

Changes that have been done to the original concept of the final project:

Thanks to the labs and exercises we have done in class over the weeks, we were able to successfully create an RGB slider that can change the color of the cars that appear on screen once the program runs as well as a taskbar with different selections and instructions in order to not only make the program more appealing, but to also make it more user friendly. Additionally, we also added background music (+ volume sliders) along with a main menu screen for the project using Media and scene builder in order to demonstrate our understanding of the material we learned in class (the interface shown in the first deliverable was made manually using JavaFX and not using an empty FXML and controller since we began working on the project before we learned about it). Furthermore, we also added options for the user like a “select recommended settings” button for testing purposes and an information window that appears once the race has been reset. This alert would inform us of the information that was generated through the learning process, the best fitness scores over the generations, the number of generations the program went through, ect. Lastly and most importantly, we implemented a way for the user to modify the number of hidden layers present in the neural network for each car. We added a label and textfield for these inputs as well as a way to observe this data in real time. At any moment during the simulation, the user can click on any car to see its neural network structure (as inputted by the user initially) and witness the values of its neurons and its weights updating in real time.

Link: https://github.com/youssefjango/SelfDrivingCar_AI_Project_Prog3.git

Images Of the Project's Development



