**CP2406 Traffic Simulator User Stories**

**User Story 1**

As a user, I want to develop a simple program where the car automatically moves along the road. Priority is high when it comes to developing simulation programs and will take about a week to do so. For the testing, expand the road features such as traffic lights and intersections.

**User Story 2**

As a user, I want to expand the previous car simulation program where it can interact with intersections and traffic lights along the road. Priority is medium and estimated to take no more than 3 days to complete. For the testing, finish developing the city with more roads, vehicle types, traffic lights and intersection roads.

**User Story 3**

As a user, I want to fully develop a traffic simulation program illustrating the traffic flow within a city. Priority is low because the full city simulation is not the main feature of the simulator program, so it will take no more than 3 days to complete. For the testing, complete the city editor program to allow the user to save the city and traffic configuration so that the user will not have to create another city the next time the user opens the program again.

**User Story 4**

As a user, I want to develop the saving the testing system for the traffic simulation program. Priority is low so it will take no more than 3 days to complete. For the testing, create the GUI so that the city editor mode is on the side of the program window while the simulation mode dominates most of the areas in the program window.

**User Story 5**

As a user, I want to create the GUI-based program for both the city editor and simulation modes. Priority is high so it will take about 7 days and no more than 14 days to complete. For the testing, complete the city editor and simulation to function properly and fully develop the simulation program.

**User Story 6**

As a user, I want to fully develop the simulation program to high expectation software standards. Priority is medium, but this will not be the necessary part to complete the development project. If the development project would be fully completed, complete all the testing and make sure that the program achieves high user expectations of using the simulation program: making the people able to learn about the traffic flows and road rules in order to start learning to drive their vehicles around the city.

**Developer User Story 1**

As a developer, I want to make changes to traffic lights between red and green. Priority is medium and estimated to take no more than 7 days to complete. For the testing, allowing the car to move along a single lane and interact with one intersection and traffic light.

**Developer User Story 2**

As a developer, I want to allow vehicles to interact with intersections and traffic lights. Priority is high and estimated to take about 7 days and no more than 14 days to complete. For the testing, create the spawn cycle to allow different vehicles of different colors to spawn at a time within the cycle.

**Developer User Story 3**

As a developer, I want to create the spawn cycles of the vehicles, allowing the spawning of different vehicle types (cars, motorbikes, buses) of different colors, but not necessarily to use the top down view images of the real vehicles. Priority is medium and estimated to take no more than 7 days to complete. For the testing, to develop the GUI based simulation program so that it functions identically to running the simulation via the Java console.

**Developer User Story 4**

As a developer, I want to develop a GUI based simulation program and make sure the GUI based program functions identically to the console based program. Priority is medium and estimated to take no more than 7 days to complete. For the testing, to do the test run of the program and making some minor enhancement to meet high consumer and user expectations of using the program: Having a useful tool for learning city traffic and how it works.