# Functional Requirement Document

Project Title: Financial Data Chatbot (FDC)  
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## 1.0 Introduction

The Financial Data Chatbot (FDC) is a platform aimed at providing seamless access to financial data through a user-friendly chatbot interface, using technologies such as SQL, Python, and the Alpha Vantage API.

### 1.1 Purpose

To create an accessible and efficient means for users to query specific financial data and receive immediate, real-time results through an AI-powered chatbot.

### 1.2 Scope

The software aims to provide:  
- Real-time financial data queries using the Alpha Vantage API.  
- Immediate answers to common financial questions through an AI chatbot.  
- User-friendly interface for diverse audiences.

### 1.3 Team

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| --- | --- | --- |
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## 2. Functional Requirement

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| # | Functional Requirement | Category | Notes | Priority | Owner |
| 1 | User Interaction with Chatbot | Chatbot | 1.1 Users should be able to interact with the chatbot using natural language text input. 1.2 The chatbot should provide relevant answers and financial data based on user inquiries. 1.3 The chatbot interface should be intuitive and easily accessible from the main page. | HIGH | JOEL |
| 2 | AI Chatbot Conversations | Chatbot | 2.1 The chatbot should understand and respond accurately to user queries. 2.2 The chatbot should handle natural language inputs and maintain context in a conversation. | HIGH | JORGE |
| 3 | Security and Data Protection | Security | 3.1 Ensure that user data and queries are protected and encrypted. 3.2 Regularly audit and test for vulnerabilities in the application. | HIGH | MOULYA |
| 4 | Notification System | Alerts | 4.1 Inform users about the successful/failed data fetch operations. 4.2 Provide alerts for notable financial data changes if subscribed to. | MEDIUM | JOEL |
| 5 | User-Friendly Interface | UX/UI | 5.1 The interface should be intuitive and easy to navigate. 5.2 It should be responsive and accessible on various devices and screen sizes. | HIGH | JORGE |
| 6 | Data Visualization | Data | 6.1 Provide charts and graphs for visual representation of financial data. 6.2 The visualization will be a graph containing the prices of the stocks, showing the user whether it is high or low. | HIGH | JOEL |
| 7 | User Profile Management | User | 7.1 Allow users to create and manage profiles. 7.2 The user's profile and the data that has been provided will be stored in the database so we can retrieve information about the user whenever the user needs to access the information. | HIGH | MOULYA |
| 8 | Historical Data Access | Data | 8.1 Users should be able to retrieve and view historical financial data. | MEDIUM | JOEL |
| 9 | Feedback and Rating System | Feedback | 9.1 Enable users to provide feedback on data accuracy and user experience. 9.2 Allow users to rate the chatbot’s responses. 9.3 It also will allow the user some feedback on any improvements needed. | MEDIUM | JORGE |
| 10 | FAQs and Help Center | Help | 10.1 Include a section for frequently asked questions. 10.2 Implement a help center for user assistance. | MEDIUM | MOULYA |
| 11 | Custom Alerts | Alerts | 11.1 Allow users to set up custom alerts for specific financial data changes. 11.2 Ensure alerts are sent in real-time. | HIGH | JOEL |
| 12 | API Integration | API | 12.1 Ensure smooth integration with the Alpha Vantage API. 12.2 Handle API issues and failures gracefully. 12.3 Will let the user know if the real time data fetched cannot be found. | HIGH | JORGE |
| 13 | Multi-Language Support | Language | 13.1 The chatbot should support multiple languages. 13.2 Users should be able to easily switch between languages. 13.3 There is a limited range of languages, so the user will have limited access to only a few selective languages. | LOW | MOULYA |
| 14 | Reporting and Analytics | Reports | 14.1 The system should generate reports on user activity and data queries. 14.2 Admin should be able to access and analyze reports for decision-making. 14.3 These reports can help the admin understand whether it performed well or whether there were any issues with the output and performance. | HIGH | JOEL |
| 15 | Accessibility | UX/UI | 15.1 Ensure the application is accessible to users with disabilities (e.g., screen readers, keyboard navigation). | HIGH | JORGE |
| 16 | User Authentication and Authorization | Security | 16.1 Users must be authenticated before accessing personalized financial data. 16.2 Different levels of authorization should be implemented to restrict access to various parts of the application. | HIGH | MOULYA |
| 17 | Real-Time Data Updates | Data | 17.1 The chatbot should provide real-time updates of financial data without requiring a page reload. 17.2 Users should be notified of significant real-time changes in the data they are viewing. | HIGH | JOEL |
| 18 | Data Exporting | Data | 18.1 Users should be able to export financial data (e.g., historical data, charts) in various formats (e.g., CSV, PDF). | MEDIUM | JORGE |
| 19 | Search Functionality | UX/UI | 19.1 Users should be able to search for specific financial data using a search bar. 19.2 Search results should be accurate and relevant. | HIGH | MOULYA |
| 20 | Error Handling and Help | Help | 20.1 Provide clear error messages and guide users toward solutions. 20.2 If the chatbot cannot answer a user’s question, it should guide them to the help center or FAQ. | HIGH | JOEL |
| 21 | User Tutorial | UX/UI | 21.1 Implement a user tutorial or walkthrough for first-time users to understand how to interact with the chatbot and use the platform. | MEDIUM | JORGE |
| 22 | User Activity Log | User | 22.1 The system should keep a log of user activities for auditing purposes. 22.2 Users should be able to review their activity log. | MEDIUM | MOULYA |
| 23 | Social Sharing | Social | 23.1 Allow users to share interesting financial data or news directly from the platform to social media. | LOW | JOEL |
| 24 | Customer Support | Support | 24.1 Implement a customer support chat or contact form for users to ask questions or report issues. | MEDIUM | JORGE |
| 25 | Content Customization | User | 25.1 Users should be able to customize the type of financial data and news they see on their homepage/dashboard. 25.2 The system should learn from user interactions and suggest relevant data. | HIGH | MOULYA |
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