EE / CprE / SE 491 – sddec19-12

Campanile-Carillon Model Phase II

Jan 2019 – Dec 2019

Client: Dr. Tin-Shi Tam

Faculty Adviser: Dr. Gary Tuttle

Weekly Report 5

March 8 - March 15

Team Members

Ryan Roltgen – Software Engineering – Meeting Scribe

Sam Habel – Computer Engineering – Meeting Facilitator

Yicheng Hao – Electrical Engineering – Power Systems Lead

Gabriel Stackhouse – Software Engineering – Software Lead

Kienan Otto – Computer Engineering – Report Manager

Grant Mullen – Computer Engineering – Integration Manager

Weekly Summary

This week was heavily focused on debugging and fine-tuning existing features. We were able to update the code to successfully transition from state to state instead of requiring user interaction to move from the game back to the menu. We also updated the light bar code to be more reliable. As per client request, we began the process of porting the application to Windows, which will require some software rewrites in the following weeks. Additionally, we decided to hold off on buying any power systems equipment until we've decided on exactly what hardware will run our program.

Past Week Accomplishments

- Fixed guide so it will transition back to the menu after a song is finished
- Light bar now no longer breaks after 2-3 songs
- Libraries successfully linked in Visual Studio - will compile after UNIX-only modules are replaced
- Build the custom microcontroller schematic and the battery indicator circuit.

Pending Issues

- Raspberry Pi not powerful enough to run our program, so we need an alternate piece of hardware.
- UNIX libraries will have to be rewritten to support Windows.
- Battery indicator circuit doesn't work when charging.

Individual Contributions

Team Member	Contributions	Weekly Hours	Total Hours
Ryan	Helped debug light bar issues and worked on approximately half of the design document	6	31
Sam	Researched porting the program to Windows. Evaluated replacement libraries for porting. Week cut short by spring break.	4	25
Yicheng	Researched and designed the DIY Arduino circuit and the battery indicator circuit.	6	28
Gabe	Began the process of porting the application to Windows. Imported the project into Visual Studio, ensured all SFML libraries were linked, and set up all Windows-centric dependencies.	6	31
Kienan	Debugged issues dealing with the game not ending when the song ends, light bar not functioning correctly, and clearing the light bar when song is not being played.	7	29
Grant	Revised Bill of material and began editing design document.	4	27

Plans for the Upcoming Week

- Update light bar code to ensure a note is displayed when it reaches the keyboard section of the display
- Begin rewriting UNIX system calls to support Windows
- Finalize the PCB schematic design and begin working on the PCB layout