**Team Yellow: Load.In**

**Weekly Development Report # 5**

**Performance Period:** 2/16/2021 – 2/22/2021

1. **Group Accomplishments:**
    - **Meetings**
        i. **2/18/2021**
            1. Meeting to discuss plan of action for weekend.
        **ii. 2/20/2021**
            1. Meeting to go over the Lab 2 Section 3 first draft
        iii. 2/22/2021
            1. Meeting with mentor
            2. Discussed
                a. The importance of unique box identification
                b. The need to pre-loaded box sizes in our system
                c. Still being able to support odd box sizes
                d. Progress from sprint 1
                e. "Boxy" a potential virtual assistant
                f. Feedback on Lab 1 version 2
                g. Need expert tip for marking the boxes

2. **Individual Contributions/Accomplishments:**
    - **Byron**
        i. Researched use of Java 3d for Android. Found that it is incompatible.
        ii. Researched alternatives and found OpenGL ES for Android.
        iii. Watched several tutorials on getting started.
        iv. Brought in dependencies for OpenGL framework into android application.
        v. Created a simple triangle rendering activity which rendered a triangle.
        vi. Setup foundation for "world" display for load plan.
        vii. Created abstract classing to display different objects in 3d space.
        viii. Created proof of concept for rendering 2x 3d boxes with different dimensions and different points in space.
        ix. Worked on beginning of code restructure for rendering different lights and shading.
    - **Jason**
        i. Bin Packing Algorithm R&D
            1. 1D Bin Packing Algorithm coded up to begin to understand nature of problem
            2. Started research on 2D Bin Packing Algorithm
        ii. Worked with Byron on some OpenGL issues
        iii. Stubbed out code path for basic Load Plan to be triggered through Android UI (In Progress)
        iv. Worked with group on Lab 2 Outline
        v. Lab revisions
    - **Lance**

i. Updated data base for move inventory and move plan.
ii. Create a simple process diagram + algorithm for expert level tips.
iii. Research API's for keyword algorithms for android.
iv. Finally started to learn android studio.

- **Greg**
  i. Worked with Chris on setting up the move inventory in the android application.
  ii. Setup the move inventory service for the web API to retrieve data from the database.
  iii. Worked on connecting the move inventory in the application to the web API to get the Inventory from the database.
- **Chris**
  i. Worked with Greg on creating the move inventory, edit items, and add items activities to the app.
  ii. Worked to take the data from the web API and print it to the screen in the move inventory
  iii. Created a template for displaying a user's items and giving them the ability to edit their current inventory, or add additional items to said inventory
- **Paul**
  i. Created a template for displaying expert tips and tricks including playing video embedded inside of page.
  ii. Worked with Lance on how the keywords algorithm will function and behave with rest of program.
  iii. Worked on creating basic connection between database of articles and dynamically populating template with information.

3. **Issues/Concerns:**
   - OpenGL is an **extremely** complex framework.
     i. Complexity stems from very rudimentary: works from almost entirely vector space and matrix manipulations.
     ii. OpenGL utilizes compiled mini programs called shaders, which have to be compiled at run time using what appears to be C language stored in strings at the Java level.
     iii. Will need to cut down on complexity of solution in order to get something working.
     iv. May not be able to render a look-a-like truck.
     v. Might need to keep display ultra simple to get something working.