Group 10: Factory Simulation

Devin Shingadia | 170036317

Jacob Williams | 170050173

Mohammed Hamza Zaman | 170107477

Miraj Shah | 160050110

Christos Dolopikos | 170116343

Vivek Bhukhan | 159087932

Abstract:

This report will provide an in-depth view of the factory simulation that we have developed, highlighting, how the behaviour has been implemented, and the reaction of the simulation to various parameters, inputted through a ‘.SIM’ file. It will be structured as follows: there will be an outline of the various behaviours that have been implemented, followed by a conclusion which summarises the behaviour of the entities that we have created.

– A report on what happens in the simulation as you change the different parameters. For instance, how do your robots react to configurations that have more overlap between their usual paths? How much of a safety margin do you need for the batteries in your robots?

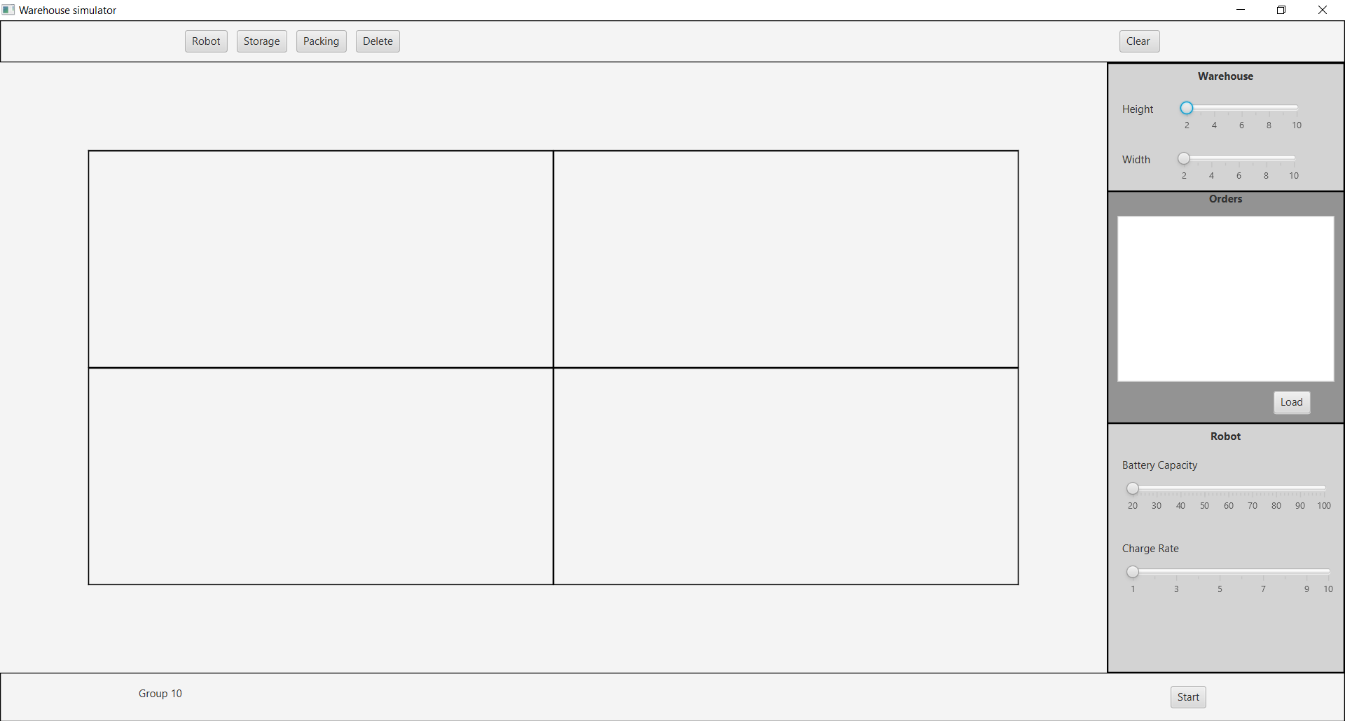
# The behaviour of the simulation

**The main view**

Add/Delete entities to the grid. Adding these entities will also create distinct objects.

Clear the grid

Adjust height and width of grid



‘.SIM’ File displayed here.

Load the ‘.SIM’ FIle

Set the battery capacity of the robot.

The grid is where entities can be added and removed. It can also show a preview of the simulation before it is run.

Open the simulator view

Set the charge rate of the robot

This is the first user interface that the user will see when starting the program. From here, the user can interact with the grid to create their own simulation, with their own defined, custom parameters, or they can load from a ‘.SIM’ File which predefines the parameters used in the simulation. After the user is satisfied with their simulation settings, they can press the ‘Start’ button and then view the simulation in action.