Sprint 2 Report

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Class: Senior Design
Subject: Sprint 2 Report
Sponsor: L-3: June Alexander-Knight

Backlog

Completed

- Purchase and configure single board computer (SBC) to act as high –level controller
- Purchase SSR pcb kit, SSR heat sinks, and Renard microcontroller pcb kit
- Analysis and research for design and requirements for project
- Start learning iOS development
- Assemble additional circuitry (SSR and Renard kits)
- Implement Renard serial protocol
- Purchase Christmas lights
- Purchase extension cords
- Develop prototype which switches lights on and off using predefined sequence
- iPhone app prototype

Remaining

- Design display case for electronic components
- Have the display case made and assembled.
- Program and configure Raspberry Pi to act as midi sequencer for lights
- Develop and implement iPhone app which controls the Christmas lights

iOS Application progress:

Jordan Doell

During Sprint 2, I have been continuing to learn Objective-C and iOS application development. I found and have been watching a podcast that covers iOS development and Objective-C. Also, James has been lecturing to me and Josh about iOS and some of the components we will need for the project. We still have a few more lectures to go, but we are making progress.

App Prototype:

I have gained enough knowledge of iOS so far to make a simple prototype. It is nonfunctional so far, but gives a little direction to where we are headed with the app. Below are some screenshots of the different views in the app.

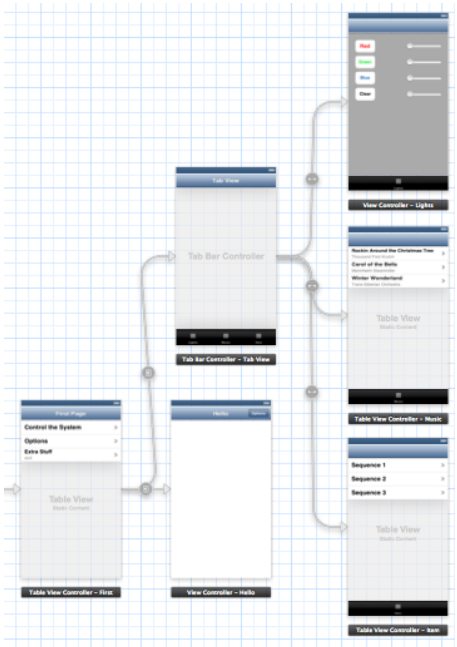

Fig. 1: Overall storyboard for the prototype

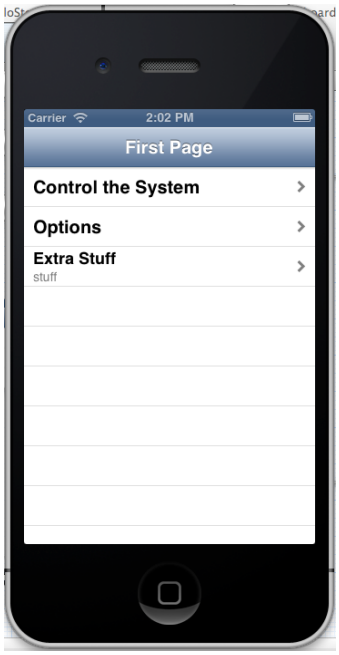

Fig. 2: Main page of the app

Fig. 3,4,5: Lights tab, Music tab, and Sequences tab

Christmas Light Controller Progress

Austin Wentz

Considerable progress has been made on the hardware front. The Renard 64XC and the 8 SSRez's are now soldered and thoroughly tested. In total, the soldering took 20-25 hours. Testing took another 5 hours to complete. With the hardware assembled, I put together a simple prototype which turns lights on and off using a predefined sequence. Several short videos are available to demo the prototype.

Display Case

I have also been working on a design for a display case which houses the hardware. The dimensions of the case will be 16.5 inches x 16.5 inches x 12 inches. Here are some initial requirements for the case:

- Safety features – Renard 64XC and SSRez's will only be powered when lid is closed.
- Locking mechanism to prevent theft
- Made of acrylic
- Fan for keeping SSR's cool
- Cord management