Software Requirements Specification

for

ProfitCompare – Investment Comparison and Advisory App

Version 1.0 approved

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29-01-2025

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Revision History

Name	Date	Reason For Changes	Version

1. Introduction

1.1 Purpose

The purpose of ***ProfitCompare*** is to serve as a comprehensive digital financial advisor, empowering users to make well-informed investment decisions. By leveraging advanced analytical tools and real-time data, the app facilitates the comparison of various financial instruments such as stocks, bonds, mutual funds, fixed deposits (FDs), and exchange-traded funds (ETFs). The primary goal is to offer a personalized investment experience that caters to individual needs, risk appetites, and financial objectives. Additionally, ***ProfitCompare*** simplifies complex financial data into easily understandable insights using visual tools such as graphs, charts, and scenario simulations. This ensures that both novice and experienced investors can confidently navigate their investment journey and optimize their returns while managing risks effectively.

1.2 Intended Audience

- **Individual Investors**: Users who actively seek to maximize their investment returns while maintaining a balanced and diversified portfolio. These individuals may have varying degrees of financial knowledge and rely on ***ProfitCompare*** to provide actionable insights tailored to their unique financial goals. The app offers tools to compare investment options, analyze risk profiles, and monitor portfolio performance effectively.

- **Financial Advisors**: Professional financial advisors can leverage ***ProfitCompare*** to enhance the value they provide to their clients. The app acts as a supplementary tool, allowing advisors to demonstrate different investment scenarios and risk-reward analyses. It also helps advisors present data-driven strategies in client meetings, thereby strengthening their credibility and client relationships.

- **Beginner Investors**: Users who are new to investing and lack prior financial expertise. The app's intuitive design and simplified tools enable beginners to understand investment basics and make informed decisions. Features like scenario simulations and risk tolerance assessment ensure that novice investors gain confidence as they navigate the complexities of the financial world.

1.2 Scope

- **Investment Comparison:** Provide detailed comparisons of financial instruments based on user inputs like investment amount, risk tolerance, and investment horizon.
- **Return Calculations**: Compute potential returns using ROI, CAGR, and tax-adjusted projections to help users evaluate profitability.

- **Interactive Visualizations:** Present comparisons through graphs, charts, and performance analytics for better decision-making.
- **Scenario Simulation**: Model different market conditions to illustrate best-case, worst-case, and average investment outcomes.
- **User Authentication and Security**

1.3 Definitions, Acronyms, and Abbreviations

API	Application Programming Interface
ROI	Return on Investment
CAGR	Compound Annual Growth Rate
FD	Fixed Deposit
ETF	Exchange Traded Fund

1.4 References

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2. Overall Description

2.1 Product Perspective

ProfitCompare is a versatile and innovative financial advisory app designed to function as a reliable personal financial advisor for users across different expertise levels. The app leverages cutting-edge technology to deliver accurate and up-to-date insights. By integrating modular and scalable architecture, ***ProfitCompare*** ensures seamless updates and compatibility with future technologies. With a focus on simplifying investment decisions, the app combines intuitive user interfaces, advanced analytical tools, and personalized recommendations to empower users. ***ProfitCompare*** not only caters to individual and professional investors but also aims to democratize financial knowledge through interactive visualizations and educational resources. This holistic approach distinguishes it from conventional financial tools, ensuring that users of all backgrounds can confidently manage their investments and achieve their financial goals.ors.

2.2 Product Functions

- **Investment Comparison**: Compare various financial instruments such as stocks, bonds, mutual funds, and ETFs based on returns, risks, and liquidity.
- **Risk-Adjusted Return Calculations**: Analyze risk-reward ratios and provide diversification suggestions to optimize investment portfolios.
- **Interactive Visualizations:** Display investment insights through dynamic charts, graphs, and performance analytics.
- **Scenario Analysis:** Simulate different market conditions (bullish, bearish, neutral) to project potential investment outcomes.

2.3 User Classes and Characteristics

Novice Investors

Novice investors are individuals with little to no prior experience in the financial markets. They require a simple and intuitive platform to help them understand the basics of investing. ***ProfitCompare*** addresses their needs by providing step-by-step guidance, interactive tutorials, and pre-configured scenarios to illustrate various investment strategies. These users also benefit from educational resources and tools designed to build their confidence and financial literacy over time.

Experienced Investors

For experienced investors, the app offers a suite of advanced tools and analytics. These users demand sophisticated features, such as detailed comparison dashboards, risk-adjusted return analysis, and scenario simulations to explore potential outcomes. ***ProfitCompare*** empowers these users to optimize their portfolios, monitor market trends, and make data-driven investment decisions tailored to their financial goals and strategies.

Financial Advisors

Financial advisors represent another important user class. These professionals will use ***ProfitCompare*** as a supplementary tool to provide enhanced value to their clients. By leveraging the app's real-time data integration and interactive features, advisors can simulate investment scenarios, perform risk-reward analyses, and present comprehensive portfolio recommendations. The app strengthens their ability to demonstrate credible, data-backed strategies in client meetings.

Administrator

Responsible for managing and maintaining the app, ensuring smooth operation, data security, and user satisfaction. Track user activity and engagement metrics to identify trends, potential issues, or areas for improvement. Admins handle queries or grievances from users.

2.4 Operating Environment

Platforms: Android (8.0+)

Connectivity: Internet required for real-time data updates; core functionality works offline.

