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## *EE/CprE/SE 491 WEEKLY REPORT 01*

## *08/17/20 - 08/31/20*

## *Group number: 10*

## *Project title: Warehouse Inventory Automation*

## *Client & Advisor: Dr. Diane T. Rover*

## *Team Members: Amir Hamza, Jack Creighton, Jacob Ramsey-Smith, Stamatios Morellas*

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- **Weekly Summary**:

  The team's original goal was to build a warehouse inventory tracking drone. However, due to COVID-19, few of our members are virtual and due to the recent increase in positive cases on campus, our team decided to reevaluate the direction of our project.

  With the advice of our advisor and other faculty we have decided to use Webots, a simulation software by Cyberbotics to simulate the drone. This will not only allow us to all work on the project remotely but also, make the project less complicated so that it is easily finished in this short semester. With this new approach, we'll skip certain aspects of the project such as ordering drone parts and drone assembly. This will also allow us to focus more on the system functionality of the drone and add additional features to our web app.

- **Past week accomplishments**:

  - Team Member 1 (*Amir*): Researched webots
  - Team Member 2 (*Jack*): Messing around with Webots, watching Webots tutorials, reading up on ReactJS

    - Team Member 3 (*Jacob*): Started familiarizing myself with Webots. Implemented a flying drone in the simulation. Watched tutorials for webots and researched alternatives for simulating.
    - Team Member 4 (*Stamati*): Researched weBots platform, continued learning of ReactJS, NodeJS, and MongoDB, update team website

- **Pending issues**:
    - Team Member 1 (*Amir*): Start implementing simulation logic
    - Team Member 2 (*Jack*): Webots is a very demanding program, I will likely have to do most of my programming on a PC rather than my laptop.
    - Team Member 3 (*Jacob*): Webots crashes whenever I change certain things about the environment and I'm having issues controlling the drone in webots with the current keybindings. The drone has a camera, but not a barcode scanner so something similar will have to be attached to the drone.
    - Team Member 4 (*Stamati*): Setting up the repository for our web application.

- **Individual contributions**:

| **NAME** | **Individual Contributions** | **Hours (weekly)** | **Hours (cumulative)** |
|---|---|---|---|
| Team Member 1 (*Amir*) | Researched simulation techniques and decided with the team to pursue Webots as the final choice | 4 | 4 |
| Team Member 2 (*Jack*) | Messing around with Webots, reading/watching Webots tutorials, reading up on ReactJS | 6 | 12 |
| Team Member 3 (*Jacob*) | Started familiarizing myself with Webots. Implemented a flying drone in the simulation. Watched tutorials | 6 | 12 |
| Team Member 4 (*Stamati*) | Researched weBots platform, continued learning of ReactJS, NodeJS, and MongoDB | 4 | 8 |

- **Comments and extended discussion**: (*Optional*)
  *Feel free to discuss non-technical issues related to your project.*

- **Plans for the upcoming week(s)**:

    - Team Member 1 (*Amir*): Continue to work on simulation with the team and ensure a basic 3d layout is established
    - Team Member 2 (*Jack*): Work on simulation, research barcode scanning and data transmission to update database with data sent from the drone.
    - Team Member 3 (*Jacob*): Work with team members to build an environment similar to a warehouse workspace.
    - Team Member 4 (*Stamati*): Outline clear goals for development of the web application, start updating the skeleton of our client-server web application, fill in for other team tasks as needed.

- **Summary of weekly advisor meeting**:

  During our advisor meeting, we debated on a number of ideas on how to make progress during this semester and we finally came to the decision to simulate our drone using the Webots platform.