

SW Engineering CSC648-848-05 Summer 2024

TeamMate

Personnel Management

Team 05 - Concat

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Milestone 3
July 23 2024

Version History

Revision	Date Submitted
M1	13 June 2024
M1V1	20 June 2024
M1V2	09 July 2024
M2V1	09 July 2024
M2V2	23 July 2024
M3V1	23 July 2024

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Data Definitions

- Registered Users (Anyone with a registered account)
 - Email
 - Correct format with @ and .com
 - Password
 - Modern standards with letters, numbers, special characters.
 - Stored in the database after being hashed.
 - Profile Picture
 - PNG or JPG/JPEG.
 - 400x400 as the max dimensions.
 - No greater than 2 megabytes.
 - Username
 - First Name
 - Last Name
- Organizations (Organizations created by a registered user)
 - Name
 - Plaintext title.
 - Must be unique between all organizations.
 - Owner
 - Connected to a registered user.
 - Transferable to another registered user.
 - Description
- Members (Association between a user and an organization)
 - Permissions
 - Either 0, 1, or 2 for user, group leader, and admin respectively.
 - Organization
 - Connected to an organization.
 - Group
 - Connected to a group.
 - User
 - Connected to a registered user.
 - First Name
 - Different from the Registered User's name.
 - Last Name
 - Different from the Registered User's name.
 - Sort Order

- Integer that controls in which order members should appear on the frontend.
- Last Login
 - Datetime that represents the last time this member was logged-in..
- Active Member
 - Boolean to archive members that are no longer active for historical purposes.
- Groups (Member created category for dividing people)
 - Organization
 - Connected to an organization.
 - Sort Order
 - Integer that controls in which order groups should appear on the frontend.
 - Group Image
 - PNG or JPG/JPEG.
 - 400x400 as the max dimensions.
 - No greater than 2 megabytes.
 - Group Name
- Events (Member created event that other members can “join”)
 - Organization
 - Connected to an organization.
 - Title
 - Description
 - Date
 - Type
 - Simple string for users’ organizational purposes.
 - Prerequisites
 - Serialized string that contains group and qualification prerequisites.
- Event Reminder (Associates a Member to an Event to track attendance)
 - Event
 - Connected to an event.
 - Member
 - Connected to a member.
 - Attendance
 - Enumerated type that records if the member was present or absent.

- Qualification Type (Member-defined custom qualifications)
 - Title
 - Description
 - Image
 - PNG or JPG/JPEG.
 - 400x400 as the max dimensions.
 - No greater than 2 megabytes.
- Qualification Instance (An instance of a qualification assigned to a member)
 - Issued By
 - Connect to a member.
 - Received By
 - Connect to a member.
 - Qualification Type
 - Connect to a qualification type.
 - Nomination
 - Boolean that determines whether this instance has been issued or is just a nomination.
 - Date Given
 - Datetime.
 - Citation
 - Plaintext citation for issuance.
- Award Type (Member-defined custom awards)
 - Title
 - Description
 - Image
 - PNG or JPG/JPEG.
 - 400x400 as the max dimensions.
 - No greater than 2 megabytes.
- Award Instance (An instance of an award assigned to a member)
 - Issued By
 - Connect to a member.
 - Received By
 - Connect to a member.
 - Qualification Type
 - Connect to a qualification type.
 - Nomination
 - Boolean that determines whether this instance has been issued or is just a nomination.

- Date Given
 - Datetime.
 - Citation
 - Plaintext citation for issuance.
- Comments (Members can leave comments on other member's pages)
 - UserID
 - Connect to a member.
 - Page Type
 - Determines whether the comment is on an award instance, qualification instance, event, or another member.
 - Page Key
 - Determines the index/ID of where the comment is.
 - Comment
 - Plaintext comment body.
 - Comment Date
 - Datetime.
- Custom Section (Customizable section usable for whatever the client needs)
 - Access Level
 - Determines whether the section is for all users, group leaders, or admins.
 - Plain Text
 - Plaintext body for the custom section.
 - Third Party
 - Open-ended field for code or other integrations.
 - Document Creator
 - Connected to a member.
 - Organization
 - Connected to an organization.
 - Title

Prioritized Functional Requirements

Priority 1

Account

- Users shall register for a new account.
- Accounts shall have unique emails.
- An account shall have a username.
- An account shall have a password.
- An account shall have secure passwords as per modern standards.
- Users shall log into an existing account.
- An account shall be able to update profile information.
- An account shall be able to update the password.
- An account shall be able to update the associated email.
- An account shall create a new organization.
- Accounts shall join an existing organization.
- Accounts shall view all organizations they have joined.
- Accounts shall view all public organizations another account has joined.

