Progress Report for *Shop Smart*

'The Self-Checkout on Wheels'

Project Team

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Submitted to

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Issued on: November 29, 2015

1   Introduction

The Shop Smart solution intends to introduce a shopping cart system that will come with a Graphical User Interface (GUI) and a smartphone application. The GUI will provide options such as adding and removing items from a shopping list, checking an item's price and displaying where an item is located. The smartphone application will assist users in creating a shopping list that can be transferred to the GUI with the simple touch of a button on the cell phone screen.

2   Schedule Overview

Figure 1 below displays the Gantt chart for our Shop Smart solution. Please note that we have taken into account the notes given by the TAs from our marked proposal, and have made some minor improvements to the Gantt chart from the original version in the proposal documentation.
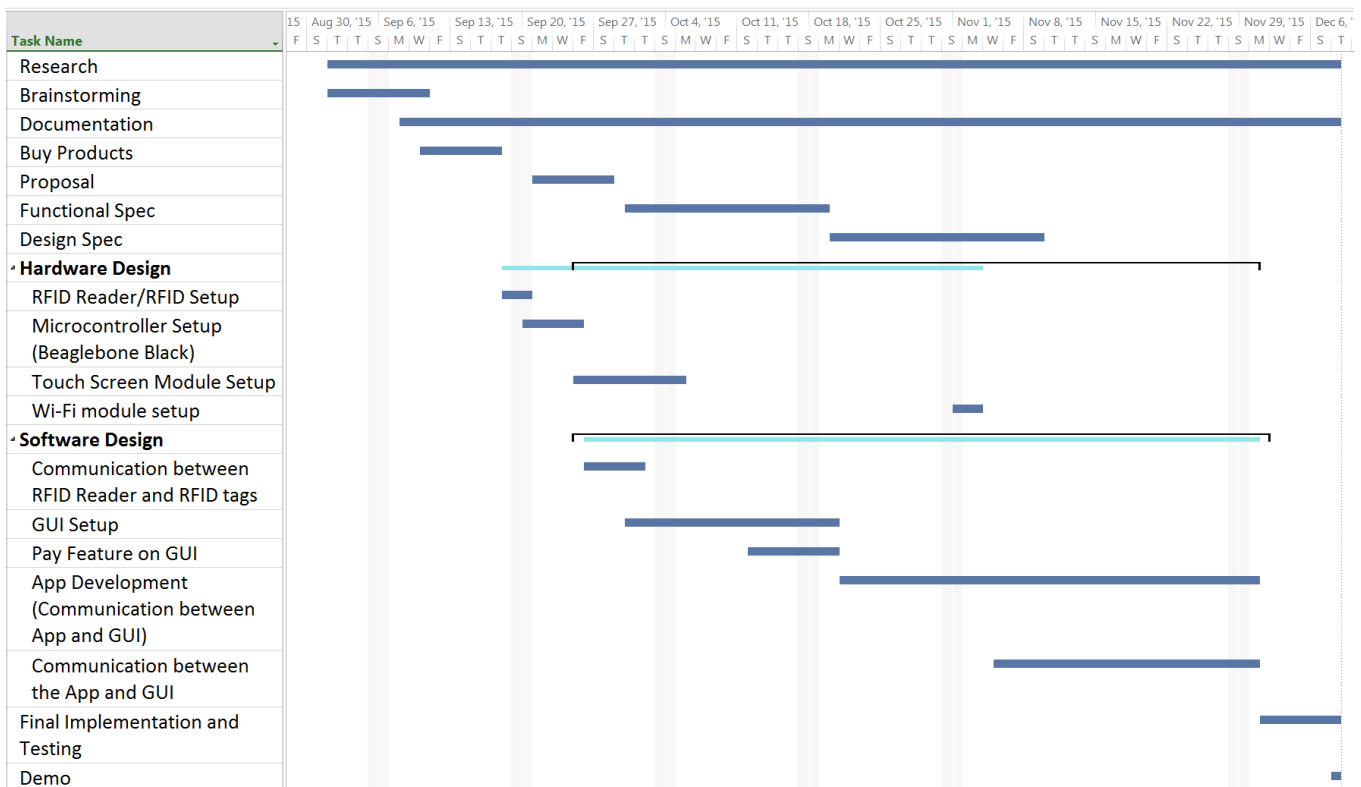

Figure 1 – Updated Gantt Chart with Projected Shop Smart Schedule

3   Financial Review

As seen in Table 1 below, our total cost came to $728.38. The majority of this funding came from the $500 we received from the ESSEF fund, and the remaining was split amongst our 5 group members ($45.68 each). To reduce the total cost, we purchased as many in-store products as possible, to avoid shipping costs, and will be borrowing a shopping cart from Nesters as opposed to purchasing one.

LF Passive RFID Desktop Reader/Writer	$200.19
RFID Tags	$170.50
SparkFun RFID Reader Starter Kit	$122.75
Beaglebone Black – Rev C	$72.53
Beaglebone Black Cape – LCD 4.3"	$87.05
WiFi Module	$22.40
Casing for the Shop Smart Solution	$52.96
Subtotal Cost	**$728.38**
ESSEF Funding	- $500.00
Total Remaining Cost	**$228.38**

4   Team's Progress

4.1   Planning and Research

Initially, the Shop Smart team met in the spring of 2015 to discuss the project idea, and to get approval from Dr. Rawicz for the go-ahead to begin working on the Shop Smart solution. Once the approval was obtained, we began the planning and research phase. We split the responsibilities for our product up, and began researching during the summer of 2015. Our goal was to get a good basis during the summer, when most of the team members were on co-op and had time to do research, and to immediately begin the implementation at the beginning of the fall 2015 semester, which is precisely what our team did.

4.2   Hardware

At the beginning of the semester our team was ahead of schedule in terms of hardware components, as we had ordered the major parts needed for our design at the beginning of the semester. However, after speaking with Lukas we soon realized that we would need to purchase a WiFi module for the implementation of our android application. This, combined with the realization that our original RFID reader did not meet our required specifications, caused us to fall slightly behind in terms of hardware part acquisition. Luckily, with SparkFun's quick 6-day delivery, and Lee's Electronics WiFi module that was compatible with the Beaglebone Black board, we were able to overcome these time delaying hurdles quite easily.

4.3   Software

Both the GUI development and the android application are on schedule. At this point we have completed the major implementation sections, and have begun our testing phase.

4.4   Documentation

As of now, we are completely on track in terms of documentation. The only time we became slightly off track was when we had received an extension for our Design Specifications report, as it was due during all team members midterm week.

4.5   Testing

We are currently on schedule in terms of testing, and have officially begun this phase of our product design.

5   Summary

Currently, we are exactly on schedule, and expect to complete our Shop Smart project 2-3 days before the deadline, at which point we can focus on our presentation.