

Ingeniería de software 2

Workshop No. 1 - Requirements, User stories, and User Story Mapping



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Requirements Documentation

Functional requirements

Accounts

- Sign up: The system must allow new users to sign in using an email and a password.
- Login: The system must allow users to log in using an email/username and password.
- Recover account: The system must allow users to recover their password via e-mail.
- Profile settings: The user can change the account details of their account such as profile picture and name.

Meetings management

- New meeting: The user (now logged) can create an instant meeting, where the user can manage meeting' settings like allow users, remove users and so on.
- Join an existing meeting: The user can join a meeting via link. Once the meeting has been created and started.
- Schedule Meeting: The user can create a later date meeting.

Videoconference

- Real time Transmission: The system allows users to transmit video and audio at real time for every participant in the meeting.
- User's participation: Each user can deactivate or activate either their camera or microphone.
- Screen Sharing: The allowed users can share either all their screen they chose or just a window/app.
- Mosaic mode: The system has the capability to show multiple participants in a meeting.

Meeting's owner powers

- The meeting's owner can silence any participant.
- The meeting's owner can remove any participant.
- The meeting's owner can pin any participant.
- The owner can select which participant can share the screen.

Communication

- In-meeting chat: The system must include a real-time text chat feature within the meeting room, allowing participants to send and receive messages during the session.

Notifications

- Meeting creation notification: The system displays a confirmation message when a meeting is successfully created.
- Join/Leave notification: The system displays visual notifications when a participant joins or leaves the meeting.

Non-functional requirements

Performance

- The system must support at least 10 concurrent participants per meeting.
- Latency for audio/video transmission must be below 300 ms under normal network conditions.
- Meeting creation and joining should take less than 10 seconds on average.
- The system should handle simultaneous screen shares with minimal frame drops.

Availability & Reliability

- Automatic reconnection mechanisms must exist for brief network interruptions.
- Scheduled meetings should trigger even if the host disconnects and reconnects later.

Security

- All communication (audio, video, chat) must use end-to-end encryption.
- Passwords must be hashed and salted before storage.
- Sessions must expire after a period of inactivity.
- Only authorized users should access private meetings (via meeting passwords).
- Email verification must be implemented for account protection.
- The system must comply with relevant data privacy regulations.

Usability

- The user interface must be intuitive, requiring no more than a few clicks to start or join a meeting.
- All core features should be available on desktop and mobile devices, both via the web.
- Users must receive clear feedback for every action (e.g., joining, muting, sharing).

Scalability

- The database must be optimized to handle growth in users, messages, and meeting records efficiently.

Maintainability

- The platform should support continuous integration and deployment (CI/CD) to ease maintenance and updates.
- Documentation (technical and user-facing) must be kept up to date for each major release.

Portability

- The application must run on modern browsers (Chrome, Firefox, Edge, Safari).

Data Management

- The system must prevent data duplication and ensure referential integrity across tables/collections.
- Access to stored data must be restricted based on user roles and permissions.

Localization

- The system should support at least English, at launch.
- Date/time formats must adjust automatically to the user's locale.

User Stories

- **Roles:** User, Host, Administrator.

<i>Title: User Registration</i>
User Story #1 As a new user, I want to sign up using my email and password, So that I can create an account and access the platform.

Acceptance criteria:

Given I am on the sign-up page,

When I enter a valid email and password and click “Sign Up”,

Then the system must create my account and redirect me to the dashboard.

Title: Registration Feedback

User Story #2

As a user,

I want to receive a confirmation or error message when signing up,

So that I can know if my registration succeeded or failed.

Acceptance criteria:

Given I have submitted the sign-up form,

When the form validation or server response occurs,

Then I should see a message indicating success or explaining any error (e.g., “Email already in use”).

Title: User Login

User Story #3

As a registered user,

I want to log in with my email and password,

So that I can access my account and meetings.

Acceptance criteria:

Given I am on the login page,

When I enter valid credentials and click “Login”,

Then the system should authenticate me and redirect me to my dashboard.

Title: Log Out

User Story #4

As a user,

I want to log out of my session,

So that I can end my access securely on this device.

Acceptance criteria:

Given I am logged in,

When I click “Log Out”,

Then the system should end my session and redirect me to the login page.

Title: Password Recovery

User Story #5

As a user,

I want to recover my password through my registered email,

So that I can regain access if I forget my credentials.

Acceptance criteria:

Given I am on the “Forgot Password” page,

When I enter my email and submit the form,

Then the system should send me a recovery link or instructions to reset my password.

Title: Profile Customization

User Story #6

As a user,

I want to update my profile picture and display name,

So that I can be easily recognized by other participants.

Acceptance criteria:

Given I am in my profile settings page,

When I upload a new picture or edit my display name,

Then the changes should be saved and immediately visible across the platform.

Title: Create Instant Meeting

User Story #7

As a logged-in user,

I want to create an instant meeting,

So that I can start a video call immediately.