Member

- Member permissions shall be members, group leaders, or admins.
- Admins shall assign member and group leader permissions.
- Admins shall be able to issue awards to members.
- Admins reset member names if they are inappropriate.
- Admins reset member profile pictures if they are inappropriate.
- Users shall be able to filter for members that have specific attributes.
- A member's page shall show their information for that organization, along with all attributes, qualifications, awards, etc as a dashboard.

Organization

- An organization shall have an owner.
- An owner can assign other members to be admins.
- An organization shall have permissions that determine what members, group leaders, and admins are able to create and edit.

- An organization shall have a roster page that shows all members in the organization separated by groups.
- Admins shall be able to change the order in which groups appear on the organization roster page.
- Users shall click on any member on the roster to access their member page.

Awards

- Admins shall create award types.
- Admins shall update award types.
- Admins shall delete award types.
- Awards shall have a title.
- Awards shall have a description.
- Group leaders shall nominate members for awards.
- Admins shall view nominations.
- Admins shall approve or reject nominations.
- Admins shall directly assign awards.
- Members shall view individual award citations.
- Award instances shall have a citation describing the reason for issue.
- Award instances shall have a date received.
- Award instances shall state the issuing member.
- Users shall be able to leave comments on an award instance.

Qualifications

- Admins shall create qualifications types.
- Admins shall update qualifications types.
- Admins shall delete qualifications types.
- Qualifications shall have a title.
- Qualifications shall have a description.
- Group leaders shall nominate members for qualifications.
- Admins shall view nominations.
- Admins shall approve or reject nominations.
- Admins shall directly assign qualifications.
- Members shall view individual qualifications.

- Qualification instances shall have a date received.
- Qualification instances shall state the issuing member.

Events

- Admins shall create events.
- Group leaders shall create events.
- Events shall be public, by request, or invite only.
- Admins shall assign members to an existing event.
- Group leaders shall assign members to an existing event.
- Members shall join an event if it is public.
- Members shall request to join an event if it is by request.
- Events shall have a title.
- Events shall have a description.
- Events shall have a start datetime.

Priority 2

Account

- An account shall be able to upload a profile picture.

Member

- Members shall set a separate first and last name in each organization.
- Members shall generate event attendance reports.
- Admins shall be able to upload an image for the organization profile.
- A member's page shall show the last time they were logged-in.

Organization

- Organization ownership shall be able to be transferred to another member.
- Admins shall create custom sections for tailored purposes.
- Organizations shall include an inactive or past members group that archives past members for posterity.

Awards

- Awards shall have an associated image.
- Users shall have the option to upload an associated pdf file for display with an award.

Qualifications

- Qualifications shall have an associated image.
- Users shall have the option to upload an associated pdf file for display with a qualification.

Events

- Events shall be recurring if desired, automatically creating new events.
- Events shall be able to have pre-requisite qualifications.
- Events shall be able to be restricted to chosen groups or roles.
- Users shall be able to see an attendance record for recurring events.

Custom Section

- Admins shall create custom sections.
- Custom sections shall have an editable title.
- Admins shall restrict custom sections based on member attributes.
- Custom sections shall be deleted by admins if desired.

Priority 3

Member

- Users shall be able to leave comments and endorsements on a member's page.

Organization

- Admins shall link external apps and embedded apps in custom pages.

Events

- Users shall have the option to opt-in for event reminders.
- Users shall be able to leave comments on an event instance.

Custom Section

- Custom sections shall support external application, APIs, and embedded application integrations.

Wireframes Based on your Mockups/Storyboards (detailed)

[Link to Figma prototype](#)

[Link to wireframes](#)

Use Case #1

Dave, a leader for the Boy Scouts of America in Silicon Valley, faced challenges during COVID as scouts were unable to participate in outdoor activities. To maintain motivation, he created an organization on TeamMate to display scout progress and achievements online. With the help of his friend Chris, they managed the scouts' accounts, groups, and awards, making the process more efficient and ensuring scouts could still take pride in their accomplishments.

