

Context Detection in Augmented Vision Systems



Team Members: Leonardo Gallegos, Nerses Martirosyan, Cristofer Ramos, Raymundo Romero, Michael Valdez
Faculty Advisor: Amini Navid
 Department of Computer Science
 College of Engineering, Computer Science, and Technology California State University, Los Angeles

Overview

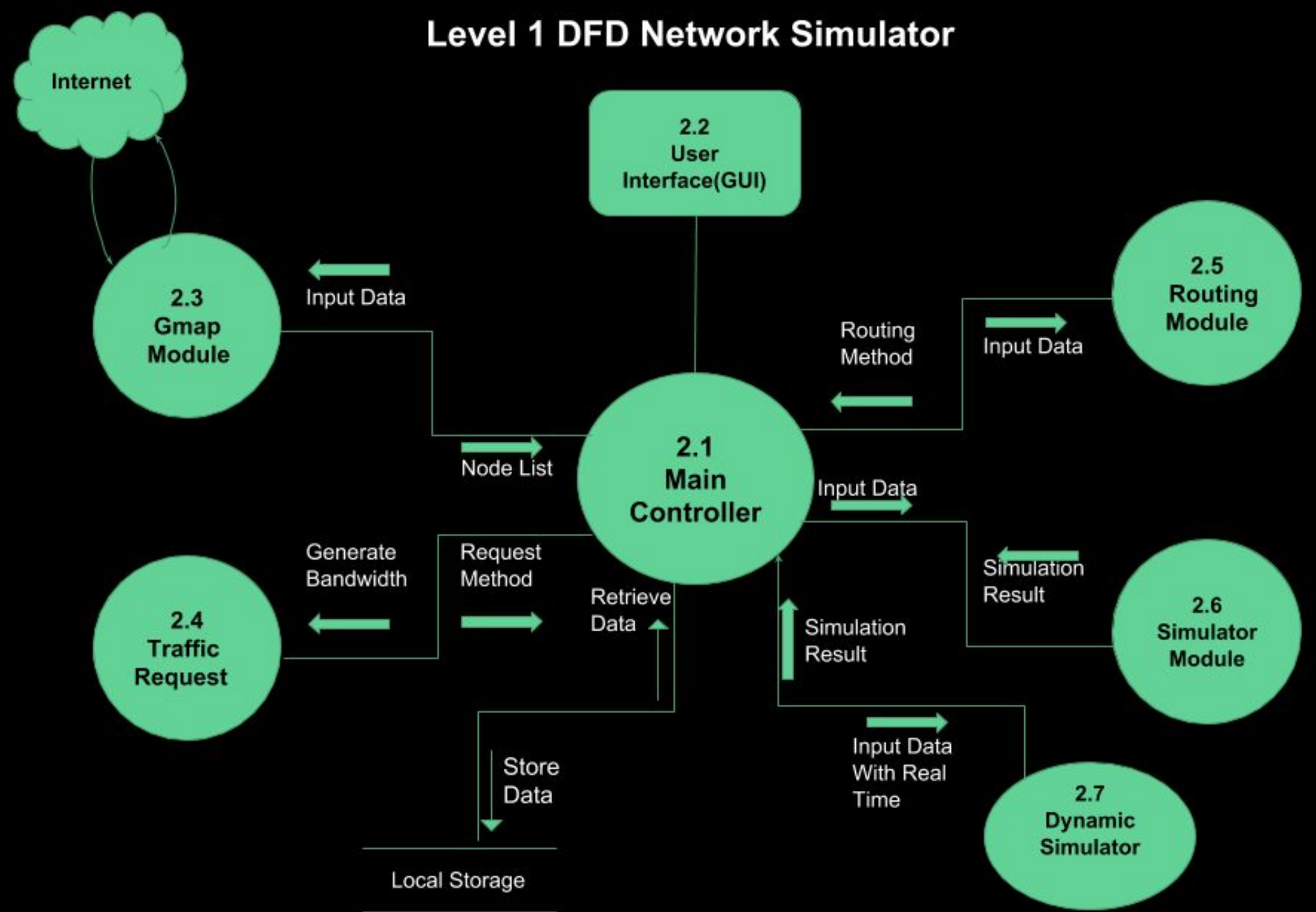
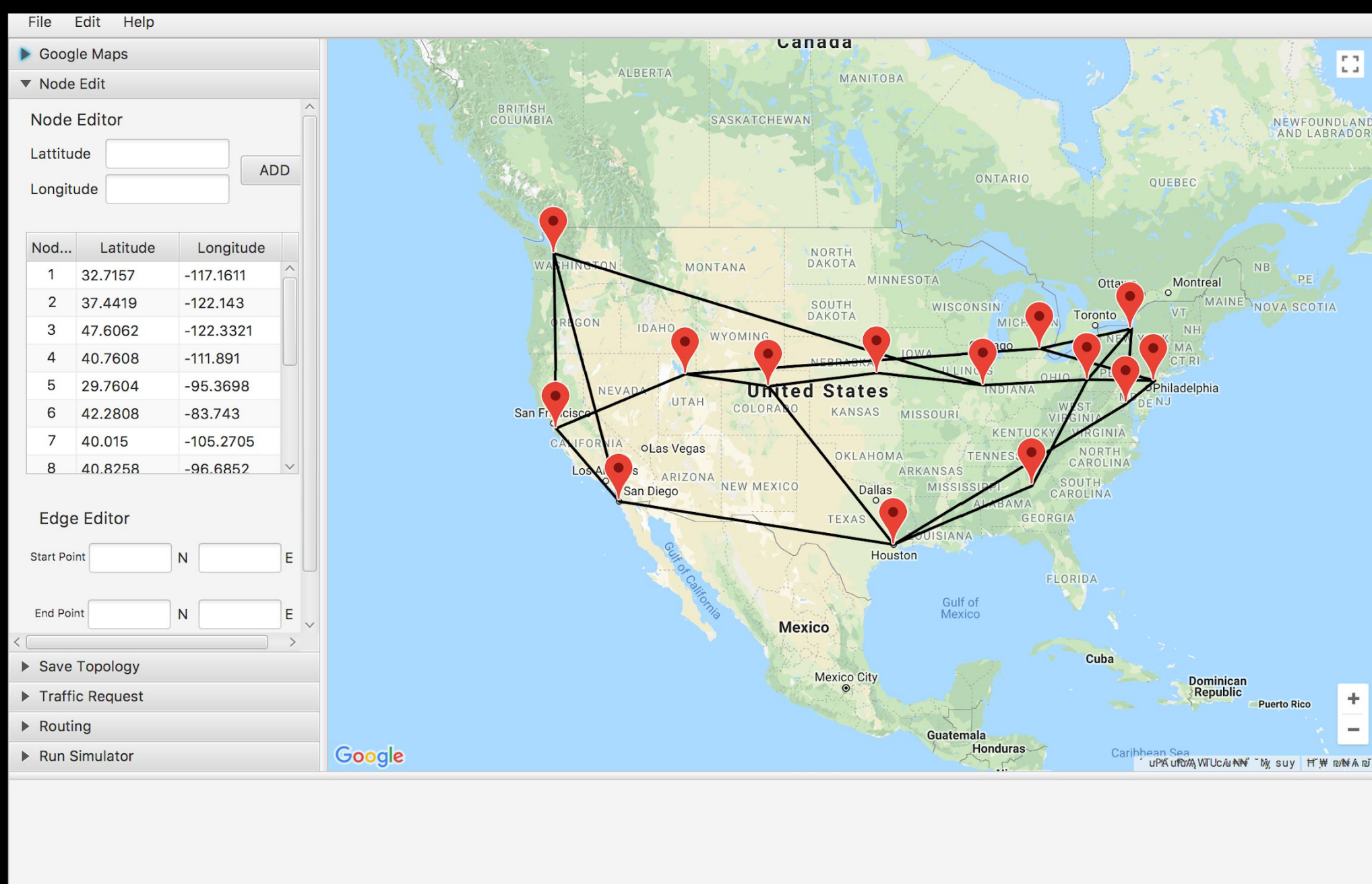
BlindSpot is an application that explores the idea of using smart glasses (Vuzix M-100) as optical aids for patients with right-homonymous Hemianopia, it supplements Field of View.

