

EE / CprE / SE 492 – sdddec19-12

## Campanile-Carillon Model Phase II

Jan 2019 – Dec 2019

Client: Dr. Tin-Shi Tam

Faculty Adviser: Dr. Gary Tuttle

Bi-Weekly Report 13

October 14 - October 25

### Team Members

Ryan Roltgen – Software Engineering – Meeting Scribe

Sam Habel – Computer Engineering – Meeting Facilitator

Yicheng Hao – Electrical Engineering – Power Systems Lead

Gabe Stackhouse – Software Engineering – Software Lead

Kienan Otto – Computer Engineering – Report Manager

Grant Mullen – Computer Engineering – Integration Manager

### Weekly Summary

We had two major deadlines for this two week period. On Sunday the 20th we debuted the model campanile in the Homecoming parade, but our components were not displayed. On Sunday the 27th, we will demo our product at the Bells of Iowa State concert. We made some significant UI changes to our design by removing the piano key sprites located at the bottom of the screen, as they looked strange when placed above a physical carillon. It also occurred to us that “Iowa State University” didn’t appear anywhere in the program so we added that in on the main menu as well. The menu for the “difficulty” of the game was updated to use musical terms although these may not reflect the official definition of the terms. Some major bugs were also fixed over this two week period, removing system halting crashes and resulting in a *much* more stable and demo-ready program.

### Past Two Week Accomplishments

- Installed libraries to convert PDF to image - Kienan
- Light bar working correctly - Gabe and Ryan

- Reworked Arduino code - Sam, Grant, and Gabe

## Pending Issues

- Light bar constructed incorrectly for final carillon design

## Individual Contributions

Team Member	Contributions	Weekly Hours	Total Hours
Ryan	Changed some minor things with the languages and helped with the spacing of the notes on the monitor to line up properly with our light bar. Also helped Gabe with the crashing problems when sending over serial.	12	90
Sam	Finalized fixes with Arduino communication over serial. Explored more efficient solutions for future serial code rewrite. Investigated light bar compatibility with final structure.	10	73
Yicheng	Attend the Q & A session with the bell founders at ASC4. Helped in Homecoming event	7	72
Gabe	Fixed major bug with the program crashing when the serial buffer got too full. Rewrote Arduino code with the help from Grant and Sam. Helped Ryan and Kienan calibrate program to widescreen monitor. Reworked some code for readability.	15	92
Kienan	Planned out image conversion for PDF sheet music to be displayed on screen. Moved carillon bells from Music Hall office to final destination at ASC. Investigated final install requirements for hardware.	10	74
Grant	Started rewriting arduino code. Wrote code to individually address each LED with a specific color. Helped troubleshoot serial communication problem with the arduino. Researched battery solutions and computers to run our code. Meet at the ASC a couple times to help move the bells and meet with the bellfounders.	16	72

## Plans for the Upcoming Two Weeks

- Change method of sending code to arduino to save space and shorten transmission
- Modify/rebuild light bar structure to fit on campanile
- Continue integrating PDF sheet music support
- Work with Dr. Tam to hotfix any problems that arise