Use Case #1: Leader's Perspective

1. Start - Homepage

The screenshot shows the homepage of the TeamMate platform. At the top right, there are two buttons: "Sign In" and "Sign Up". A red circle with the number "1" is drawn around the "Sign Up" button. The main heading on the page is "Recognize, Reward, and Reimagine Team Collaboration". Below the heading is a descriptive text: "Transform your organization with TeamMate. Our platform highlights individual achievements, tracks certifications, and manages events, fostering a culture of recognition and continuous improvement. Join TeamMate and see your team thrive." There are three main features highlighted with icons: "Track Members", "Create and Assign Tasks", and "Provide Recognitions". Each feature has a brief description below it.

Sign Up 1

Recognize, Reward, and Reimagine Team Collaboration

Transform your organization with TeamMate. Our platform highlights individual achievements, tracks certifications, and manages events, fostering a culture of recognition and continuous improvement. Join TeamMate and see your team thrive.

Track Members
Keep track of your organization's members, their roles, and their progress with ease

Create and Assign Tasks
Effortlessly create and assign tasks and projects to your team members, ensuring everyone stays on track

Provide Recognitions
Motivate your team by providing recognitions and awards for their achievements and contributions

2. Sign Up Page

The screenshot shows the "Create an account" page. It has fields for "First Name" and "Last Name" (with "User" and "A" entered respectively), "Email Address" (User@gmail.com), "Password" (represented by dots), and "Confirm Password" (also represented by dots). There is a checkbox for agreeing to the "Terms of Service" and "Privacy Policy". At the bottom is a large black "Create Account" button. A red box with the number "2" highlights the "First Name" and "Last Name" fields. A red box with the number "3" highlights the "Create Account" button. A red arrow points from the "Sign Up" button on the homepage down to this page. Another red arrow points from the "Create Account" button back down to the "Sign In" link at the bottom of the page.

2

3

Create an account

First Name
User

Last Name
A

Email Address
User@gmail.com

Password
.....

Confirm Password
.....

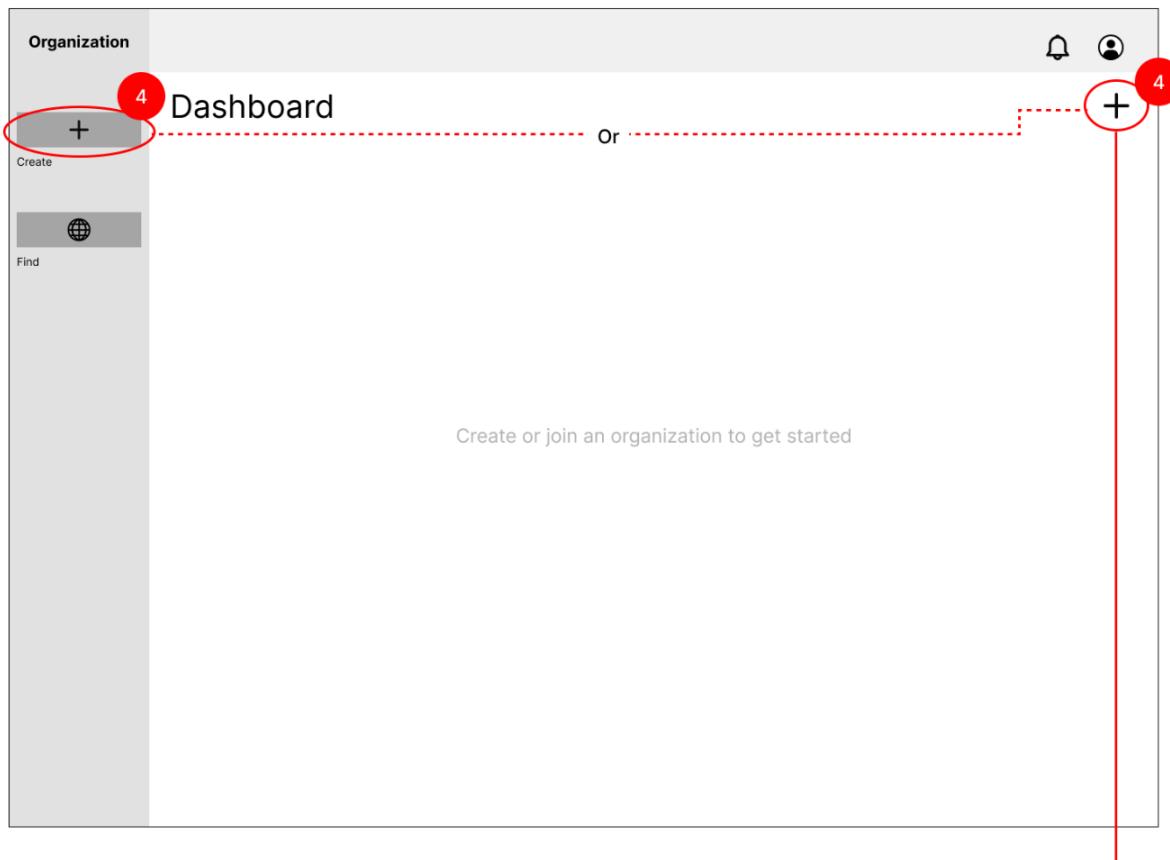
I agree to the [Terms of Service](#) and [Privacy Policy](#)

