CS 4720 - F17 - Final Project Proposal

Device Name: Spearow
Platform: Android
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App Name: SmartLang

Project Description:

Our project is a self-driven language learning app that will allow users to be able to save relevant resources to aid in their learning process. Many language classes require you to learn a language in a specific way that the course has structured, including pre-made vocabulary lists that may not be relevant to the user or have enough practical application. Also, language teachers in the Curry school have expressed interest in services that would allow students to save listening media, such as videos or music, that interest them and encourage investment in the language's culture. Through this app, a user can create a vocab lists, take and save images, and record and save audio snippets.

What we propose to do is create an app that will do the following:

- The system shall allow a student to create a profile using their computing ID;
- The system shall allow a student to select from a list of supported languages, which will include some pre-populated material;
- The system shall allow the student to save various media specific to the languages they have chosen;
- The system shall display different the sections for different forms of media when the user selects the language. This includes sections for: saved vocabulary, recorded audio, and saved photos;
- The system shall allow a student to rank vocabulary by how confident they feel with it, and move learned vocabulary lower on the list;

We plan to incorporate the following features:

- Camera - A user can take and save a picture of a resource to reference later.
- Audio - A user can record and save a snippet to use for pronunciation or language fluency. They can also use voice recognition features to record vocabulary.
- Data storage using SQLite - We will store the user's resources by language and media type so that they can access the info later on
- Data storage using key/value pair for username/password logins;

Wireframe description

After the launch screen, the user will see a login page (if they are not already logged into an account). Next, there will be a screen with a list of languages, and the user can add another language by clicking on the floating add icon. After clicking into a language, an activity with multiple tabs will show up; these buttons will be audio, vocabulary, and photos. The photo button will take them to the camera, as well as show recent pictures saved within the app. The audio button will allow the user to record and save snippets of audio (the audio section will also use voice recognition). The vocabulary button will take them to a list of vocab words, which will be sorted based on how confident the user is on the word.

Platform Justification - What are the benefits to the platform you chose?

We decided to use Android simply because we are more comfortable with the programming language. We were also interested in trying out Android's Fragments by using the tab adapters.

Major Features/Screens - Include short descriptions of each (at least 3 of these)

We have the Login screen to determine the username password, the language screen to determine which language you are learning, and the Options screen, which has three tab fragments (audio, photos, vocabulary)

Optional Features -

(20 pts) The primary optional feature is the SQLite, which is used to document the vocabulary of each language. The user has the option of multiple languages with their own materials. Languages are stored in tables with tables assigning their various media, including vocabulary words and relating photos.

(10 pts) The users log in using a SharedPreferences system that records their particular conditions and allows them to stay logged in.

(15 pts) The camera is used to store images, such as certain words and vocabulary that the user may want to save for later. The photo shows up on the screen and the filename is stored in a database labeled with its particular language. The user can then open up the stored photographs on the phone.

(15 pts) Audio is intended to help users practice pronunciation. Users can record bits of audio and play it back for study.

Testing Methodologies - What did you do to test the app?

We wrote activity by activity and teste din small parts.

Usage - Include any special info we need to run the app (username/passwords, etc.)

Simply type in a username and password and click signup for the first use, and in later uses you will be already logged in and can logout and log back in with the same username and password.

Lessons Learned - What did you learn about mobile development through this process?
We learned not to overachieve with our programming skills, as well as the difference between using activities and fragments in android