Acceptance criteria:

Given I am on my dashboard,

When I click “Start Meeting”,

Then the system should generate a unique meeting room and redirect me to it.

Title: Share Meeting Link

User Story #8

As a host,

I want to get the meeting link and ID,

So that I can share it with other participants.

Acceptance criteria:

Given I have created a meeting,

When the meeting room loads,

Then I should see a copyable link and meeting ID displayed on the screen.

Title: Join via link

User Story #9

As a participant,

I want to join a meeting using its link,

So that I can access the call quickly without scheduling.

Acceptance criteria:

Given I have a valid meeting link,

When I click it,

Then the system must open the meeting room or the waiting room if admission is required.

Title: Schedule Future Meeting

User Story #10

As a user,

I want to schedule a meeting for a specific date and time,

So that I can plan events in advance.

Acceptance criteria:

Given I am on the scheduling page,

When I choose a date, time, and participants,

Then the system should save the meeting and send invitations.

Title: Add to Calendar

User Story #11

As a user,

I want to add scheduled meetings to my personal calendar,

So that I can receive reminders and stay organized.

Acceptance criteria:

Given a meeting has been scheduled,

When I click “Add to Calendar”,

Then the system must export or synchronize the event with Google/Outlook calendar.

Title: View Participants List

User Story #12

As a host,

I want to see a complete list of participants,

So that I can manage permissions and attendance easily.

Acceptance criteria:

Given I am inside an active meeting,

When I open the participants panel,

Then the system must display all attendees and their current status (muted, active, etc.).

Title: Mute/Unmute Self

User Story #13

As a participant,

I want to mute and unmute my microphone,

So that I can control when I am heard.

Acceptance criteria:

Given I am in an active meeting,

When I click the microphone button,

Then the system must toggle my audio transmission on or off instantly.

Title: Host Mutes Participants

User Story #14

As a host,

I want to mute participants individually,

So that I can reduce background noise or interruptions.

Acceptance criteria:

Given I am the host,

When I select a participant and click “Mute”,

Then that user’s microphone should be muted and they should be notified.

Title: Enable/Disable Camera

User Story #15

As a participant,

I want to turn my camera on or off,

So that I can control my visibility in the meeting.

Acceptance criteria:

Given I am in an active meeting,

When I click the camera icon,

Then my video stream should toggle between active and inactive states.

Title: Share Screen

User Story #16

As a user with permission,

I want to share my screen,

So that I can present my content to all participants.

Acceptance criteria:

Given I am in a meeting,

When I click “Share Screen” and select a window,

Then my shared screen must be visible to all participants until I stop sharing.

Title: Select Window to Share

User Story #17

As a user,

I want to choose which window or app to share,

So that I can keep other content private.

Acceptance criteria:

Given I have clicked “Share Screen”,

When the system shows me a list of available windows or screens,

Then I can select only one and confirm, sharing that content exclusively.

Title: Mosaic View

User Story #18

As a host,

I want to see participants in a mosaic (grid) view,

So that I can observe everyone equally during the meeting.

Acceptance criteria:

Given I am the host,

When I switch to mosaic mode,

Then the screen should display all participants' video feeds arranged in a grid layout.

Title: Pin Participant Video

User Story #19

As a host,

I want to pin one participant's video,

So that everyone focuses on the main speaker.

Acceptance criteria:

Given I am in an active meeting,

When I select a participant and choose "Pin video",

Then their video should become the main focus for all viewers until unpinned.

Title: Send Public Messages

User Story #20

As a participant,

I want to send messages in the public chat,

So that I can communicate with everyone during the meeting.

Acceptance criteria:

Given I am in an ongoing meeting,

When I open the chat panel and send a message,

Then all participants should see it instantly in the public chat.

Title: Typing Indicator

User Story #21

As a user,

I want to see when other participants are typing,

So that I can anticipate new messages and reply naturally.

Acceptance criteria:

Given the chat is open,

When another participant is typing,

Then I should see a small “typing...” indicator near their name.

Title: Emoji Reactions

User Story #22

As a participant,

I want to react using emojis,

So that I can express feedback quickly without speaking.

Acceptance criteria:

Given I am in a meeting,

When I select an emoji reaction,

Then the reaction should appear briefly on my video tile for all to see.

Title: Raise Hand

User Story #23

As a participant,

I want to raise my hand,

So that I can indicate I want to speak or ask a question.

Acceptance criteria:

Given I am in a meeting,

When I click the “Raise Hand” button,

Then a visible hand icon should appear next to my name and the host should be notified.

Title: Remove Participant

User Story #24

As a host,

I want to remove a participant from the meeting,

So that I can stop disruptive or uninvited users.

Acceptance criteria:

Given I am the meeting host,

When I select a participant and click “Remove”,

Then that participant should be immediately disconnected and notified.

User Story Mapping

- <https://unal-team-t6q34ifv.atlassian.net/wiki/x/AwAIAQ>