

# Software Requirements Specification

## For

### Entrepreneur Growth Guide

Version 1.0

Prepared by project # 19

Sir Syed University of Engineering & Technology

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## Team

Member Name	Primary Responsibility
Abdullah Ansari (2021F-SE-073)	Design the UI/UX in Flutter (mobile app), Implement user interface screens (Login, Home, Chat, etc.), Integrate AI recommendation system
Syed Husain Ahmed (2021F-SE-381)	Implement authentication and user management, Handle integration with Tencent RTC & chatbot services and Ensure backend security and performance
Syed Akber Hassan (2021F-SE-079)	Contribute to UI/UX and backend reviews , Set up database and server-side logic, Handle communication with supervisor/mentor, Assist with testing UI features and fixes
Muneeb Ur Rehman (2021F-SE-052)	Create and execute test plans (unit, integration, UAT), Maintain version control and backup, Oversee documentation (SRS, use cases, reports)

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# **1. Introduction:**

## **1.1 Purpose**

The Entrepreneur Growth Guide is a Flutter-based mobile application designed to provide mentorship and business solutions for entrepreneurs in Karachi. The app connects business owners and mentors with small business or startup founders, offers AI-driven recommendations, and integrates real-time communication via Tencent RTC and chatbots for business guidance.

## **1.2 Scope**

This project aims to:

- Develop a user-friendly and secure mentorship platform.
- Enable real-time communication between mentors and mentees.
- Provide AI-driven recommendations via chatbots.
- Support multi-platform access (Android & iOS) using Flutter.
- Ensure secure authentication with Firebase.

## **1.3 Definitions, Acronyms, and Abbreviations**

- RTC – Real-Time Communication
- AI – Artificial Intelligence
- Flutter – A UI toolkit for cross-platform application development
- Firebase – A backend-as-a-service for authentication and database management
- Tencent RTC – A real-time communication framework

## **1.4 Acronyms and Abbreviations**

**EGG** Entrepreneur Growth Guide

**SDG** Sustainable Development Goals

**OTP** One-Time Password

**SMEs** Small and Medium Enterprises

## 2. Project Planning and Management:

### 2.1 SWOT Analysis

#### Strengths:

- AI-driven chatbot enhances automation
- Real-time mentor-mentee interaction
- Secure authentication with Firebase

#### Weaknesses:

- Data dependency for accurate predictions
- Initial user acquisition may be slow
- Data privacy concerns with real-time communication

