**Route Optimization for Pothole Repair**

**A web application that provides user an interface to add list of addresses and generate an optimized route.**

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**Project Overview:**

Route Optimization for Pothole Repair is a web application that is used to assist the crew members to optimize route taken for pothole repair. Each city would have several potholes and multiple crews would be working on repairing those potholes. Each day the crew would be given a list of potholes to be repaired and the crew would head out to work on those potholes without any route optimization. This is an inefficient process, which results in wastage of time and fuel. The web application would help the crew to generate an optimized route that saves time and fuel. This optimized route will be generated using Travelling salesman algorithm.

**Features of the web application:**

• The application would give the crew an option to add list add addresses for which they would like to calculate an optimal route.

• The application would give the crew an option to select the number of potholes they are willing to repair that day.

• Once the crew finalizes on the number of potholes they are willing to repair they can request the optimized route for those potholes on a click.

• The optimized route will be presented to the crew in two forms:

1. Display of optimized route in the form of list.
2. Display of optimized route on google maps.

**Mid Progress Implementation Details:**

Designed web pages of the application. The application would have the following pages.

1. Home page: This would be the landing page of the web application.
2. Route Optimizer: This page would take the list of addresses from the user one at a time for which optimized route needs to be calculated.
3. Optimized Route: Once the user enters the list of addresses and opts for optimized route calculation. The optimized route calculated would be displayed here.
4. Maps: The optimized route calculated would be displayed to users on the google maps in this page.
5. About: Displays the information of the web application.
6. Contacts: Displays the contact information.

Singleton

Google Maps

Technical challenges faced:

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Integration with google maps.

To be worked on:

TSP algorithm

Algorithm to fetch the nearest addresses and then pass it to optimization.

GitHub link for code:

Add here

