Objectives

- Utilize the smart glasses hardware to build an application that is an optical aid.
- Implement modules without exhausting the resources of the smart glasses.

GUI

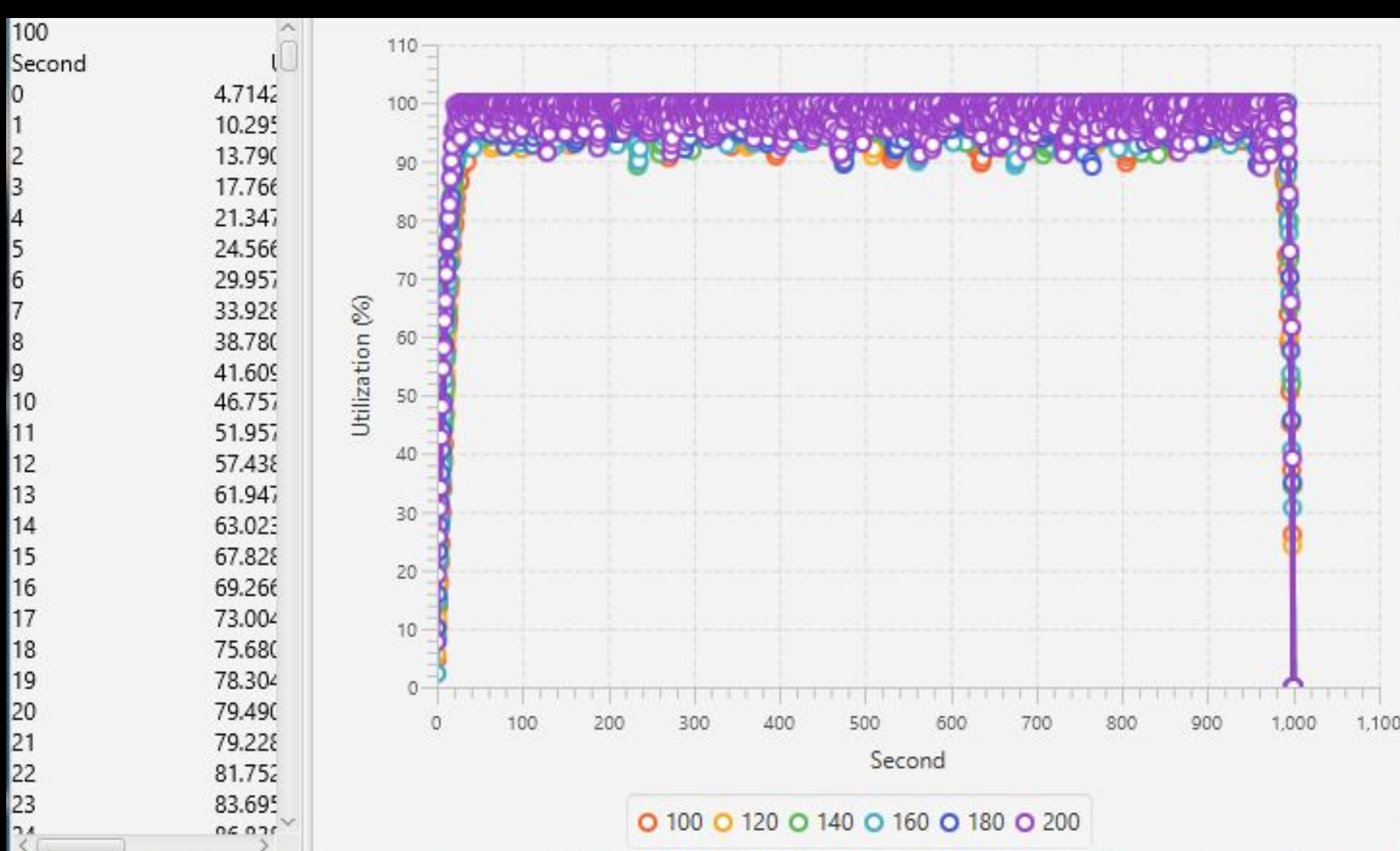
- BlindSpot
 - Dynamically move the camera's image-viewer accordingly to the users needs.
 - A compass that shows a value and a label of the heading.
- GyroSense
 - Ability to change the MAC address of the sensor being utilized.
 - Shows the values of the sensor's position when the sensor is running (in degrees).
 - Indicators can be enabled at any value and changed at any moments while running the GyroSense app.



