LO1: Requirements

Range and Level of Requirements

Client: Read JSON data from the REST server and deserialize it into corresponding objects

Coordinates: Represent coordinate with longitude and latitude values, calculate Euclidean distance to another node, add a new node after moving in a certain direction, check proximity to another node (within 0.00015 degrees)

Direction: Enumerate 16 compass directions, Return compass direction in double format, and return the opposite direction

Validation: Validate against credit card CVV, expiry date, card number

Output: Write drone paths in GeoJSON format, Determine if a point is within or on the boundary of a region, and represent restaurant and no-fly zone vertices as nodes in a graph

System Requirements

Find the shortest distance without entering no-fly zones and output the flight path in the specified file structure.

Integration Requirements

Drone: Integrate to contain coordinates, follow a series of moves, and update coordinates

Restaurant: Integrate with the handler to show coordinates and menu

Order: Integrate with the delivery handler to use the store credit card details, order number, credit card, price, pizzas

Validation Integrate with delivery status and validate orders

Move: Integrate with drone single move and carried order

PathFinder: Find the shortest distance from start to destination and return a list of single move

Output: Integrate with validated order to record drone paths and order details in GeoJSON format and flight path containing the drone's location, bearing, and carried order.