EE/CPRE/SE 492 - sdmay19-29
Automating Inventory Management & Routing through Sensor Networks
Week 1 Report
1/28/19 - 2/3/19
Client: Jimmy Paul
Faculty Advisor: Goce Trajcevski

Team Members:
David Bis - *Meeting Facilitator*
Hanna Moser - *Meeting Scribe*
Adam Hauge - *Report Manager*
Sam Guenette - *Public Relations*
Ben Gruman - *Resource Acquisition*
Noah Bix - *Documentation Manager*

Past Week Accomplishments
This week our team had the opportunity to meet and discuss the course of action for the Spring 2019 semester. After consulting with our client and advisor, our team as updated our Gantt chart and laid out a plan to reach project completion by the end of the semester.

- **Gantt Chart** - All
    - The team met together to redesign our Gantt chart for the semester
- **Wireless Communication** - Adam
    - Acquired a static IP address for our master Raspberry Pi so that all sensor modules can communicate with it over the WLAN.
    - Able to communicate with system via SSH.
- **Order Processing** - David, Sam
    - Worked on logic for determining order quantities per day
    - Includes trigger to call order processing module on a defined schedule
- **Device Registration** - Sam
    - Back-end registration component of device
    - Back-end registration component of company
- **Refactored Databases** - Sam, David
    - Dropped unnecessary tables due o improved query and back-end process
- **Gather Parts List for Ordering** - David
    - Selected parts to order for the scale (Raspberry Pi, ESP8266)
- **Ordered Requested Parts** - Ben
    - Relayed order list to ETG for purchase
- **Ordered sonar sensor** - Noah
    - Double checked all sonar specifications and ordered the sonar sensor (HC-SR04 model)
- **Fixed Front-end Environment and Errors** - Hanna

- ○ Left off last semester with several features causing errors in the program. Got rid of these features and started development with new and improved package.

Pending Issues
- ● **Monitoring Device Reestablishment**
  - ○ Monitoring device needs to communicate sensor data to Raspberry Pi through ESP component, replacing our original Pi-to-Pi setup
- ● **Truck Routing**
  - ○ Constructed order manifest needs to be divided into truck routes with optimized efficiency

Plans for Upcoming Reporting Period
- ● **Wireless Communication** - Adam
  - ○ Need to test out communication systems via socket communication with individual sensor modules
- ● **Refine Order Processing** - David, Sam
  - ○ Improve upon existing order processing logic to better handle larger batches of data
- ● **Begin Route Optimization**
  - ○ Setup core architecture to determine best route plan
  - ○ Implement maps API
- ● **Build Sonar Sensor Prototype** - Noah
  - ○ Get sonar sensor to measure distances using an arduino as a substitute for the ESP chip
  - ○ The code should transfer from arduino via USB
- ● **Retrieve Ordered Parts** - Ben
  - ○ When order is filled, retrieve from ETG
- ● **Calibrate Weight Sensor** - Ben
  - ○ Create a rudimentary curve to convert ADC output to readable weights
- ● **Incorporate Routing Into Front-end** - Hanna
  - ○ Create screen sketches for routing page
    - ■ Both Client and Crafty view
  - ○ Add routing tab to navigation bar
  - ○ Have tab navigation completely developed
  - ○ Start building device registration page

Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
David Bis	Order Processing, Refactored Databases, Selected Parts to Order	6	6

Hanna Moser	Gantt Chart Fixed Front-end Environment & Errors	5	5
Adam Hauge	Gantt Chart Wireless Communication	5	5
Sam Guenette	DB refinement Order log component	6	6
Ben Gruman	Ordered Parts	4	4
Noah Bix	Gantt Chart Sonar Sensor research and order	5	5