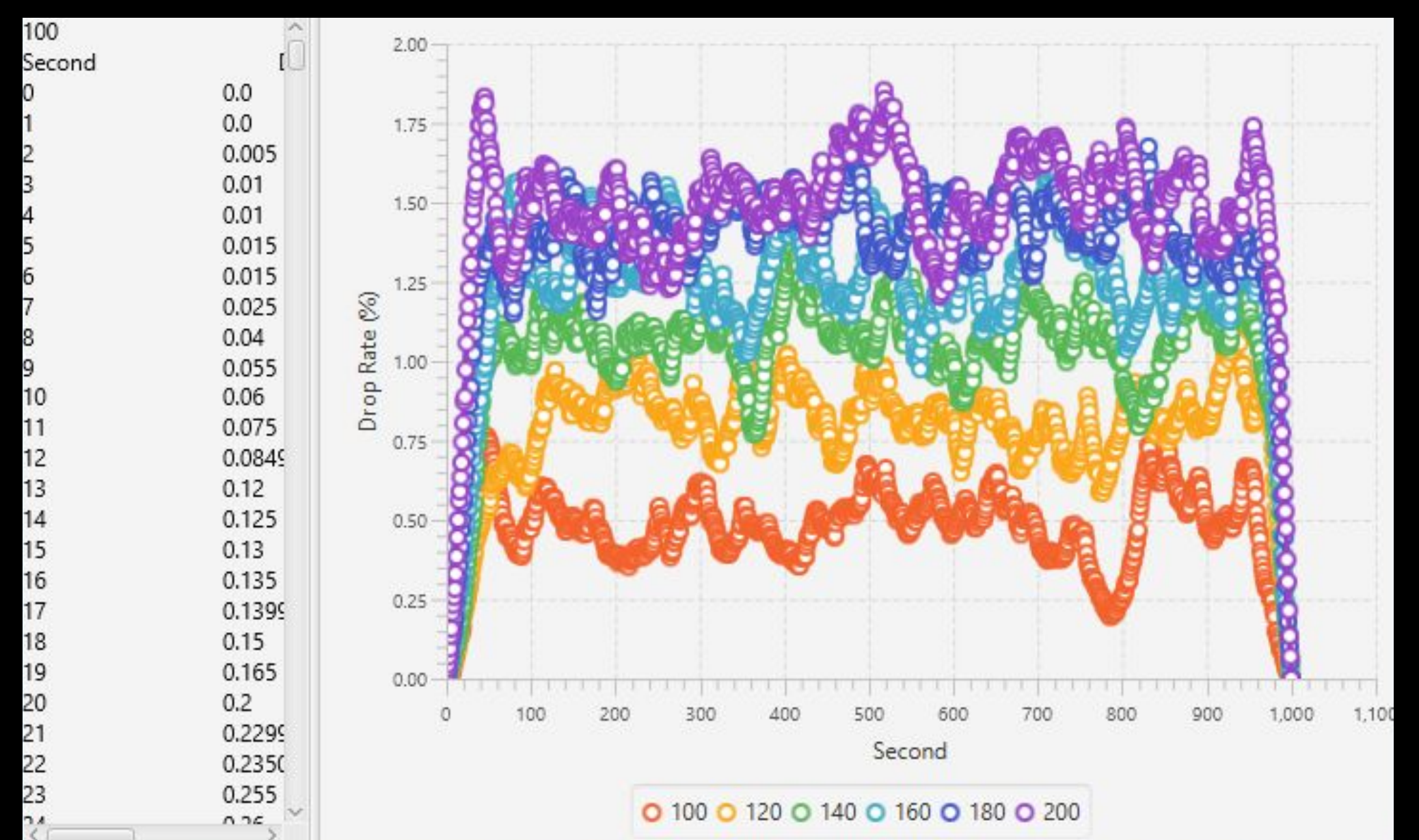
Routing Algorithms

These are shortest path algorithms the simulator uses to determine the number of transponders for each request. The user can choose between the following:

- SPF**
 - Uses Dijkstra's shortest path algorithm to find the shortest path from the starting to destination node.
- LUF/MUF**
 - Both initially use the K-shortest path algorithm to determine a number of shortest path algorithms that we specify.
 - LUF picks the path that has the least used node.
 - MUF picks the path that has the most used node.
- OPT/MUX**
 - Both determine the number of transponders based on a direct path from the starting to destination node.
 - MUX tries to be more efficient by combining requests that have the same starting and destination node.
- Hybrid**
 - Uses a threshold system, where SPF is run if the bandwidth is under the threshold and OPT is run if it's over the threshold.



Utilization



Drops Per Second

Tools

