TABLE OF CONTENTS

1. Project Presentation

2. Analysis of the Existing Situation

3. Proposed Solution

4. Functional And Non-Functional Requirements

5. Technology Stack

6. Application Overview with Design Choices

7. Conclusion

1. PROJECT PRESENTATION

Project Name: Mobile App Development

The project at hand involves developing a mobile application aimed at managing stock in a store. The current retail market is expanding at an exponential rate. As businesses scale up, efficient stock management becomes trickier yet crucial. The app aims to simplify and automate stock management, thus leading to minimized errors and maximized profitability.

Problem Statement: Despite technological advancements, many stores still struggle with effective stock management using traditional methods. Manual tracking of inventory data is prone to inaccuracy, time-consuming, and doesn't provide timely or easy access to information needed for strategic decision-making.

2. ANALYSIS OF THE EXISTING SITUATION

Most existing solutions are either complicated, expensive, or desktop-based, posing accessibility constraints. Besides, none of them are well-suited for small businesses due to their elaborate features and confusing interfaces. Additionally, many businesses still rely on outdated, manual methods due to the lack of awareness or affordability of more efficient technology.

Our market analysis also reveals severe gaps, including a lack of reliable real-time inventory tracking, low data security, absence of analytics and prediction features in the existing applications.

3. PROPOSED SOLUTION

Acknowledging the existing shortcomings, we propose the development of an affordable, easy-to-use mobile app for effective stock management. The app should enable real-time access to inventory data, quick updating of stock levels, alerts for low-stock situations, and data analysis for predicting future stock needs.

This solution would reduce the operational cost and time of managing stocks, reduce errors associated with manual tracking, and provide strategic insight into inventory trends for effective decision-making.

4. FUNCTIONAL AND NON-FUNCTIONAL REQUIREMENTS

Functional Requirements:

- Easy Registration

- Intuitive User Interface

- Real-Time Stock Update

- Low Stock Alerts

- Data Analysis

- Data Backup and Recovery

Non-Functional Requirements:

- Upto Industry Security Standards

- Quick Load Times

- Cross-Platform Compatibility (iOS/Android)

- Scalability

5. TECHNOLOGY STACK

The proposed technology stack for our application would comprise:

- Back-End Development: Node.js, Express.js (Server Side)

- Front-End Development: React Native (to ensure cross-platform compatibility)

- DBMS: MongoDB

- Middleware: GraphQL (for handling data)

- Version Control: Git

- Hosting: AWS

6. APPLICATION OVERVIEW AND DESIGN CHOICES

The app would have a crisp, uncluttered user interface to ensure ease of use. Simple geometric patterns and contrasting colours would be used to distinguish different elements. The logo will incorporate the first letter 'S' from 'Stock' in a unique design symbolizing growth and management.

Interface includes Home, Inventory, Analysis, and Settings page. Home page provides a snapshot of overall stock. Inventory page allows reviewing and updating stock. Analysis page provides trends and projections. Settings page permits account and application settings management.

Security, especially relating to user data, would be a prime consideration. The app would provide in-built encryption for safer transactions. The application would be built with a long-term vision, therefore, an architectural pattern that allows easy scalability would be employed.

7. CONCLUSION

Considering the need for easy and efficient stock management, the proposed mobile app will revolutionize inventory management, particularly for small businesses. The budget of 2000 is viable considering the technology stack and using Agile Scrum will ensure efficient project management.

The expected deadline, February 31, 2025, is a generous timeline that allows for detailed research, careful design, comprehensive development, robust testing, and smooth deployment of the mobile app.

The mobile app development project has the potential to assist businesses in streamlining their inventory management, leading to increased efficiency, productivity and profitability.