Technical Journal

ECE 585

Senior Design 1

Lexi Winkle

W996S384

**Week of September 10th**

* Presented project idea in front of class and received feedback from classmates as well as Professor Stallard
* Took notes on questions and concerns expressed during the presentation and discussed them with teammates during our meeting
* Decided on making a smaller mockup of project design and testing it before implementing onto doorway
* Discussed which infrared camera, raspberry pi, and LED lights to purchase
  + Possibly alarms and digital screen
* Contacted sponsors regarding service learning

**Next Steps:**

* Figure out if we must pay out of pocket or if the school gives us money, if so then who do we need to contact regarding it
* Come up with a design to start working towards
* Purchase camera, raspberry pi and LED lights
* Get sponsored

**Week of September 24th**

* Talked about the project planning paper and the mid-term presentation
* Wrote the legal and ethical bullet points for my groups project planning paper
* Met with group about our project costs. We order the infrared camera, raspberry pi, and connector and they have come in
* Planning the mid-term presentation and deciding who presents what

**Next Steps:**

* Create presentation
* Present presentation
* Start working with the raspberry pi and thermal camera
* Start a mockup of design

**Week of October 17th**

* Contacted our potential service-learning partner and will hear back from them on the October 18th
* Met with the group and decided on next steps to take to move the project forward
* Determined each member’s job, mine is to start designing the physical makeup of the project
* Planned next team meeting

**Next Steps:**

* Meet with the group and start talking about the technical product specification
* Write the technical product paper
* Start building a fixture to place camera and raspberry pi on

**Week of October 31st**

* Completed Block Diagram
* Set up virtual teams meeting with EmberHope
* Decided upon a hardware design

**Next Steps:**

* Receive requirements from service-learning sponsor
* Start buying/making hardware components
* Decide on messages the LCD screen should display
* Decide on best power source

**Week of November 14th**

* Got EmberHope’s approval to set up thermal camera in their building
* Got their approval for signing off on the service-learning sheet
* Received partial requirements from EmberHope
* All components are bought (as of now, could potentially add more)

**Next Steps:**

* Begin thinking about work statement for next semester
* Receive all requirements from EmberHope
* Create a schedule with EmberHope to figure out the future
  + When to place product in building
  + What building
  + Pick up/drop off times
  + Etc
* Create survey for feedback

**Week of February 13th, 2022**

* Contacted EmberHope and discussed potential meeting times with our group and their board to set up future plans
  + Including locations and times for testing
  + Potential addition of facial detection program
* Researching legal and ethical issues concerning facial detection (group is potentially adding this to our product)
* (With the groups new addition of the facial detection, the power source is going to be changed) Working with Adrian on researching the most efficient and cheap power source

**Next Steps:**

* Finalize meeting with EmberHope
  + Finalize location for testing
  + Finalize times for drop off and pick up of product
* Decide on power source and begin design of implementation on product
* Meet with Dr. Stallard to double check teams progress and success

**Week of February 27th, 2022**

* Finalized Meeting with Ember Hope
  + Finalized location for testing
* Determined will need to turn mechanical switch into electrical switch by using the raspberry pi’s input/output pins to control the electrical switch.
  + Potential solutions BJT, MOSFET, or relay
* Helped Adrian with power source
  + Researched the chemical makeup of rechargeable batteries

**Next Steps:**

* Decide on solution for switch
  + Purchase it
  + Add onto final product
  + Test it
* Design circuit schematic including BJT
* Add all documents to GitHub