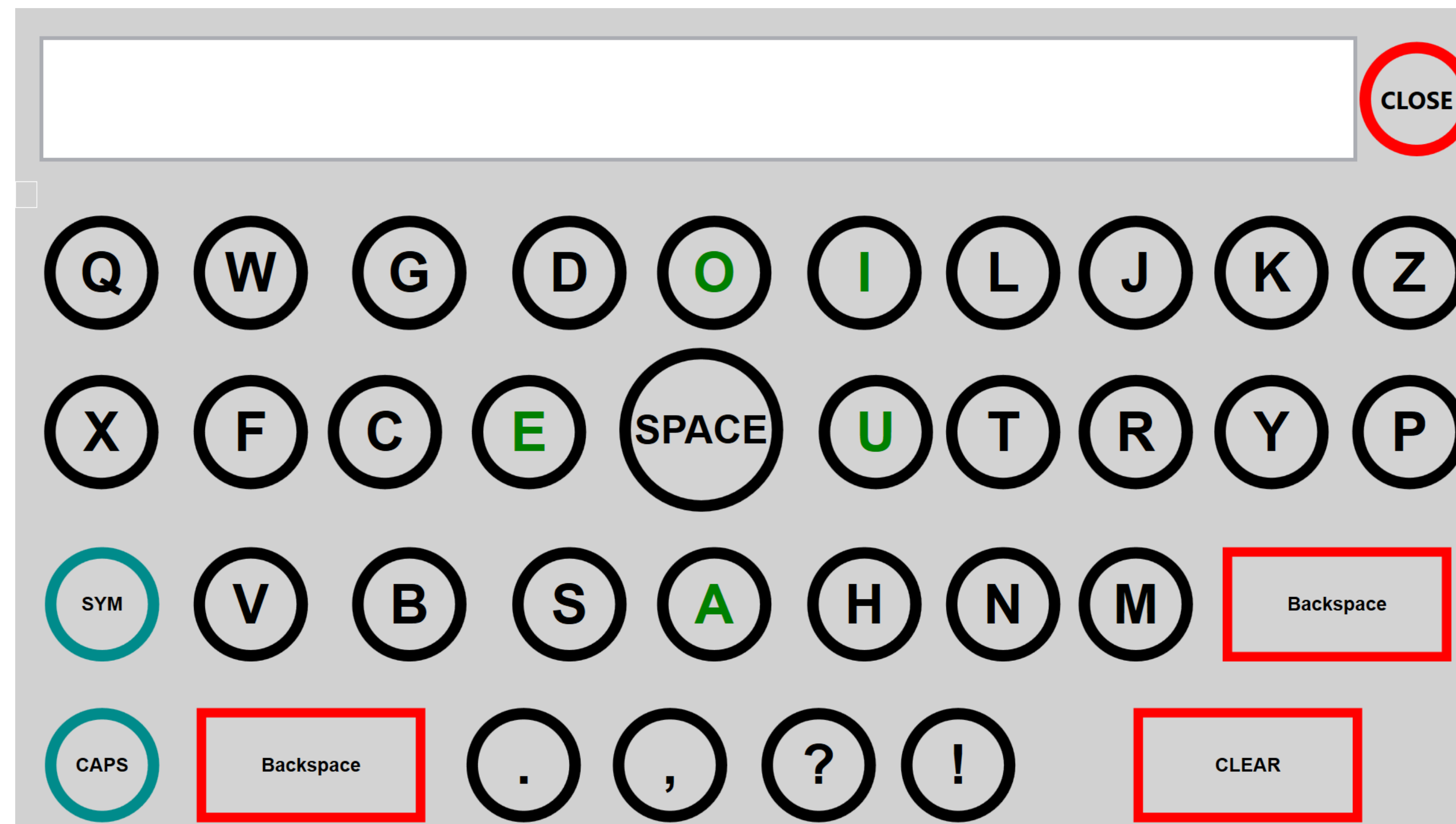
Engineering Specifications

Engineering Specification	QWERTY Keyboard	New Keyboard
Accuracy (% Correct Selections)	65	91.39
Speed (Words per minute)	1.15	6
Dwell Time (ms)	1000	700
Time Until Fatigued (Minutes)	45	60



