Building and Running the Program

Once the project has been opened in your preferred development environment (we recommend Eclipse), the main class needs to be ran as a Java Application, this is “StationGUI”. This will create the initial menu screen from which you can set preferences such as the probabilities of when cars and motorbikes spawn, as well as several other options. Acceptable values for each field are specified within the help section which can be displayed by pressing the help button. The help section provides the user with a comprehensive guide for using the simulator. It briefly explains the function of the simulator, followed by a clear step-by-step guide for running the simulation with your own specified values. It lists the different fields that can be edited, what they do, and the data types that need to be entered for it to be valid and therefore used when submitted. It also explains the further functionality of the simulator and what is done in the event of invalid values being submit. Once the custom values have been entered (optional), the user should press the “Submit Preferences” button. If the values entered are valid, then the variables used to create the simulation are set to these and will be used for the simulation. If any of the values entered are invalid for this field, then they will be ignored and the default values will be used. Any valid values will still be used alongside the defaults. The user then needs to press the “Simulate” button which will cause a new window to open where the actual simulation will take place and be displayed. The simulation will run for the specified number of ticks and then when it is finished another window will open in front of it detailing the simulation results. During the simulation, there is a “Skip To End” button located at the bottom of the window. This can be used to skip to the end and display the results (the whole simulation doesn’t have to be watched first), this is especially useful for longer simulations if the user is looking to save time. When the simulation is finished and the user is satisfied, they can close the results and simulation windows and then either create a new simulation or exit the program. Creating a new simulation is done in the exact same way. If the user chooses to exit the program, then there is a “Quit” button next to “Simulate” button, pressing this will cause another window to pop up, this time asking the user if they are sure they wish to close the program. They will have an option of either “Yes” or “No”. Clicking “Yes” will close the program properly, clicking “No” will close the box and the user will be returned to the option menu.