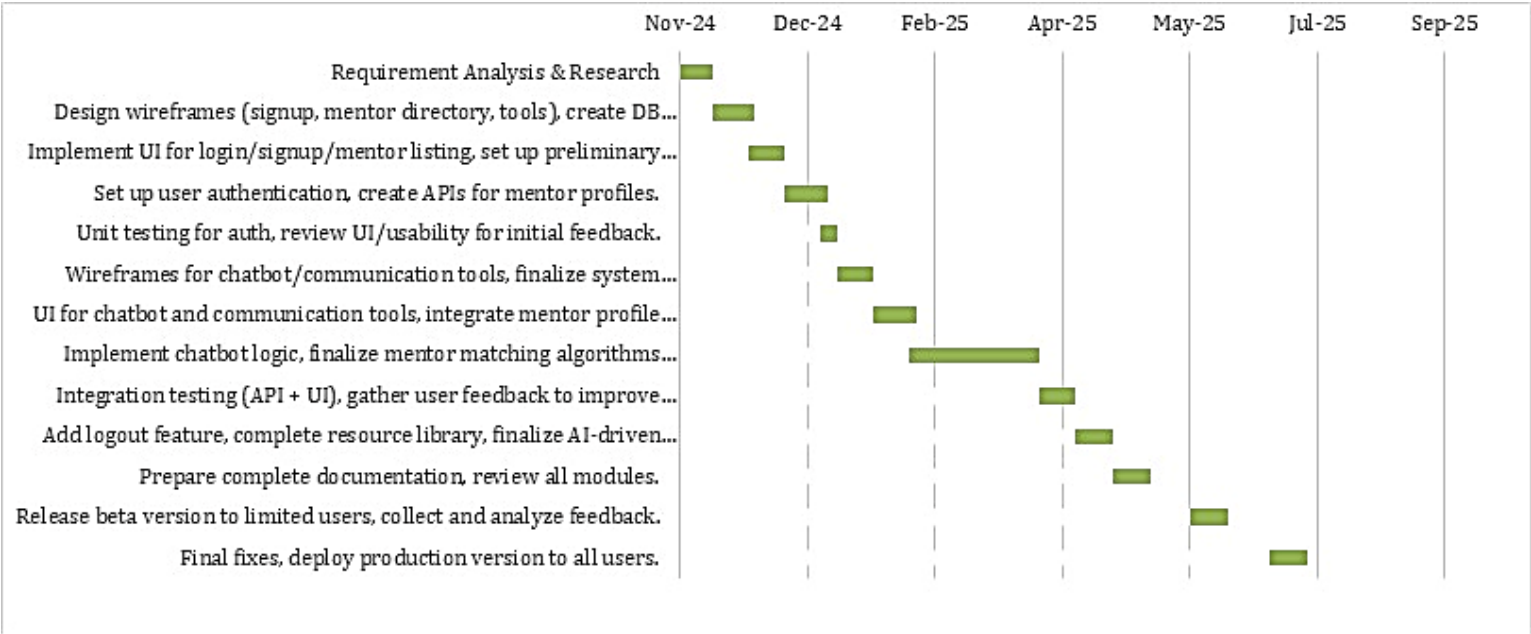
#### Opportunities:

- Expansion to other cities in Pakistan
- Integration of premium mentorship services

#### Threats:

- Competition from other business mentorship platforms
- Potential security vulnerabilities

### 2.2 Gantt Chart



## **2.3 Work Breakdown Structure (WBS)**

### **1. Research & Planning**

- Define project scope and objectives.
- Conduct market research on Mentors, Business opportunities etc.
- Identify system requirements and dataset sources.

### **2. UI/UX Design & Development (Flutter-based App)**

- implement basic UI for Login ,signup, and mentor listing pages Design wireframes and user interface.
- Develop front-end components using Flutter
- Create navigation and user interaction flows

### **3. Core Feature Development**

- Complete wireframes for additional feature (chatbot recommendations )
- communication tools
- conduct unit testing

### **4. Backend & API Development**

- Develop API endpoints for fetching mentor profiles
- Connect backend and implement chatbot recommendation logic
- Ensure data security and user authentication

### **5. Testing, Deployment & Finalization**

- Conduct functional and performance testing
- Conduct UAT and address bugs and usability issues
- Gather user feedback and make improvements

### **3. Overall Description:**

#### **3.1 Product Perspective**

The Entrepreneur Growth Guide is an AI-powered mentorship platform that enables startups and SMEs to connect with experienced mentors.

#### **3.2 Product Function**

- User authentication via Firebase.
- Mentor search & filtering.
- AI-based chatbot for recommendations.
- Tencent RTC for video & audio calls.
- Interactive dashboards for progress tracking.

