

Thus far I have run into several issues with my code and my progress has been limited unfortunately. That being said I have a lot of really good ideas for my code. I have currently set up the roads so that each intersection is accounted for. I am basically going to have an "officer" at each intersection that will direct traffic in a particular one direction. Each intersection has a value for the distance to the 5<sup>th</sup> st, 10<sup>th</sup> st, and North Ave bridges. Before any people are generated into the world, the desired direction will be computed for each intersection in order to ease the running time for each car approaching every intersection. Rather than doing a deep search of the entire grid for each person to leave campus, I am setting up checkpoints throughout the grid for them to get to first, and then the checkpoints will lead the people other checkpoints which will eventually lead them to safety.

Although the implementation of each time step as people move throughout the world has not been completed yet, I do have a good idea of exactly how I want to design my code. I want to model the movement of people throughout the world to relatively match the speed at which they move in the real world. At each time step, every person's position in the grid will be updated. Based on the location of each person they will perform an indicated action. These actions will include "walk", "drive", "turn", and "stop". Each action has its own unique speed that the person moves at. The "turn" action is where all of the logic is pre-computed to designate which direction a car should move. Each person will be their own object with a value of position, speed, and status. The code will continue to run until the status of all people is "safe".

That is the basics of what I plan to start implementing right away so that I am able to put in the necessary effort and provide the best simulation that I can. I apologize for the lack of code that I have turned in with this assignment. This is what I have been able to implement thus far although I have so many ideas that I want to continue improving upon to make the simulation great.