



## Lab1

### Chapter 1: Software Business Requirements

#### SmartMeet

Project 3 :

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Haden Hassan Alshaar	445013952	<a href="mailto:s445013952@uqu.edu.sa">s445013952@uqu.edu.sa</a>
Basmah Mohammed Elsayed	445013838	<a href="mailto:s445013838@uqu.edu.sa">s445013838@uqu.edu.sa</a>
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Meeting time:

Name of group Members	Data and time
Haden Hassan Alshaar Basmah Mohammed Elsayed Joud saeed Alzahrani Retaj Hussain Alhazmi AlJood Yasir Alsaleh	Friday 4:46 pm ,11/4/2025 At google meets

Tasks:

Haden - Business Purpose and Business Requirements.

Basmah - Interview.

Joud Alzahrani - Stakeholder Requirements.

AlJood Alsaleh - Software Type.

Retaj - Idea and editing.



# Chapter 1: Software Business Requirements

SmartMeet

## 1. Business Purpose:

An app that records meetings, highlights the important points automatically, and gives suggestions to improve future meeting management.

### 1.1. Business Requirements:

- Record the meeting.
- Highlight the important points.
- Identify the problems mentioned in the meeting.
- Suggest solutions for the problems.
- Suggest improvements for meeting management.
- Provide a meeting summary.
- Save Meeting ID for Future Access.
- Delete Meeting.

## 2. Stakeholder Requirements

### Key Stakeholders:

Role	Responsibility
<b>Users</b>	- Use the app regularly. - Provide feedback and suggestions. - Report any issues.
<b>Developers</b>	- Build and maintain the app. - Improve voice analysis accuracy. - Fix technical problems.
<b>Technical team</b>	- Fix technical problems.
<b>Investors</b>	- Provide necessary funding.

## 3. Software Type

- AI-powered Meeting Assistant Application. e.g. **Otter.ai** (real-time transcription and summary generation software).
- Database Management System (**DBMS**).
- User Authentication & Authorization software. e.g. **Firebase Authentication** by Google (simple authentication system for mobile and web apps).



#### 4. Interview

1- Do you usually attend regular meetings as part of your work or study?

Yes / No

2- How do you currently keep track of meeting points?

Manually / Using notes app / Don't keep track

3- Would you use an app that records and summarizes meetings for you?

Yes / No / Maybe

4- Which feature is most important to you in a meeting app?

Recording voice / Highlighting key points / Saving summaries /Sharing with team

#### Prof. Mohammed Elsayed

- 1- Yes
- 2- Using notes app
- 3- Yes
- 4- Saving summaries

#### Eng. Abdelrahman Mohammed

- 1- Yes
- 2- Manually
- 3- Maybe
- 4- Saving summaries

#### Prof. Muhammed Alkhattabi

- 1- Yes
- 2- Using notes app
- 3- Yes
- 4- Recording voice

#### Teacher Fahad Alhazmi

- 1- Yes
- 2- Manually
- 3- Yes
- 4- Highlighting key points



## Lab2

### Chapter 2: software requirements

#### SmartMeet

Project ID : 3

Name	ID	EMAIL
Haden Hassan Alshaar	445013952	<a href="mailto:s445013952@uqu.edu.sa">s445013952@uqu.edu.sa</a>
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Meeting time:

Name of group Members	Data and time
Haden Hassan Alshaar Basmah Mohammed Elsayed Joud saeed Alzahrani Retaj Hussain Alhazmi AlJood Yasir Alsaleh	Friday 18:47 pm ,18/4/2025 At WhatsApp group

Tasks:

Retaj - FR-001, FR-002, FR-009, FR-010, and system requirements (Hardware Interface).

Haden - FR-003, FR-004, and system requirements (User Interface).

AlJood - FR-005, FR-006, and system requirements (Communication Interface).

Joud - Non-Functional Requirements (NFR).

Basmah - FR-007, FR-008, and system requirements (Software Interface).