#### **3.3 Operating Environment**

- Platforms: Android,
- Development: Flutter, Firebase, Tencent RTC

#### **3.4 Design and Implementation Constraints**

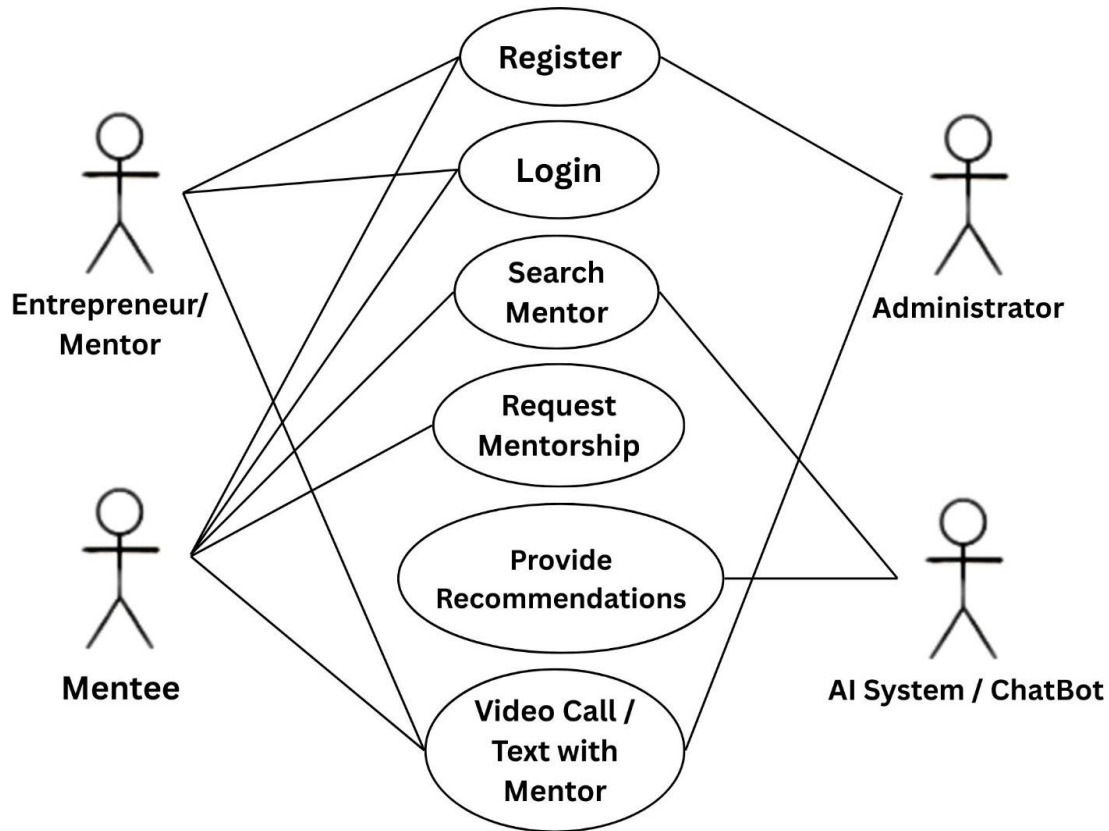
- Real-time video/audio requires stable internet.
- Secure authentication and data protection must be maintained

#### **3.5 Assumptions and Dependencies**

- Mentors must actively participate in guiding entrepreneurs.
- Users must have stable internet access for real-time communication.

## 4. Requirement Identifying Technique:

### 4.1 Use Case Diagram:



### 4.2 Use Case Description:

#### Introduction

The **Entrepreneur Growth Guide** is a mobile application designed to connect entrepreneurs with experienced mentors, providing real-time business solutions and AI-driven recommendations to help businesses thrive. The app targets entrepreneurs in Karachi, offering them mentorship in areas such as business strategy, marketing, finance, and overall business development. By leveraging modern technologies like **AI**, **real-time communication (Tencent RTC)**, and **chatbots**, the app creates an ecosystem that allows entrepreneurs to receive personalized advice and support tailored to their business needs.

#### Actors in the Use Case Diagram

##### Entrepreneur

- **Description:** A user who wants to own a business and wants guidance, mentorship, and solutions to help grow their business. They can register, view available mentors,

communicate with mentors, receive AI recommendations, and get real-time business advice.