Create Account

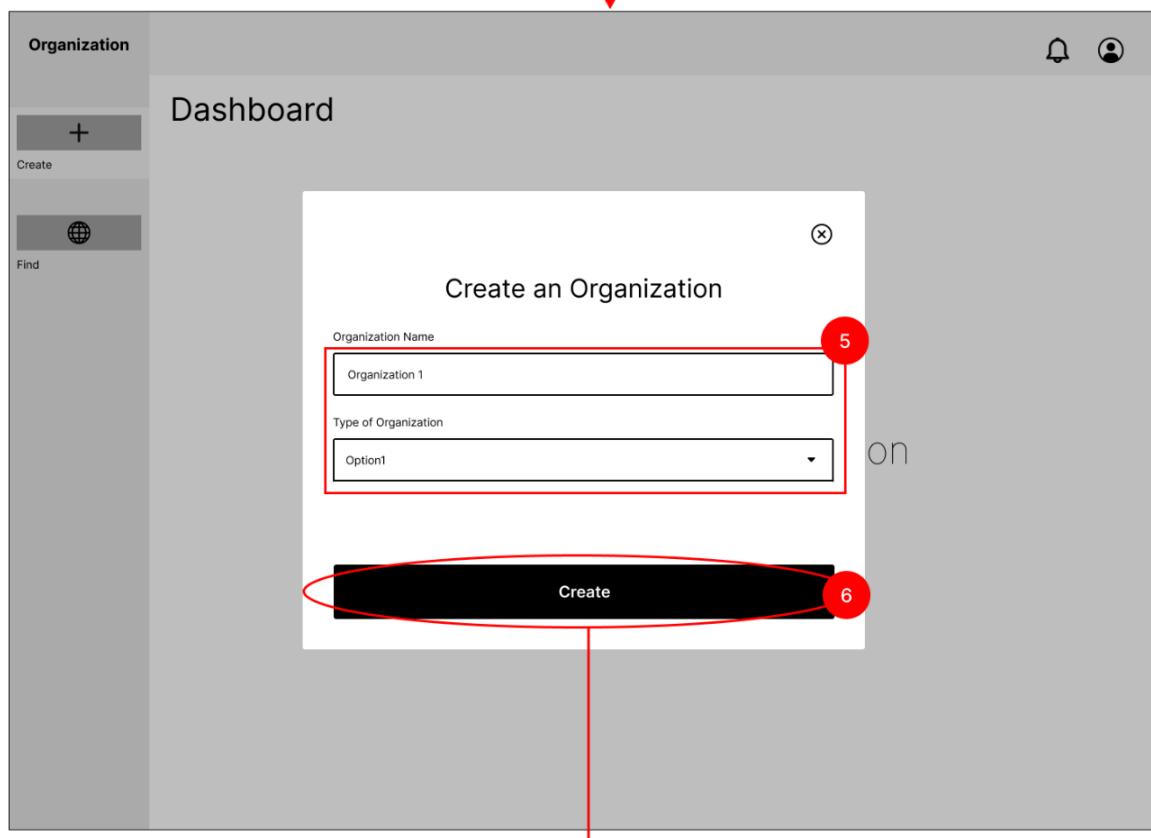
Already have an account? [Sign in](#)

Use Case #1: Leader's Perspective

3. Empty Organization Dashboard Page



4. Empty Organization Dashboard Page / Create Organization



5. Organization Dashboard Page

Use Case #1: Leader's Perspective

The screenshot shows the Organization Dashboard Page for "Organization 1". The left sidebar includes a "Create" button, a "1 Organization 1" indicator, and a "Find" button. The main content area displays several cards: "Members", "Groups" (which is circled in red with a red number "7" indicating an alert), "Events", "Tasks/Projects", "Recognition", and "Highlights".

