Motion Planning and Decision Making for autonomous vehicles

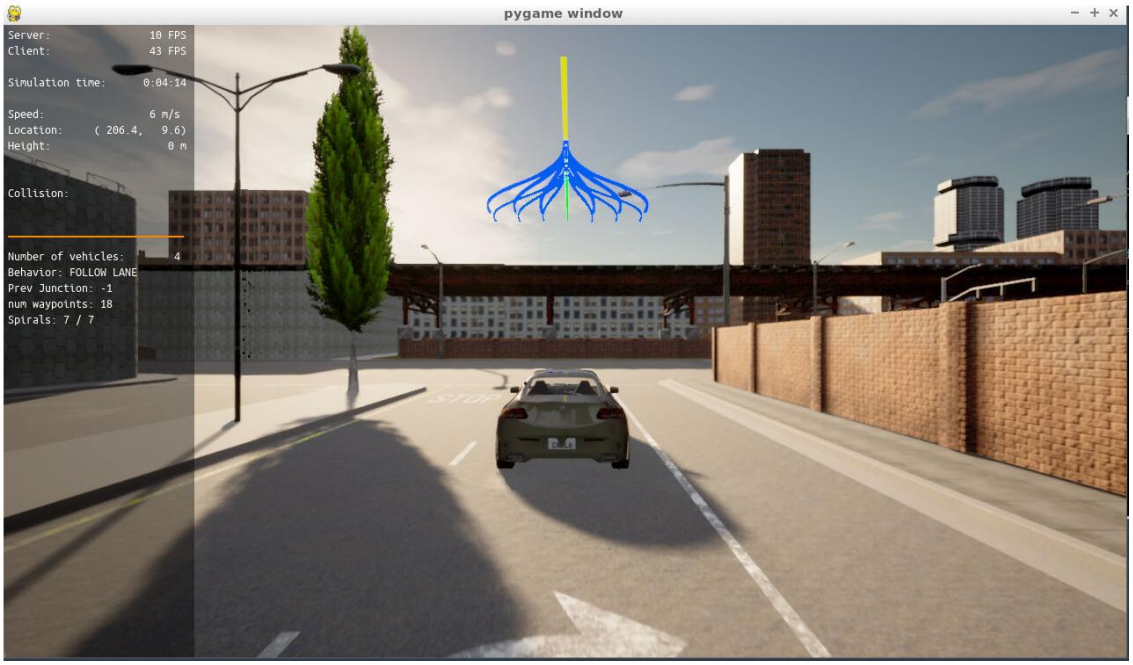
Overview

In this project, we have implemented two of the main components of a traditional hierarchal planner.

1- Behavior Planner
2- Motion Planner

They can perform the following activities:

1- Avoid static Objects like Cars, bicycles and trucks (Collision avoidance)
2- Handle any type of intersection
3- Track the centerline of the lane



1- Lane following, speed reduction (decelerating to stop) and Stopping at intersection has been implemented using a Finite state machine (Behavior

Planner).

2- Cubic Spirals has been used for path and trajectory generation. Multiple spirals are generated from the center lane. They represent possible paths which the vehicle can take.

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