Team #9: Eye Gaze User Keyboard Interface

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Key Features

- Letters arranged according to frequency of use in English language
- Centralized space bar
- Text-to-speech
- Customizable Settings
- Mouse-over counter enables keyboard to detect what letters the user is attempting to select
- Error Tracking Module tracks accuracy and collects data for analysis Email client capability:

To:

CC:

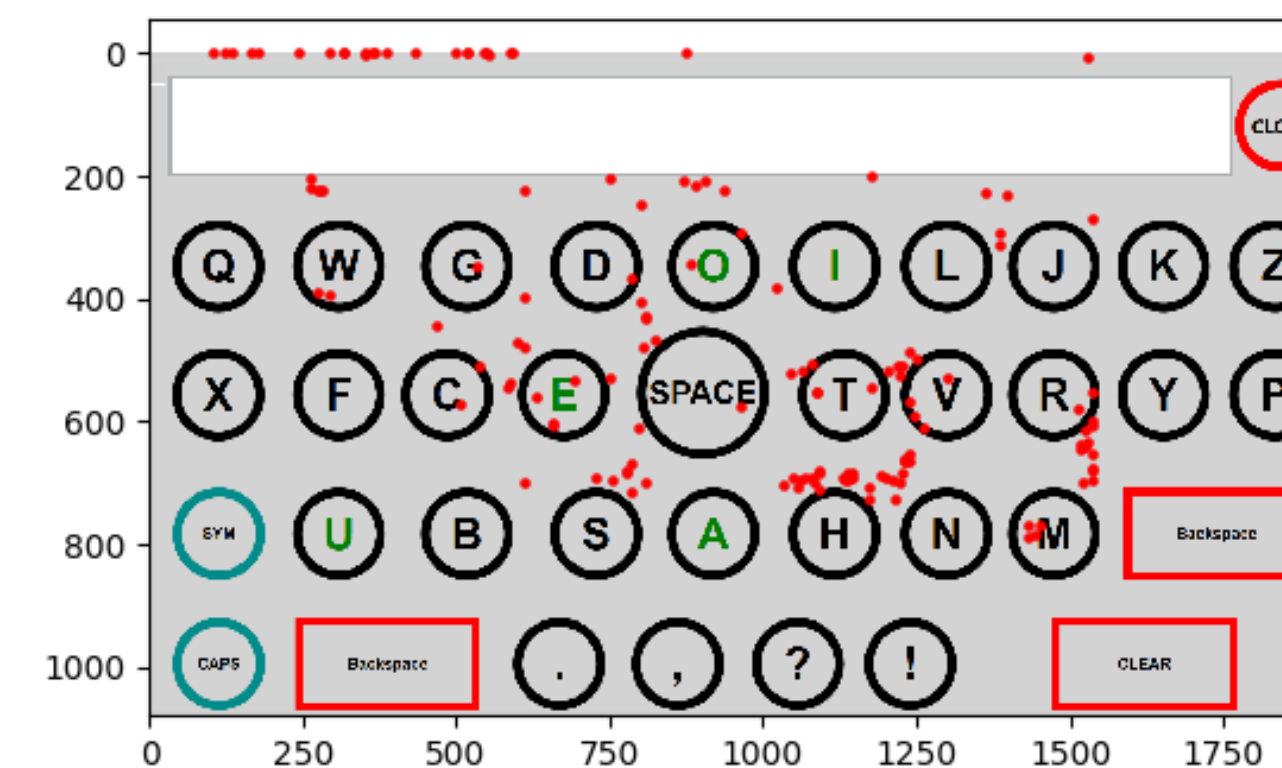
Subject:

Message:

