

EE/CprE/SE 492 - sddec18-09

Hidden Guardian

Week 8 Report 4

10/5/18 - 10/22/18

Faculty Advisor: Professor Phillip Jones

Team Members:

Jennifer Frank - Team Lead/Mobile Application Development

Jacob Stilwell - Mobile Application Development

Matthew Pedretti - Hardware Engineer

Keng-Yik Ho - Hardware Engineer

Thomas Kirby - Database and Backend Development

Weekly Summary:

The past two weeks we have made strides in getting our mobile application functional - with a create account login page, and a main page that pulls data from the database and displays gaming session data. On the backend we are able to receive an audio file, convert it from speech to text and update the database with the text data. For hardware, we worked on schematics but eventually decided to make a design change. Due to a lack of flexibility in time and safety precautions, we have decided to use off the shelf products to create our bluetooth speaker. Finally, we also worked on sending audio files from Raspberry pi to bluetooth speaker and recording audio files on bluetooth speaker.

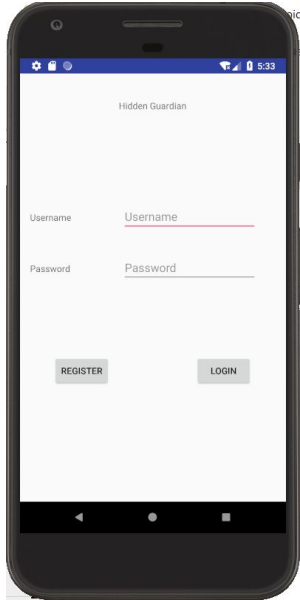
Past Two Week Accomplishments:

Tom:

Worked on file compression implementation, troubleshooting slow file transfer issues. Finished separation of code such that it properly simulates end to end such that the file is saved and added to sql.

Jacob:

Finished login and create account page (added create account logic like checking for repeat user ids and password credentials)



Worked on creating keywords page by adding and deleting

- Status: almost complete

Jenn:

Add Keywords

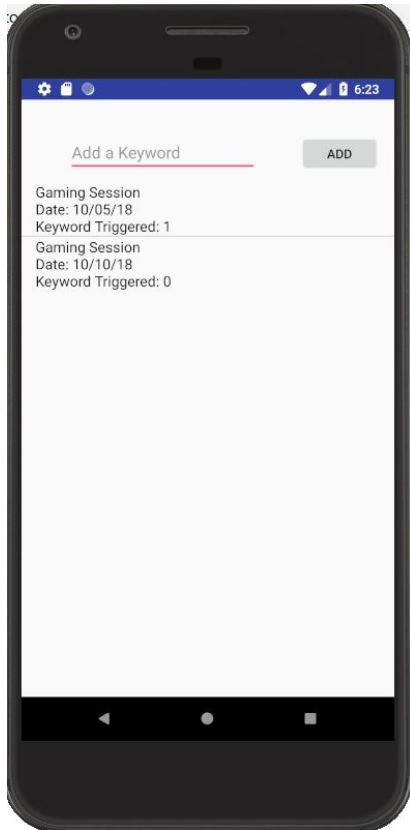
- Created add keyword functionality
- When the main page is created for a new user it passes in the userid, so when a user tries to add a keyword, it checks the database to see if that keyword already exists and if it doesn't it adds the keyword in the database

Main Page - Display Gaming Sessions

- Created an object for a gaming entry including: the userid, the gaming session id, text message, keywords for that userid, date/time, confidence ratings, and number of keywords triggered in the gaming entry
- Added database logic to search for new gaming entries and displays them in list form with a few details
- Created database logic for parsing messages to look for matching keywords

Started work on specific gaming entry page and reworked software schedule for 10/6 prototype based on members interest/knowledge on topics and feasibility

Example of Main Page front end:



Matthew: Due to several contributing factors the plan for the wireless speaker has been changed. The original timeline didn't leave much room for error and the schematics ended up taking longer than expected. Additionally some concerns were raised over the safety of a li-ion charger designed from scratch. Because of this we have opted to go with off the shelf components to create the speaker with. This saves time because we no longer need to go through a layout design phase, and it also addresses some safety concerns because we will be able to use a charger which has proven reliable.

Keng Yik: I have been working on sending audio signal from the raspberry pi to the bluetooth speaker. Other than that I have been working on recording the audio signal on the raspberry pi. The file recorded will be in .wav file format for now until we finally decide which format is the best.

Pending Issues:

1. Have not figured out how to automatically run the script when the raspberry pi is powered on.
2. We need to figure out how to know when a gaming session starts and ends and how we will send that message to the database. The key decision with this issue is where are we going to implement this? On the raspberry pi, or via looking at the time stamps that the python scripts write after receiving the data.

Individual Contributions:

Name	Contribution	Biweekly hours	Total hours
Jennifer Frank	Worked on main page front end and database back end for mobile application gaming entry parsing and displaying	18	47
Jacob Stilwell	looked up how to create new android widget and how to implement it, almost completed implementation	5	21
Matthew Pedretti	Continued work on speaker schematics. Came up with backup plan to address the timeline concerns. Researched off the shelf components needed to complete the wireless speaker.	7	24
Keng-Yik Ho	Getting the program on the raspberry to run	10	20
Thomas Kirby	Worked on file compression implementation, troubleshooting slow file transfer issues. Finished separation of code such that it properly simulates end to end such that the file is saved and added to sql.	10	19

Plans for the upcoming week:

Member	Task	Deadline	Notes
Jenn	Add a timer so that the main page is getting updated with the new database data every minute	10/26	
Jenn	Add a specific gaming entry page that displays the message and context	10/26	
Jenn	Start to work on a	10/29	

	“help button” and user friendly features		
Jenn	Add text color context to messages for confidence ratings, change the format of the main page to make it more user friendly, assist Jacob in other mobile application front end/database goals	11/5	
Keng Yik	Get the script to automatically run when the raspberry pi start up	10/29	
Keng Yik	Set up the low voltage protection for the raspberry pi	10/29	
Keng Yik	Set up the voltage regulator to power the raspberry pi	10/29	
Jacob	Keyword management done	10/25	
Jacob	Continue to improve front end of mobile application	11/5	
Matthew	Finalize list of speaker components and get them ordered	10/24	
Thomas	Push backend audio-> speech to text -> database code to repository	10/23	
Thomas	Get speech to text functionality working	10/25	
Thomas	Compress .wav files	10/28	

Thomas	Work on assigning date/times when passing in audio data	11/5	
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Updated Hardware Timeline for 11/6 prototype:

Timeline	Tasks Completed
	Received controller extension components
10/24	Complete list of speaker components
10/24	Order speaker components
10/29	Complete the Raspberry Pi implementation
11/1	Finish speaker assembly
11/1	Begin hardware/software integration
11/6	Finish hardware/software integration

Updated Software Timeline for 11/6 prototype:

Timeline	Tasks Completed
	Improved Front End: Specific data page and keyword page created
10/25	Confidence Ratings Functional
	Confidence Ratings visually displayed (text color reflects rating)
	User Friendly Features added (help icon)
	Security for login/create account is more developed
11/1	Hardware Integration has begun

	Front-end pages are more coherent and developed than the basic template
11/6	Hardware Integration is complete