Final Project Overview

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Project Goals

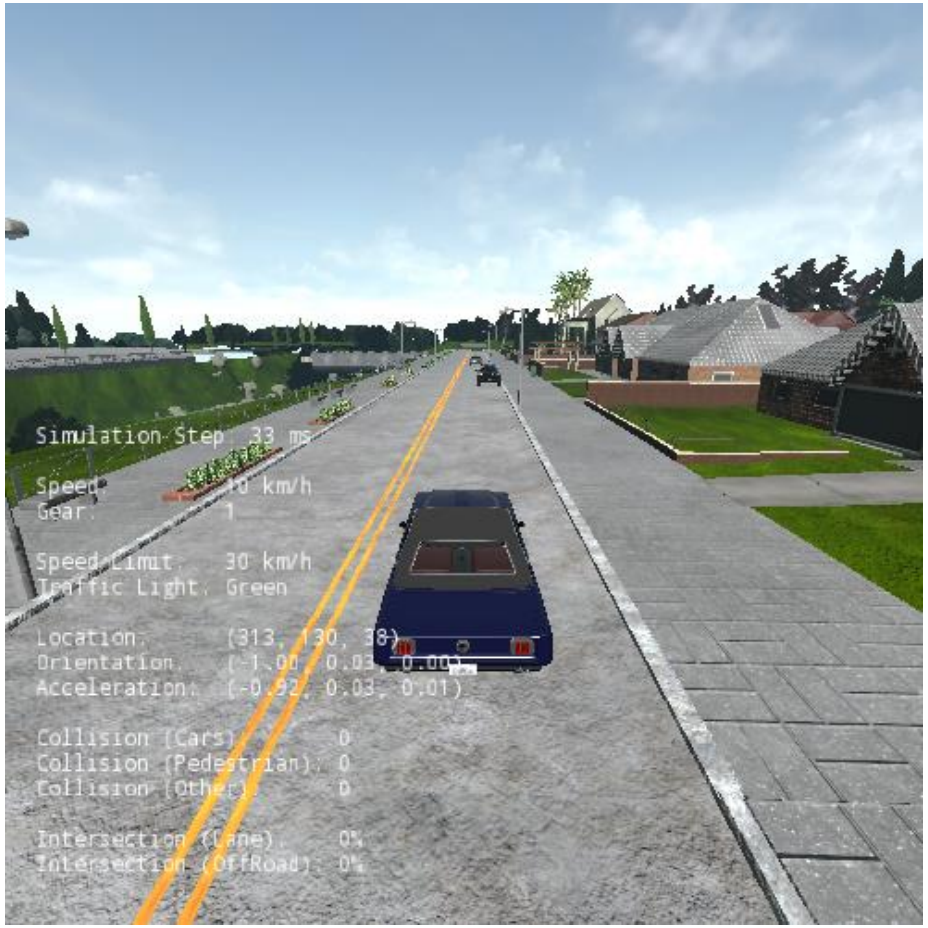
- Use spiral optimization to generate paths (most of the math is implemented for to you)
  - Avoid static obstacles
- Generate velocity profiles that avoid dynamic obstacles
- Develop a state machine for behavioural planning

Objective

- Write a planner in Python to navigate the given scenario
- Interface with the CARLA simulator
- Build upon controller from Course 1 (given to you)
- Assuming perfect information to simplify planning

High Level Challenge

- You will need to navigate a road network, along with obstacles, until you reach the goal
- 3 main challenges



Challenge 1: Obstacle Avoidance

- A parked obstacle will block your path
- Can use circle approximation to perform collision checking
- Removing the paths that are in collision will allow you to avoid the obstacle

Challenge 2: Dynamic Obstacles

- Lead vehicle will regulate your speed, as it moves below the speed limit
- Modify velocity profile to prevent collisions

Challenge 3: Stop Sign

- Develop state machine to perform required stop sign behaviours
- Must brake to a complete stop before proceeding

Scenario Completion

- After completing the final turn from the stop sign, the simulation is complete
- Try to think of other scenarios to handle based on the content in Course 1 and 4
- Further detailed instructions available with the Programming Assignment