Project Update

Team 3 - Path planning Evangelists
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Objective:
To compare and analyze various path planning algorithms over a limited search area with an objective to minimize the travel time considering the given constraints.

Current scenario:
Following aspects of our project have been established till date.
- *Algorithms that will be compared:*
  - Dijkstra's algorithm
  - A* algorithm
  - SMA*
  - RRT*

  Criteria for algorithm selection:
  - Usage of the algorithm (widely used)
  - Algorithms that guarantee to find a solution
  - Robustness of the algorithm

- *Area of application:*
  The above-mentioned algorithms are applied within the Clemson University area, with the start node at Douthit hills and the finish node at Fluor Daniel building. The routes highlighted in yellow are used.
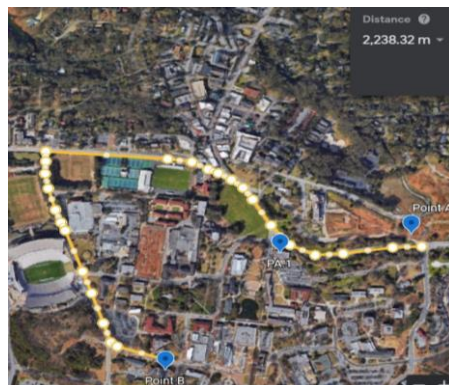

Figure 1: Route 1 (Distance: 2438m)

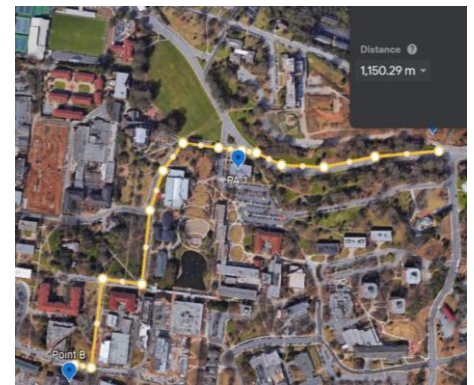
Figure 2: Route 2 (Distance: 2238.32m)

Figure 3: Route 3 (Distance: 1150.29m)

Future Work:
A comprehensive comparison based on their corresponding results will be carried out for the above-mentioned path-planning algorithms. In the initial trial run, we'll be implementing the algorithms between Douthit Hills (Point A) to Fluor Daniel building (Point B). Once we validate the algorithms, we plan to implement them on a more complex search tree of Douthit Hills to Death Valley stadium.