



Lab1

Chapter 1: Software Business Requirements

SmartMeet

Project 3 :

Name	ID	EMAIL
Haden Hassan Alshaar	445013952	s445013952@uqu.edu.sa
Basmah Mohammed Elsayed	445013838	s445013838@uqu.edu.sa
Joud saeed Alzahrani	445004132	s445004132@uqu.edu.sa
Retaj Hussain Alhazmi	445006594	s445006594@uqu.edu.sa
AlJood Yasir Alsaleh	445006878	s445006878@uqu.edu.sa

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
Users	<ul style="list-style-type: none">- Use the app regularly.- Provide feedback and suggestions.- Report any issues.
Developers	<ul style="list-style-type: none">- Build and maintain the app.- Improve voice analysis accuracy.- Fix technical problems.
Technical team	<ul style="list-style-type: none">- Fix technical problems.
Investors	<ul style="list-style-type: none">- 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. Muhannad Alkhatabi

- 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

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AlJood Yasir Alsaleh	445006878	s445006878@uqu.edu.sa

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 allows 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.
-

1.2.FR-002: User Login

- **Function:** The system shall Authenticates 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.
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1.8. FR-008: Provide a Meeting Summary

- **Function:** he 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 :

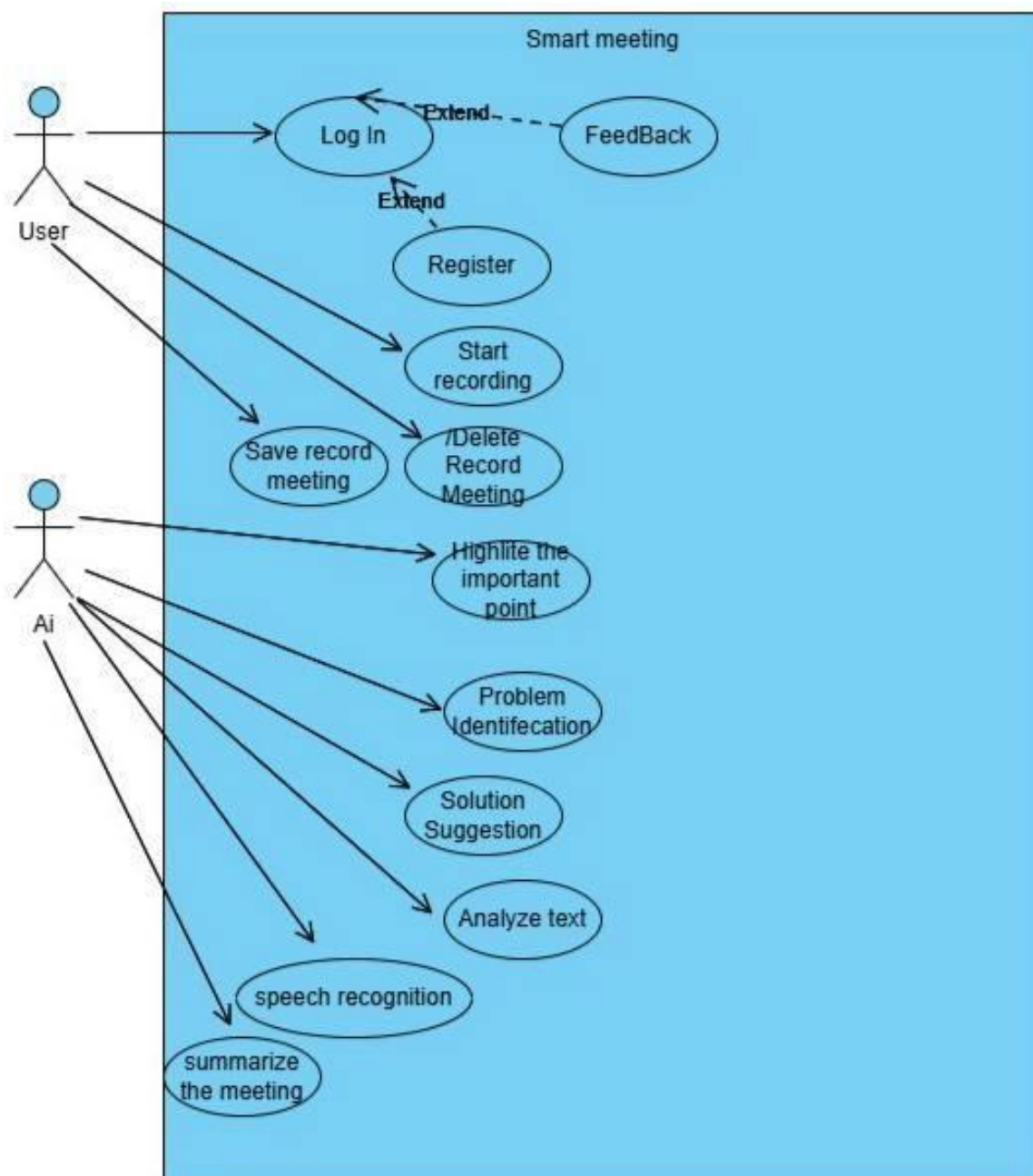
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Meeting time:

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 :

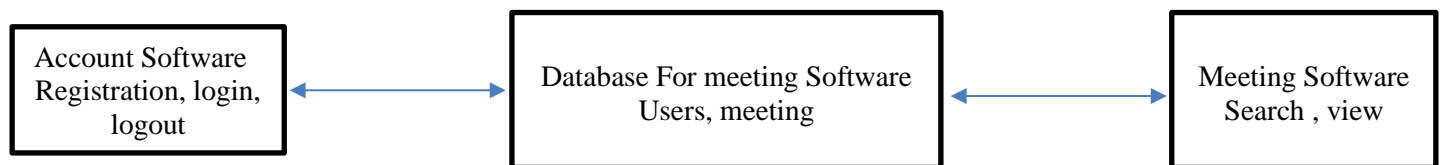
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Meeting time:

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

