

EE/Cpre 492 - sdmay21-1

Interactive Secure Headset

4th Spring Semester Report

March 1th-March 15th

Client: Cornerstone Strategies, LLC

Faculty Advisor: Dr. Rover

Team Members:

Robert Barton - *Meeting Facilitator*

Morgan Ambourn - *Meeting Scribe*

Nathan Andersen - *Report Manager*

Ehren Fox - *Chief Software Engineer*

Asa Pauls - *Chief Electrical Engineer*

Zach Johnson - *Test Engineer*

Summary of Past Week:

In the past two weeks the team has been gearing up for coming up with a demo with a physical device for our PRIM presentation. Our team has been working together to work out and create our interface for the initial page for the device on boot up. Controls have arrived and have been tested to confirm that they'll work on the Pi. Additional work has been put into looking at our potential refresh rate issues with the current displays. The initial casing has been printed and is being assembled with the hardware. Finally our Tao server for displaying test content is now running.

Past 2 Week Accomplishments:

- Rob
 - Added asynchronous network test to network information software.
 - Wrote up presentation for PIRM 2
 - Helped answer Morgans questions while setting up software on Pi
- Asa
 - Some additional research into optimizing screen refresh rate
- Morgan
 - Tested asynchronous network information software to find bugs
 - Integrated network info software onto the raspberry pi
- Ehren
 - Printed initial headset casing prototype
 - Ordered and received parts necessary for construction of the headset casing
 - Redesigned front headset casing portion to make for a more snug fit and more lightweight

- Nathan
 - Setup an additional Pi
 - Tested to see if our control options would function properly on the Pi
 - Compared the controls to one another
- Zach
 - Got the Tao server up and running on our Ubuntu VM

Pending Issues:

- Rob
 -
- Asa
 - Second Pi may have an issue with micro USB port, currently trying to bug fix
- Nathan
 -
- Ehren
 - 2 small files of headset casing still needs to be printed for fully functional prototype
 - Considering redesign of front portion that will split it into two separate pieces allowing for easier integration Pi ZeroW and screens into headset
- Zach
 - Need to find a way to connect the Pi to the Tao server (will require a VPN connection most likely)

Individual Contributions:

Team Member	Contributions	Hours Worked	Total Hours (Sem. 2)
Robert Barton	Asynch network connection and slideshow	11	37
Morgan Ambourn	Get network info software functioning on raspberry pi	10	24
Nathan Andersen	Tested our control options on Pi, compared them to one another. Setup another Pi.	5	22
Ehren Fox	Headset casing print + orders	7	25
Asa Pauls	Screen refresh research, fixing second Pi	4	20
Zach Johnson	Got the Tao server running	8	22

Plan for Upcoming 2 Weeks:

- Rob
 - Work on tiles HTML page
 - Help debug software on PI
- Morgan
 - Presentation Prep: install video record software on pi for demo
 - Raspberry Pi software:
 - Look in to chromium vs chrome on raspberry pi
 - set up kiosk mode/lockdown browser
 - Install vpn client
 - encrypt network info
 - boot script on power up/reboot on network info entered
- Nathan
 - Design testing for the device
 - Start testing head mounted display
- Asa
 - Resolve micro USB header issue
- Ehren
 - Hammer out final design for headset casing, get a successful print so that we shouldn't have to worry about the headset casing very much going forward
- Zach
 - Connect Pi with the Tao server
 - Load the server with some content for testing