6. Empty Group List Page

The screenshot shows the Empty Group List Page under the "Groups" tab. The left sidebar is identical to the dashboard. The main content area features a search bar with a magnifying glass icon and the placeholder "Search", and a prominent red "plus" button with a red number "8" indicating new content. A message "No Groups Created" is displayed below the search bar.

Use Case #1: Leader's Perspective

7. Empty Group List Page / Create Group

The screenshot shows a 'Create a Group' modal window. The 'Group Name' field contains 'Group 1'. The 'Description' field has placeholder text: 'Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do.'. The 'Access' dropdown is set to 'Invite Only' and the 'Member Limit' input field contains the number '5'. A red box highlights the 'Group Name' field, a red circle labeled '9' is positioned above the 'Description' field, and a red oval highlights the 'Create' button at the bottom.

8. Group List Page

The screenshot shows the 'All Groups' list page. The first group card is highlighted with a red box. The group name is 'Group 1' and the access level is 'Invite Only'. Below the group name is a placeholder text 'Description'. At the bottom of the card is a small icon showing two people and the text '3/5'. A red box highlights the first group card, a red circle labeled '11' is positioned above the group card, and a red vertical line connects the 'Create' button in the previous modal to the 'Group 1' card.

Use Case #1: Leader's Perspective

9. Group Detail Page

The screenshot shows a user interface for a group detail page. On the left is a sidebar with 'Organization' (Create, +, Organization 1, Find), 'Page Title' (1), and 'Description' (Invite Only, 0 Members, N/A Members Limit). The main content area shows 'Group 1' with 'Edit' and 'Add Member' buttons. Below is a 'Members' section with 'No group members yet'. The top navigation bar includes tabs for Members, Groups, Events, Tasks/Projects, Recognition (circled in red with a value of 12), and Highlights, along with a bell icon and user profile.

10. Empty Recognition List Page

The screenshot shows a user interface for a recognition list page. On the left is a sidebar with 'Organization' (Create, +, Organization 1, Find). The main content area shows 'Recognition' with a search bar and a '+ Create' button (circled in red with a value of 13). Below is a message 'No Recognition Created'. The top navigation bar includes tabs for Members, Groups, Events, Tasks/Projects, Recognition (highlighted), and Highlights, along with a bell icon and user profile.

Use Case #1: Leader's Perspective

11. Recognition List Page / Create Recognition

Organization

Members Groups Events Tasks/Projects Recognition Highlights

Search +

Recognition

Create

1 Organization 1

Find

Create a Recognition

Recognition Name

Description (5/50 words)

Type of Recognition

Recognition 1

>Lorem ipsum dolor sit amet.

Option1

Create

12. Recognition List Page

Organization

Members Groups Events Tasks/Projects Recognition Highlights

Search +

Recognition

Create

1 Organization 1

Find

Option 1

Recognition 1

Recognition 1
Lorem ipsum dolor sit amet.

Use Case #1: Leader's Perspective

11. Recognition Detail Page

The screenshot shows the 'Recognition Details' page. On the left is a sidebar with 'Organization' (1), 'Create', and 'Find' buttons. The main area shows a recognition entry titled 'Recognition 1'. It includes a 'Description' section with placeholder text and a 'Members' section stating 'No members yet'. A 'Share' button is present. At the top, a navigation bar has 'Members' (17) highlighted with a red circle.

12. Members' List Page

The screenshot shows the 'Members' list page. The sidebar is identical to the previous page. The main area displays a table with columns 'Name', 'Groups', and 'Roles'. A new member row is shown with a placeholder 'Name (You)'. At the top right is a search bar and a large red-highlighted 'Add Member' button with a plus sign and the number '18'.

Use Case #1: Leader's Perspective

13. Members' List Page / Add Member

The screenshot shows the 'Members' list page with a modal window titled 'Add a Member'. The modal contains two input fields: 'Member's ID' with the value 'Member 1' and 'Assign Role' with the value 'Member'. A red box highlights the 'Create' button at the bottom of the modal, which is circled with a red arrow labeled 20.