## 1. Functional Requirements:

### 1.1. FR-001: User Registration

- **Function:** The system shall be able to allow new users (students, staff, etc.) to create an account.
- **Actors:** New user
- **Inputs:** Name, email, phone, password, optional student ID
- **Process:**
  - User fills out a registration form
  - System validates the data (e.g., checks if email is already used)
  - Account is created and stored in the database
- **Outputs:** Confirmation message or email, new user profile
- **Purpose:** Ensures only registered users access.

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### 1.2. FR-002: User Login

- **Function:** The system shall Authenticate users to access their accounts.
- **Actors:** Registered users
- **Inputs:** Email/username and password
- **Process:**
  - User submits login credentials
  - System compares credentials with the database
  - Grants or denies access
- **Outputs:** Dashboard access or error message
- **Purpose:** Only authenticated users can access.



### 1.3.FR-003: Record the meeting

- **Function:** the system shall record audio or video of the meeting.
  - **Actors:** user ( meeting organizer or participant).
  - **Inputs:** Start recording , Microphone, camera, meeting ID.
  - **Process:** User taps Start Recording, store data in format.
  - **Outputs:** saved audio/ video file of the meeting.
  - **Purpose:** ensure that the entire meeting can be reviewed later.
- 

### 1.4.FR-004: Highlight the important points

- **Function:** he system shall highlight important points discussed during the meeting.
- **Actors:** AI.
- **Inputs:** Text from the meeting , list of keywords.
- **Process:** Use NLP to find key ideas, mark them, and store them with time information.
- **Outputs:** A list of important points with time stamps, shown in summary or exported file.
- **Purpose:** Help users quickly see the most useful or important parts of the meeting.



### 1.5. FR-005: Problem Identification

- **Function:** The system shall identify the problems discussed in the meeting.
  - **Actors:** AI meeting assistant.
  - **Inputs:** Meeting ID.
  - **Process:**
    - User submits meeting ID.
    - System searches for specified meeting.
    - System lists problems discussed in the specified meeting.
  - **Outputs:** List of problems discussed in meeting.
  - **Purpose:** Helps users by providing a summary of the problems discussed in the meeting.
- 

### 1.6. FR-006: Solution Suggestion

- **Function:** The system shall provide solutions for the problems discussed in the meeting.
- **Actors:** AI meeting assistant.
- **Inputs:** Meeting ID.
- **Process:**
  - User submits meeting ID.
  - System searches for specified meeting.
  - System lists possible solutions for the problems discussed in the specified meeting.
- **Outputs:** List of possible solutions for problems discussed in the specified meeting.
- **Purpose:** Helps users by suggesting solutions for the discussed problems.



### 1.7.FR-007: Meeting Improvement Suggestions

- **Function:** The system shall provide AI-powered recommendations to enhance meeting efficiency.
  - **Actors:** AI meeting assistant.
  - **Inputs:** Past meeting recordings ,Transcripts and key points ,Participant feedback.
  - **Outputs:** Customized report with improvement suggestions (e.g., "Reduce meeting time by 15%") , Automated tips (e.g., "Assign a timekeeper for next meeting") , Editable meeting templates.
  - **Purpose:** Optimize meeting productivity and time management.
- 

### 1.8.FR-008: Provide a Meeting Summary

- **Function:** The system shall automatically generate a concise summary of the meeting highlights.
- **Actors:** AI meeting assistant.
- **Inputs:** Full meeting recording, Transcript text, Identified key points (from AI analysis), Meeting ID.
- **Outputs:**
  - Structured summary document containing:
    - \* **Meeting title/date/participants.**
    - \* **Key discussion points.**
    - \* **Decisions made.**
    - \* **Action items (task + owner + deadline).**
    - \* **Important data/statistics.**
  - **Option to export as PDF/text/email**
- **Purpose:** Save participants' time by providing immediate, organized meeting documentation.



