**FreshMart: Your Fresh Grocery Marketplace**

Connecting you with fresh, local groceries and fruits at the click of a button.

**Team**

My name is Zaid Mohammed, currently I am the sole member of this project team. As the Full-Stack Developer, I will be responsible for both the front-end and back-end development. This role was decided based on my proficiency in both React for front-end development and Python Flask for back-end development. Being a one-person team, I will manage all aspects of the project, from coding to deployment.

**Technologies**

For the front-end of FreshMart, I will use React. React is a popular JavaScript library for building user interfaces, especially single-page applications where you need a fast, interactive user experience.

The back-end will be built using Python Flask, a micro web framework that is lightweight yet powerful, making it a good choice for developing web applications. For the database, I will use PostgreSQL, a robust, open-source relational database system known for its reliability and performance.

Other technologies I will use include:

1. Redux for state management in React, allowing for more predictable state management and easier debugging.
2. SQLAlchemy as an Object Relational Mapper (ORM) for Python Flask, which will help in managing database operations more efficiently.
3. Heroku for deploying the application, as it supports both Flask and React apps and offers easy integration and scaling.
4. Bootstrap for designing a responsive and mobile-friendly user interface.
5. Various online resources such as API documentation, Flask and React official documentation, and online tutorials for additional guidance.

For the front-end, an alternative to React could be Angular. Angular is a comprehensive framework that offers a lot of built-in functionalities. However, it has a steeper learning curve compared to React. React’s simplicity and flexibility led to its selection.

For the back-end, an alternative could be Node.js with Express. While Node.js is excellent for building scalable applications due to its non-blocking I/O model, Python Flask was chosen for its simplicity and the ease of integration with Python libraries, which aligns better with the project’s requirements.

**Challenge**

The problem FreshMart aims to solve is the difficulty some urban residents face in accessing fresh, local groceries and fruits. FreshMart will create a convenient online marketplace where users can easily purchase fresh produce from local vendors. The platform will not address issues related to delivery logistics or guarantee the freshness of produce after purchase. The primary users of this platform will be urban residents looking for fresh produce and local farmers or vendors seeking a broader customer base. This project is particularly relevant for urban areas where access to fresh groceries is limited.

**Risks**

**Technical risks include:**

Potential database integration issues, which could lead to data inconsistency and downtime. To mitigate this, I will implement thorough testing and use SQLAlchemy to manage database operations efficiently.

**Non-technical** risks involve market competition, which could result in lower user acquisition. To counter this, I will focus on unique selling points such as quality assurance and sourcing from local vendors to attract users.

**Infrastructure**

For version control, I will use a **branching strategy** based on GitHub flow. This involves creating feature branches for new features and submitting pull requests for code reviews before merging them into the main branch. For deployment, I will use **Heroku**, which offers seamless integration with GitHub, allowing automatic deployments from the main branch. To populate the app with data, I will initially use CSV uploads and integrate APIs for vendor data. For testing, I will use Jest for front-end testing and PyTest for back-end testing, with continuous integration set up using GitHub Actions to automate the testing process.

**Existing Solutions**

There are several existing solutions in the market some of the most promising ones include:

* **Jumia** is a large e-commerce platform that includes a variety of products, including groceries. However, it is not focused solely on fresh produce.
* **Instacart** is another solution, offering grocery delivery services but is limited to certain regions.

FreshMart differs by focusing exclusively on fresh produce and local vendors, ensuring quality and freshness. It is tailored for urban areas with limited access to fresh groceries, setting it apart from broader platforms like Jumia and region-specific services like Instacart.