Project Vision Document

Project Title: Traveling Repairman
Team Name: Team AppFolio

Team Members:

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Company Name: AppFolio

Company Overview:
AppFolio creates software for property managers for efficient management and organization by delivering insights that optimize their day to day operations for customers.

Mentors:
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Problem Statement:
For property managers with several properties, it becomes difficult to track and coordinate tasks across them. For workers visiting multiple locations, an efficient route along different properties would be a helpful tool to schedule maintenance across them. In addition, other applications are used to assign jobs to employees, but it would be preferred to have a single application with all of this functionality.

This will reduce the overhead of back-and-forth communication between repairmen and landlords to facilitate a streamlined point of contact for clear execution of tasks.

Project Overview:
The goal of the project is to create an application that allows property management companies to visualize their portfolios and give them an efficient solution to scheduling constraint problems. For example, our application would create efficient routes for workers performing repairs or maintenance.

Project Goals/Objectives:

1. Ability for property managers to visualize their properties on a map
2. Management tools, including adding tasks to properties and efficiently routing maintenance staff to various properties, scheduling events for workers based on their availabilities

Technical Approach:
We will create a web app that has an interactive UI with a maps API integrated (Google or Apple Maps) where property managers can see all of their properties and which ones need service. Our front end will be able to take requests from tenants and then store these. We will organize service requests in order of importance so that emergencies are prioritized. Properties will be pulled from our database for a given property manager or repairman so they can visualize their route.

- **Property Visualisation:** Implement an interactive and intuitive UI where property managers can easily visualize their portfolio with Google or Apple Maps API.
- **Efficient routing:** Give property managers efficient routes to all their destinations; think of the traveling salesman problem.

Languages and Frameworks:

- Frontend: We plan to use React
- Backend: We plan to use Ruby on Rails
- Database: We plan to use MySQL

Milestones and Timeline:
- Initial application: Basic web app is hosted in QA and prod environments.
- Database: Our application is connected to the database of property information, with the ability to interact with the database.
- Application Accepts Events: Users can input tasks for specific properties
- Solving Constraint Problems: The system efficiently creates routes and schedules for input tasks

- Stretch Milestone: Account for Staff Schedules - Events are scheduled and take into account the schedule and timing of different employees and adaptively adjust schedules if they are ahead or behind