### 1.9. FR-009: Save Meeting ID for Future Access

- **Function:** The system shall allow users to save the meeting ID to easily revisit past meetings.
  - **Actors:** Registered User.
  - **Inputs:** Meeting ID.
  - **Process:**
    - User selects a meeting to save.
    - System links the meeting ID to the user's profile.
    - System stores the mapping in the database for future retrieval.
  - **Outputs:** Confirmation message and a list of saved meetings accessible under user's profile.
  - **Purpose:** Enables users to quickly access past meetings.
- 

### 1.10. FR-010: Delete Meeting

- **Function:** The system shall allow users to permanently delete a selected meeting.
- **Actors:** Registered User.
- **Inputs:** Meeting ID.
- **Process:**
  - User selects a meeting and confirms deletion.
  - System verifies the user's authorization.
  - System deletes all associated data (audio/video, transcript, summary) from the database.
- **Outputs:** Deletion confirmation message.
- **Purpose:** Ensures users can manage their data and maintain privacy or storage space.



## 2. Non-Functional Requirements (NFR):

### 1. Performance

- The app must process meeting recordings and generate automatic summaries within 2 minutes after the meeting ends.
- Key points and suggestions must appear to the user in less than 5 seconds when requested.

### 2. Accuracy

- The app must identify main discussion points with at least 90% accuracy compared to human evaluation.

### 3. Security & Privacy

- All stored recordings and files must be encrypted.
- Original recordings must not be kept after summary generation unless the user explicitly agrees.
- The app must support permanent data deletion when requested by the user.

### 4. Usability

- The app must be available in both Arabic and English languages.



### 3. System Requirements

#### 1. User Interface

A web-based user interface that helps users record meetings, see important points, check suggested solutions, and view meeting summaries.

The interface will include:

- A recording panel with live transcription during the meeting.
- A section that shows important points with timestamps.
- A summary page with decisions, problems, and AI-suggested improvements.
- User settings for language, keyword preferences, and notifications.

The design will be simple, easy to use, and work well on both computers and mobile phones.

#### 2. Software Interface

- Database: Used to store recordings, summaries, and key points in an organized and secure way.
- Authentication API : Provides a secure login system for users using email and password, ensuring the protection of their data.

#### 3. Hardware Interface

Devices (phones, tablets, or laptops), Server Infrastructure (e.g., AWS, Firebase), and Internet Connectivity.

#### 4. Communication

HTTPS, SMTP for email.

#### Task:

Apply what we have covered above in your project



## Lab 3&4

### Chapter 4: Modeling

#### SmartMeet

Project 3 :

