

## EE/CprE/SE 492 - sddec18-09

### Hidden Guardian

### Week 3 Report 1

8/20/18 - 9/10/18

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 weeks we focused on creating and presenting our PIRM presentation for class the second week. We also decided on what tasks need to be our priority and created a timeline with deadlines of when we will complete them. We made a simple design change with the tool that will transcribe speech to text, decided to use an external battery source instead of the 3.5mm back for our controller extension, started to numerate the specific hardware we will need to purchase, and reorganized our app to account for the different relational database we are using.

### Past Week Accomplishments:

**Tom:** Set up file sending from rasp-0

- Using a simple file transfer over mqtt with the host present on windows server
- created .py's for both sender and receiver to transfer audio files
- made sure its one directional for security concerns

**Jacob:** Retool mobile application

- Switched database connection to sql instead of sqlite

**Jenn:** Made a design decision to use google speech to text instead of Jaivox

- Set up google cloud Hidden Guardian project
- Has speech to text functionality working with examples
- Made decision decision to split audio into short audio files (less than ~1 minute) so that we can use synchronous speech recognition to avoid time delays as much as possible
- Notes for setup/troubleshooting are tracked on git issues

**Matthew:** Began selection of hardware components

- The driving factor behind most hardware components in the speaker is the selected battery pack
- Selected battery pack is a rechargeable 3.7V li-ion battery of 2000mAh
- Li-ion batteries require charging protection circuitry, several options are under consideration

**Keng Yik:** Selection of hardware components and testing

- Testing the optimal voltage for the audio amplifier
- Selected AA batteries to power the raspberry pi because the lower cost per battery

### Pending Issues:

Tom: Issue with connecting phone App with SQL server

Jenn: There is a potential issue with how “real time” our streaming abilities will be. Continued practice in using this google speech to text tool will give us a more accurate understanding of how much it will lag and what we can do to get it as close to real time upload as possible.

Keng Yik: Issue on how long the battery can last.

### Individual Contributions:

Name	Contribution	Weekly hours	Total hours
Jennifer Frank	Google speech to text API setup, presentation, creating plan/deadlines for the week	10	10
Jacob Stilwell	Retool app to use sql instead of sqlite	5	5
Matthew Pedretti	Selection of hardware components	5	5
Keng-Yik Ho	Testing the speaker prototype	5	5
Thomas Kirby	file sending	5	5

### Plans for the upcoming week:

Member	Task	Deadline	Notes
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Thomas	connection from database to app	11:59pm 9/8/2018	
Thomas	work on SQL queries for sorting database and searching for keywords	11:59 9/14/2018	
Jenn	Create example of speech to text conversion	11:59pm 9/8/2018	
Jenn	Work on developing google speech to text conversion and start on python scripts	11:59 9/14/2018	Meeting with Thomas during 9/10 week
Jenn	Work on main page mobile application development	11:59 9/16/2018	
Jacob	Based on the dependency on connection from database to app, work on login page and create account page	11:59 9/14/2018	
Keng-Yik and Matthew	Continue to research different hardware approaches and create a comprehensive list of what we are purchasing for hardware	11:59 9/14/2018	