- **Responsibilities:**
  - Register/Login into the app
  - Search for mentors or business solutions
  - Communicate with mentors (via chat, RTC)
  - Receive AI-driven recommendations
  - Access business resources and guides

### **Mentor (Business Expert)**

- **Description:** Experienced individuals who provide mentorship and business guidance to entrepreneurs. Mentors can be experts in different fields like finance, marketing, or business strategy.
- **Responsibilities:**
  - Register/Login as a mentor
  - Create and manage their mentor profile
  - Accept or decline mentor requests from entrepreneurs
  - Provide real-time advice and recommendations
  - Communicate with entrepreneurs via chat and video

### **Administrator**

- **Description:** A system user responsible for managing the platform, ensuring the proper functioning of the app, and overseeing content moderation and management.
- **Responsibilities:**
  - Manage user registrations (entrepreneurs and mentors)
  - Approve or reject mentor profiles
  - Oversee the functioning of AI recommendations
  - Monitor app performance and analytics
  - Provide troubleshooting and support to use

## **Use Case and description**

### **1. Register**

- **Description:** Allows both **entrepreneurs** and **mentors** to create an account on the app by providing necessary details such as name, email, password, etc.

### **2. Login**

- **Description:** Enables **entrepreneurs** and **mentors** to access their accounts by logging in using their registered credentials.



### 3. Search Mentors

- **Description:** **Entrepreneurs** can search for mentors based on their expertise, location, and business needs.

### 4. Request Mentorship

- **Description:** **Entrepreneurs** can send mentorship requests to the mentors they want to connect with for guidance.

### 5. Accept/Reject Mentorship Request

- **Description:** **Mentors** can review and decide whether to accept or reject mentorship requests from entrepreneurs.

### 6. Provide Recommendations

- **Description:** The **AI system** generates personalized business recommendations for **entrepreneurs**, based on their industry and needs.

### 7. Chat with Mentor

- **Description:** **Entrepreneurs** and **mentors** can communicate through real-time chat for business advice and guidance.

### 8. Video Call with Mentor

- **Description:** **Entrepreneurs** and **mentors** can engage in video calls for more personalized, real-time interactions and mentorship sessions via Tencent RTC.

### 9. Admin Control

- **Description:** The **Administrator** manages user accounts, monitors platform activities, approves/rejects mentor profiles, and ensures the app functions smoothly.

### 10. View Mentor Profile

- **Description:** **Entrepreneurs** can view detailed profiles of **mentors**, including their qualifications, expertise, and experience to decide on a mentor.

## **Conclusion**

The **Use Case Diagram** for the **Entrepreneur Growth Guide** application outlines the core interactions between the system and its users, highlighting key functionalities such as mentorship requests, real-time communication, AI-driven recommendations, and user management. By defining clear use cases, the diagram illustrates how **entrepreneurs, mentors, and administrators** interact with the platform to achieve the app's primary goal - empowering entrepreneurs with the mentorship, guidance, and resources needed for business growth. This structured approach ensures a seamless user experience and efficient functionality for all stakeholders involved.

## **5. Non-Functional Requirements:**

### **5.1 Performance Requirements**

- App response time < 3 seconds
- Real-time chat and calls with minimal latency

### **5.2 Safety Requirements**

- Data encryption to prevent breaches

### **5.3 Security Requirements**

- Firebase authentication for user verification.
- End-to-end encryption for real-time communication.

### **5.4 Software Quality Attributes**

- Usability: Intuitive UI/UX
- Scalability: Supports future enhancements

### **5.5 Business Rules**

- Mentors must complete verification before onboarding.
- Users must accept privacy policies before using the app.

### **5.6 Interoperability**

Solar Sage should be compatible with platforms (Android).

### **5.7 Extensibility**

- Future integration with payment gateways for premium services.

### **5.8 Maintainability**

Codebase follows Flutter best practices for easy updates.

### **5.9 Portability**

The application should be deployable across different mobile devices.

### **5.10 Reusability**

- Core mentor-matching algorithm can be repurposed for other domains.

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