14. Members' List Page

The screenshot shows the 'Members' list page after the new member 'Member 1' has been added. The member is listed in the table with columns 'Name', 'Groups', and 'Roles'. The 'Name' column shows 'Member 1', the 'Groups' column shows 'Groups', and the 'Roles' column shows 'Member'. A red box highlights the member row, which is circled with a red arrow labeled 21.

Use Case #1: Leader's Perspective

15. Members' Profile Page

Organization

- + Create
- 1 Organization 1
- Find

Member's Profile

Profile

Group: N/A

Role: Member

Recognition

No recognitions yet



16. Members' Profile Page / Edit

Organization

- + Create
- 1 Organization 1
- Find

Member's Profile

Profile

Group: N/A

Role: Admin 23

Recognition

+



Use Case #1: Leader's Perspective

17. End - Members' Profile Page

The screenshot shows a user interface for managing members. On the left, there is a sidebar with a 'Create' button and a 'Find' button. The main area is titled 'Member's Profile' and displays a single member named 'Member 1'. The member's profile includes fields for 'Group' (N/A) and 'Role' (Admin). Below the profile, there is a section for 'Recognition' which states 'No recognitions yet'. The top navigation bar includes links for 'Members', 'Groups', 'Events', 'Tasks/Projects', 'Recognition', and 'Highlights', along with a notification bell icon and a user profile icon.

Use Case #2

Jake, a leader of a professional group requiring numerous qualifications, found it tedious to track his subordinates' certifications across various platforms. To improve productivity, he created a TeamMate account and organization, where his specialists joined and had their qualifications imported into a centralized system. This allowed Jake to easily manage and update their qualifications, schedule training, and see attendance, simplifying the process and reducing the need to track multiple systems.

Use Case #2: Leader's Perspective

1. Start - Organization Dashboard Page

The screenshot shows the 'Organization' dashboard for 'Organization 1'. On the left sidebar, there are buttons for '+ Create' and '1 Organization 1'. Below the sidebar, a red circle labeled '1' is drawn around the 'Members' box. A red arrow points from this circle down to the 'Members' section of the main content area. The main content area contains six boxes: 'Members', 'Groups', 'Events', 'Tasks/Projects', 'Recognition', and 'Highlights'.

2. Members' List Page

The screenshot shows the 'Members' list page. The top navigation bar includes tabs for 'Members', 'Groups', 'Events', 'Tasks/Projects', 'Recognition', and 'Highlights'. The 'Members' tab is active. The main content area displays a table with columns: 'Name', 'Groups', and 'Roles'. A new row is being added, indicated by a red circle labeled '2' around the '+' button in the top right corner of the table header. A red arrow points from the 'Members' box on the previous screen down to this '+ 2' button.

Use Case #2: Leader's Perspective

3. Members' List Page / Add Member

The screenshot shows the 'Members' list page with a modal overlay titled 'Add a Member'. The modal contains two input fields: 'Member's ID' with the value 'Member 1' and 'Assign Role' with the value 'Member'. A red box highlights the 'Create' button at the bottom of the modal. A red arrow points from this button down to the main 'Members' list page, indicating the successful addition of the new member.

4. Members' List Page

The screenshot shows the 'Members' list page after a new member has been added. The newly added member, 'Member 1', is highlighted with a red box and a red circle labeled '5' on the 'Name' column. A red arrow points from the bottom of the page up to the 'Name' column of the newly added member, indicating the successful addition.

Use Case #2: Leader's Perspective

5. Members' Profile Page

Organization

- + Create
- 1 Organization 1
- Find

Member's Profile

Member 1

Profile

Group:	N/A
Role:	Member

Recognition

No recognitions yet

6. Members' Profile Page / Edit

Organization

- + Create
- 1 Organization 1
- Find

Member's Profile

Member 1

Profile

Group:	N/A
Role:	Member

Recognition

+

Use Case #2: Leader's Perspective

7. Members' Profile Page / Edit / Add Recognition

Add Recognition

Certifications

Recognition 1
Lorem ipsum dolor sit amet.

Title
Description

Title
Description

Add

8. Members' Profile Page / Edit

Member's Profile

Profile

Group: N/A

Role: Member

Recognition

Recognition 1
Lorem ipsum dolor sit amet.