2.5 User Documentation

- **User Manual**: A step-by-step guide on app usage, available in-app and as a downloadable PDF.
- **FAQs**: Address common questions and troubleshooting tips.
- **Tutorials**: Interactive onboarding to familiarize users with app features.

2.6 Assumptions and Dependencies

- Users will have access to smartphones and basic internet connectivity.

3. Specific Requirements

3.1 External Interface Requirements

3.1.1 User Interfaces

1. **Home Screen**: The Home Screen serves as the gateway to the app, providing users with a snapshot of key investment recommendations and a summary of various financial categories, such as stocks, mutual funds, and fixed deposits. Designed for quick navigation, it allows users to access essential tools like scenario analysis and risk-reward comparisons with just a tap. The clean and intuitive layout ensures that users can easily identify actionable insights at a glance.
2. **Input Screen**: The Input Screen is where users personalize their investment experience by providing key parameters, such as investment amount, risk tolerance, and time horizon. With dropdown menus, sliders, and intuitive input fields, this interface is designed for simplicity and accuracy. The screen dynamically adjusts to user inputs, offering instant feedback and portfolio suggestions tailored to the entered preferences.
3. **Comparison Dashboard**: The Comparison Dashboard is a powerful visualization tool that enables users to compare various investment options side by side. Using graphs, charts, and tables, the dashboard highlights metrics like ROI, risk levels, and liquidity, making it easier for users to analyze and interpret the data. Interactive elements, such as toggles and filters, allow users to refine their comparisons based on specific criteria.

4. **Scenario Analysis Screen**: The Scenario Analysis Screen provides users with a comprehensive view of how their investments might perform under different market conditions. It features interactive graphs that display projections for best-case, worst-case, and average scenarios. Users can switch between scenarios with ease, gaining a deeper understanding of potential outcomes and making informed decisions based on these insights.

3.1.2 Hardware Interfaces

- Android smartphones running version 8.0 (Oreo) or above.
- **Minimum hardware requirements:** 2GB RAM and 100MB storage.

3.1.3 Software Interfaces

1. User Interface (UI)

Home Screen Interface:

- **Components**
  - A summary of key investment categories (e.g., Stocks, Mutual Funds, FDs) and their risk-reward profiles.
  - Quick access buttons for "Scenario Analysis" and "Risk-Reward Comparison."
- **Interactions**:
  - Tap on a category (e.g., Stocks) to view average returns, risks, and suggested portfolio weight.

Input Screen Interface:

- **Components**
  - Input fields for Investment amount, Time horizon (e.g., 1 year, 3 years), Risk tolerance (Low, Medium, High).
- **Interactions**:
  - Dropdown menus to select preferences (e.g., risk tolerance).
  - Based on inputs, display a suggested portfolio allocation.

Scenario Analysis Screen Interface:

- **Components**
  - Graphs showing performance projections under different scenarios:
    - Best-case (e.g., bull market).
    - Worst-case (e.g., bear market).
    - Average-case (historical returns).
- **Interactions**:
  - Toggle between scenarios to see their impact on overall returns.

2. **Application Programming Interface (API)**

Scenario Simulation API:

- **Functionality:** Generate simulated performance data for different market conditions.
- **Endpoints:** POST /simulateScenario (accepts risk profile and time horizon to generate scenarios).
- **Security:** Authenticated requests ensuring data privacy.

3.2 Functional Requirements

- Allow users to input investment parameters and generate comparisons.
- Provide real-time ROI and risk projections.
- Display historical trends of investment instruments.
- Save user preferences for future sessions.
- Provide interactive visualizations such as graphs, charts, and performance heatmaps.
- Support multi-asset portfolio analysis and diversification suggestions.
- Ensure seamless synchronization across multiple devices for a consistent user experience.

3.3 Performance Requirements

- The app should respond within 2 seconds for all user actions on average.
- Support concurrent usage by up to 10 active users without performance degradation.
- Maintain data synchronization latency below 3 seconds for local storage.

3.4 Logical Database Requirements

ProfitCompare will use an SQL-based database to store and manage essential data securely. The database will include:

- **User Information**: User ID, email, hashed password, and authentication details.
- **User Preferences**: Risk tolerance, preferred investment types, and saved settings.
- **Portfolio Data**: Current and past investments, asset allocations, and ROI calculations

3.5 Software System Attributes

3.5.1 Reliability

The system must achieve 99.9% uptime, ensuring minimal disruption to user experience. Local data storage will be used to ensure that core features are accessible even during connectivity issues, with synchronization occurring when online.

3.5.2 Availability

Essential features will be fully functional offline. The app should be capable of handling intermittent network connections without crashing or losing data.

3.5.3 Security

All data transmission will be secured using HTTPS, preventing unauthorized access during network communication. Multi-factor authentication (MFA) will be used to enhance security during the login process, reducing the risk of unauthorized account access.

3.5.4 Maintainability

The app will be developed with a modular, component-based architecture to make updates, bug fixes, and future feature additions easier to implement. Code will be regularly reviewed and tested to ensure high quality and to identify potential issues early in the development cycle. The app will support easy integration of future updates without disrupting current functionalities or user data.

3.5.5 Portability

All features will be tested for compatibility across a wide range of devices and screen sizes. The app should be able to adapt easily to future operating system updates and new device releases without requiring significant changes to the codebase.

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