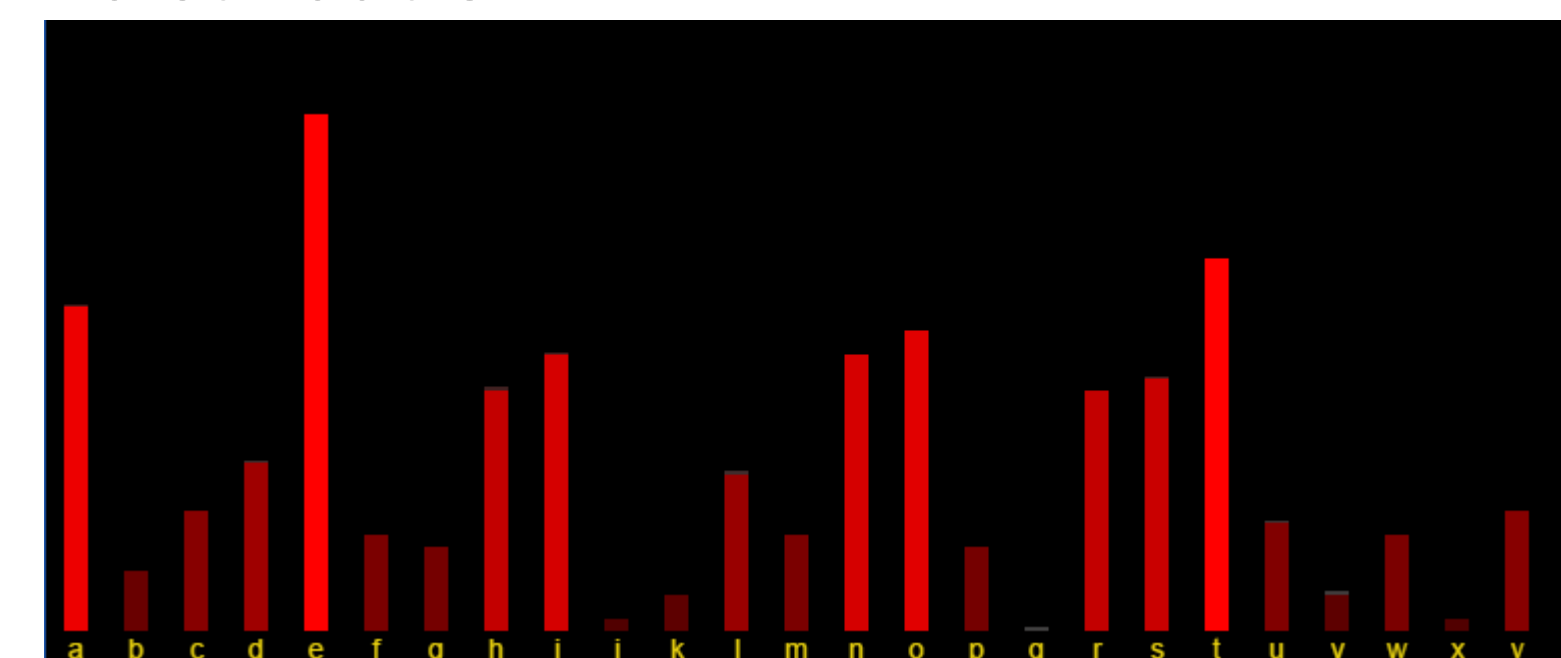
SEND Close/Cancel

Analysis

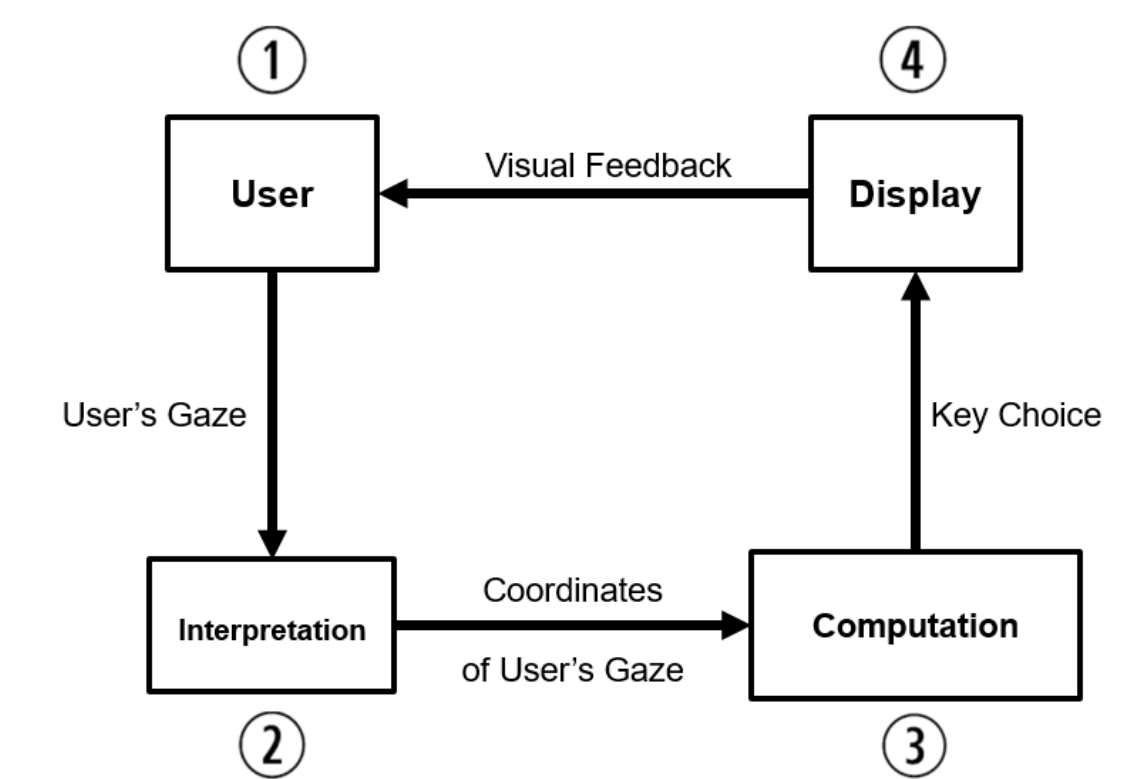
- Error tracking module



- English language letter frequency distribution



Program Overview

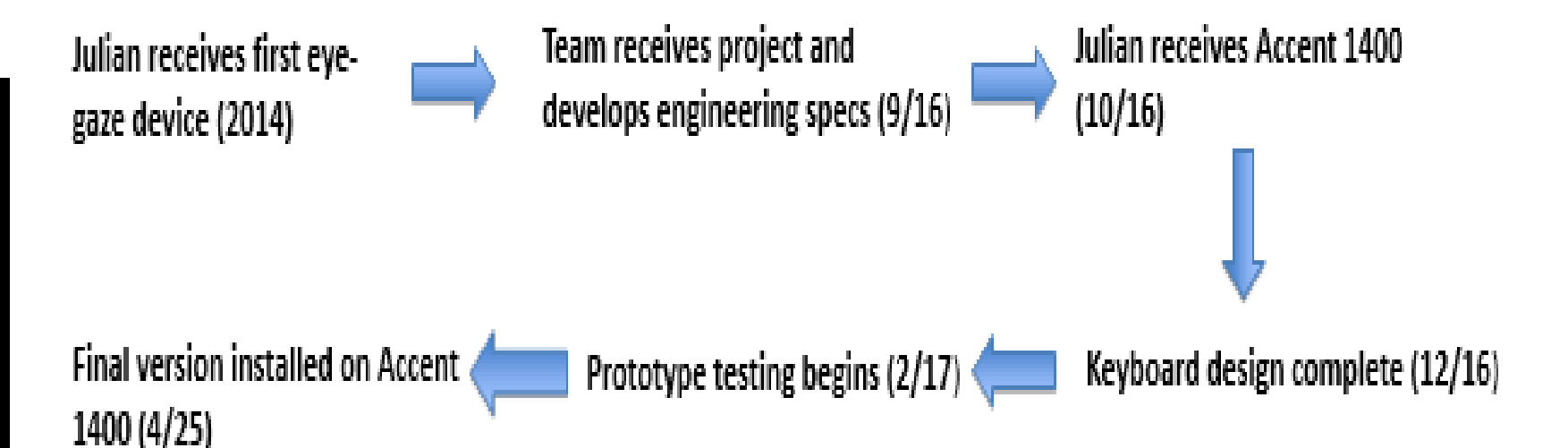


Testing Plan Outline

- Test functionality of program through debugging steps involving the use of every key and its ability to display the character
- Conduct multiple interviews and time responses while using Error Tracking Module to log accuracy

Budget/Timeline

- Available Budget: \$100
- Money Spent: \$0



Sponsor: Elissa McKenzie
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