CS 242 Final Project

Better iClicker
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1. Abstract

1.1. **Project Purpose**
The tool will replace the iClickers with a mobile application instead. That way students do not have buy iClickers and can have a more interactive experience since the app can be modified to use the phone screens for different applications.

1.2. **Background/Motivation**
I am interested in working on this project because I believe the iClickers are not that great of a technology and the classroom experience can be improved. Most college students have a smartphone or tablet in class and we can use this to our advantage by using the phone screens to interact with the class work. I have never worked on mobile development before so I want to try using a new mobile framework.

2. Technical Specifications

2.1. **Platform:** Website, Android

2.2. **Programming Languages:** Python, Javascript

2.3. **Stylistic Conventions:** Javascript: https://www.w3schools.com/js/js_conventions.asp, Python: https://www.python.org/dev/peps/pep-0008/

2.4. **SDK:** React Native, ReactJS, Flask, Android SDK

2.5. **IDE:** Android Studio

2.6. **Tools/Interfaces:** Android, Chrome

2.7. **Target Audience:** Students and teachers with access to a computer/smartphone and Wi-Fi in the classroom

3. Functional Specifications

3.1. **Features**

- Teacher can create a poll for the classroom
- Students will be able to respond to poll using their mobile app
- Students are only able to respond to poll if they are in the same location
- Teachers and students can login using their Google email accounts
- Teachers can view results after the polls have ended
- Teachers can create sessions to start polls

3.2. **Scope of project**
Application is limited (for now) to people with Google accounts. Can only create polls as first prototype. Since I do not own a MacBook, I cannot develop iOS applications.

4. Timeline:

4.1. Week 1 – Setup the back-end

- Set up the backend server to receive polls from students and send it to the teacher

- Set up database to store student results from polls

- Install React Native dependencies and be acquainted with React

- Test the back-end

- Write the documentation

4.2. Week 2

- Create front-end web application to enter/create a polling session
- Create front-end mobile application to enter/create a polling session
- Create a manual testing plan for the new session
- Create a design for week 3 and 4 poll interface
- Set up login with a Google account

4.3. Week 3 – Improve the web front-end

- Improve the front-end web application to:
    - Display results from polls if you are a teacher
    - Start a new poll if you are a teacher
    - View student results if you are a teacher
    - Respond to poll and see result if you are a student

4.4. Week 4 – Improve the mobile front-end

- Improve the front-end mobile application to:
    - Display results from polls if you are a teacher
    - Start a new poll if you are a teacher
    - View student results if you are a teacher
    - Respond to poll and see result if you are a student

5. **Future Enhancements**
I want to open source this project so other developers could work on this project and teachers would be able to use it for free. I want to add more functionalities to the project such as adding a live Q&A, other input values other that polls, live Power Point presentation so the students can follow and keep a copy of the presentation on their devices, etc.