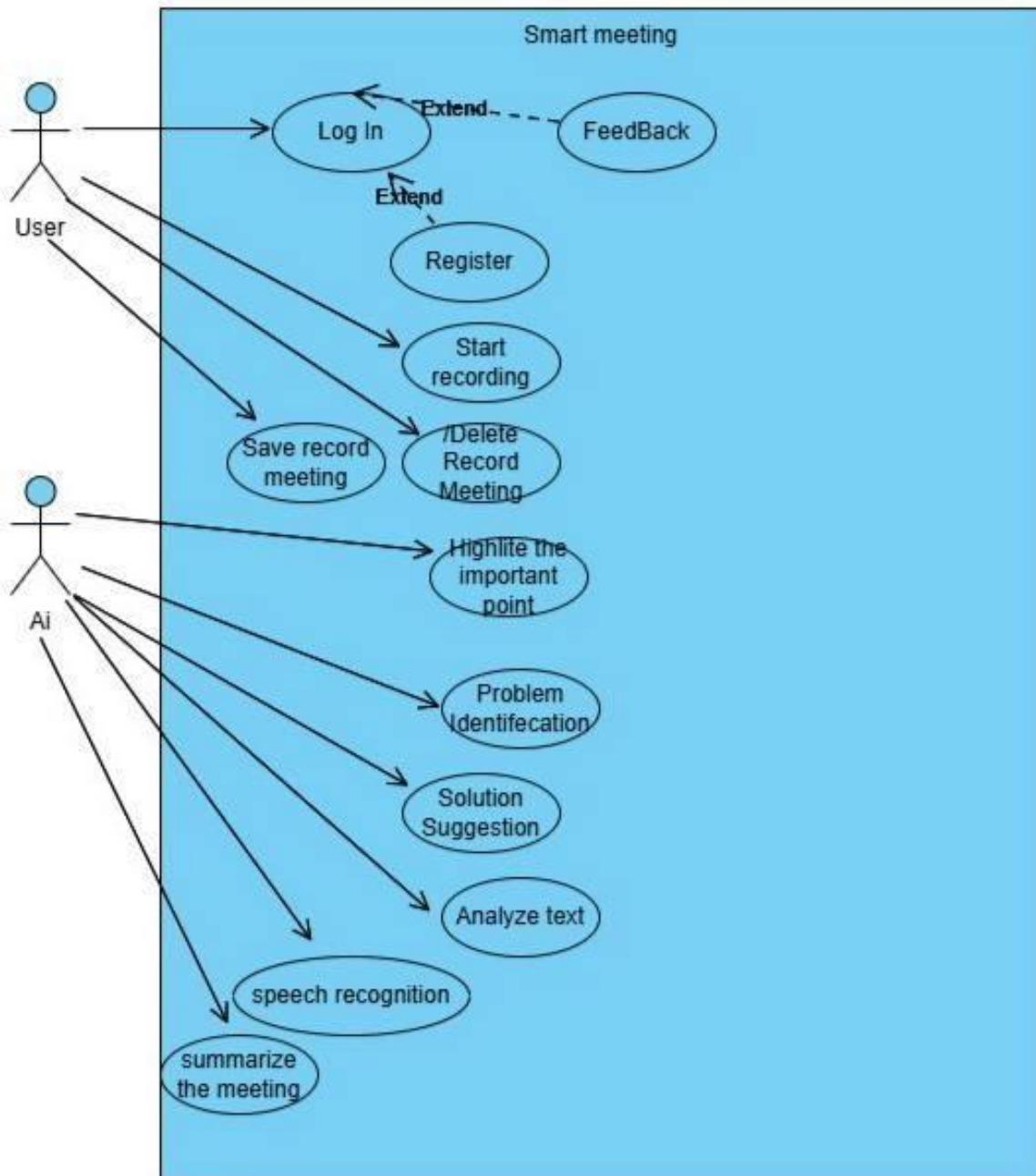
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Meeting time:

Name of group Members	Data and time
Haden Hassan Alshaar Basmah Mohammed Elsayed Joud saeed Alzahrani Retaj Hussain Alhazmi AlJood Yasir Alsaleh	Sunday 4:00 pm  ,4/5/2025  At google meets



## Use case diagrams





## Context diagram





## Lab 5

### Chapter 5: Software Architectural Diagrams

#### SmartMeet

Project 3 :

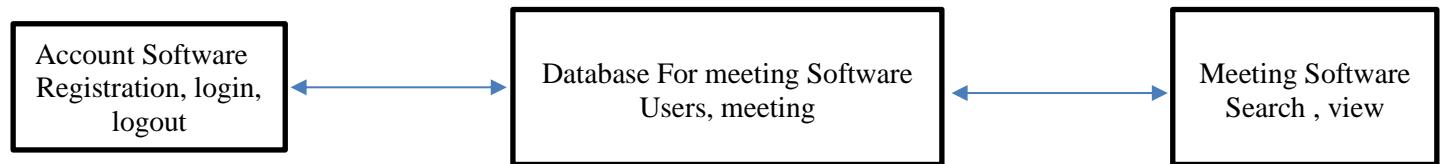
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Meeting time:

Name of group Members	Data and time
Haden Hassan Alshaar Basmah Mohammed Elsayed Joud saeed Alzahrani Retaj Hussain Alhazmi AlJood Yasir Alsaleh	Thursday 12:30 pm ,15/5/2025 At class



## Software Architectural Diagram



## Pipe and Filter Architecture

Highlighting important Point

