Progress Report: Nov 17th, 2014

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1. Introduction

The Smart Locker is an electronic locking system consists of a metallic locker and an Android-based smart phone application. Due to inefficiency of the existing locking system in universities, such as SFU, we are inspired to develop an electronic system that allows users to control the locker using NFC (Near Field Communication) technology through their smart phones. With our system, users can register for locker, share access, open the locker by a simple tap of the phone. This document details the progress of Tap Lock Inc.'s Smart Locker system.

2. Schedule/Progress

The following Gantt chart in Figure 1 clearly shows the current progress of each part of our project and the completion status.

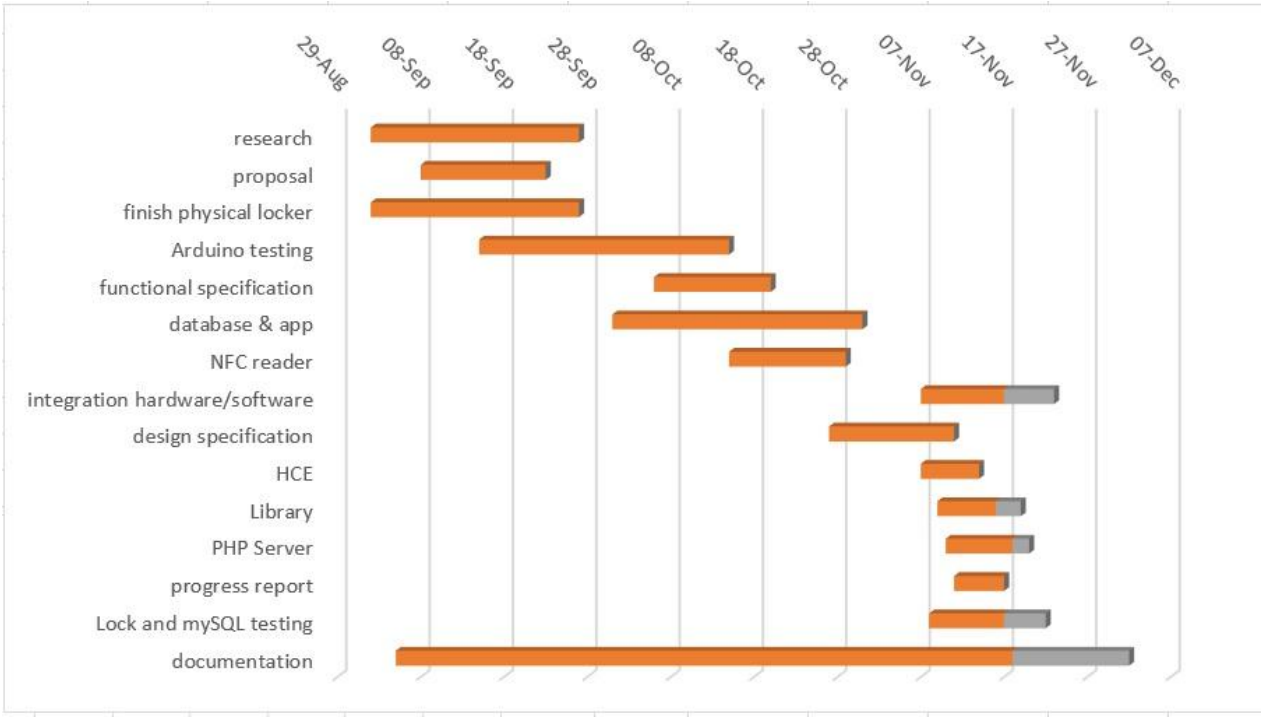

Figure 1: Progress of the Smart Locker to date

As shown in the chart Figure 1, all research, designs and documentations are finished on time as scheduled. We bought all the components online and got a competitive price that saves a lot of money from the budget. We started the project on Sept 4th, 2014 and finished all the research on Sept 26th, 2014. Since we prepared quite well at the beginning of the project, we

are able to finish the future tasks very efficiently without any delay. Initially, we planned to finish the integration of hardware and software on Nov 23th, 2014 due to graduation constraints. Following on our current schedule, we have already finished about two third of the integration till Nov 16th, 2014 and hope to complete it on Nov 23th, 2014. In addition, we are still working on the library and PHP server concurrently with the integration. Furthermore, we are doing the SQL testing together with the development progress, so that we can debug and troubleshooting the existing problems and fix it as soon as possible. From now on, our group will focus on the integration between hardware and software and prototype testing. We hope to hold a meeting once every week to report the progress. Finally, we plan to start the prototype testing on Nov 24th, 2014 and finish all the testing of NFC tags, readers, server and smart phone application on Nov 30th, 2014. Since the demonstration for our project is scheduled on Dec 8th, 2014, finishing everything one week earlier allows us to have time to debug and fix our prototype if anything unexpected happens.

3. Financial

At the beginning of the project, we set the budget at $300. So far, we have purchased all the required parts involved in our projects. The following table details our expenses. In addition, our project received $150 from ESSEF Fund. So we have $160.2 remains from the budget and fund. These money can be used for future development and unexpected costs such as defective components.

Table 1: Table of Expenses

Equipment	**Estimated Cost**
NFC Shield ×2	$ 59.80
Arduino UNO Rev3 ×2	$ 60
NFC tags	$ 10
Mailing Fee	$ 70
Physical Locker Body	$ 30
Single door magnetic lock with 60Kg holding force ×2	$ 60
Total Cost	**$ 289.8**

4. Conclusion

So far, our project is going well with low budget and it is on its way to completion. However, there's still a lot of work to be done in the following weeks, so we hope that everything runs smoothly and will be completed on time. We are looking forward to demonstrate our Smart Locker on Dec 8th, 2014.s