Cancel Save

Use Case #2: Leader's Perspective

9. End - Members' Profile Page

The screenshot displays the 'Member's Profile' page. On the left, a vertical sidebar titled 'Organization' contains buttons for '+ Create' and 'Organization 1'. At the bottom of the sidebar is a 'Find' button with a magnifying glass icon. The main content area has a header 'Member's Profile' and shows a profile card for 'Member 1' with an edit button. Below the profile card is a 'Profile' section with fields for 'Group: N/A' and 'Role: Member'. Underneath is a 'Recognition' section featuring a placeholder image and a card for 'Recognition 1' with the text 'Lorem ipsum dolor sit amet.'

Use Case #3

Dr. Sarah uses the TeamMate platform to manage a new research project by inputting its details, objectives, timelines, and assigned researchers. Researchers, lab assistants, and graduate students log their progress and update milestones regularly. Dr. Sarah reviews these updates, provides feedback, and adjusts timelines as needed, while the system generates a comprehensive progress report summarizing all ongoing research projects.

Use Case #3: Leader's Perspective

1. Start - Organization Dashboard Page

The screenshot shows the 'Organization' dashboard for 'Organization 1'. On the left sidebar, there are buttons for '+ Create' and 'Find'. The main area displays 'Organization 1' with a count of '1' under 'Organization 1'. Below this are four cards: 'Members', 'Groups', 'Events', and 'Tasks/Projects'. The 'Tasks/Projects' card is circled in red with a number '1' above it. A red arrow points from this card down to the 'Tasks/Projects' page.

2. Empty Tasks/Projects List Page

The screenshot shows the 'Tasks/Projects' list page. The top navigation bar includes tabs for 'Members', 'Groups', 'Events', 'Tasks/Projects' (which is active), 'Recognition', and 'Highlights'. There is also a search bar with a magnifying glass icon and a red '+' button. A red circle with the number '2' is drawn around the '+' button. A red arrow points from the bottom of the 'Tasks/Projects' card on the previous page down to this page.

Use Case #3: Leader's Perspective

3. Empty Tasks/Projects List Page / Create Task/Project

The screenshot shows the 'Tasks/Projects' creation interface. A red box highlights the input fields for 'Name:' (Title), 'Description:', 'Upload Content:' (File.jpg), 'Assigned to:' (Member 1), and 'Deadline:' (07/16/2024). A red circle with the number 3 is positioned above the 'Create' button. A red oval surrounds the 'Create' button itself, with a red circle containing the number 4 positioned to its right.

Organization

Members Groups Events Tasks/Projects Recognition Highlights

Search

Create

1 Organization 1

Find

Tasks/Projects

Current Tasks/Projects

Name: Title

Description: Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.

Upload Content: File.jpg

Assigned to: Member 1

Deadline: 07/16/2024

Create

4. Tasks/Projects List Page

The screenshot shows the 'Tasks/Projects' list page after a task has been created. A red box highlights the task card for 'Title'. A red circle with the number 5 is positioned above the task card. A red line with an arrow points from the bottom of the task card down to the bottom of the page, indicating the end of the list.

The task card details:

- Title:** (Image placeholder)
- Description:** Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.
- Deadline:** 07/16/2024

Organization

Members Groups Events Tasks/Projects Recognition Highlights

Search

Create

1 Organization 1

Find

Tasks/Projects

Current Tasks/Projects

Title

07/16/2024

Use Case #3: Leader's Perspective

5. Tasks/Projects Detail Page

The screenshot shows a user interface for managing tasks/projects. On the left is a sidebar with 'Organization' (Create, +), '1 Organization 1', and 'Find'. The main area has tabs: Members, Groups, Events, Tasks/Projects (selected), Recognition, and Highlights. A red circle labeled '6' is over the 'Edit' button in the top right. Below it, a large gray area contains a placeholder image and a 'Description' section with placeholder text. A red dashed arrow labeled 'Scroll Down' points to a 'Submissions' table. The table has columns: Name, Submitted Date, and Review. Under 'Name' is 'Member 1'. Under 'Submitted Date' is '00/00/2024'. Under 'Review' is a red box containing the word 'View', with a red circle labeled '7' over it.

6. End - Tasks/Projects Submission View Page

The screenshot shows the 'Tasks/Projects Submission View Page' for 'Member 1'. The top navigation bar is identical to the previous page. The main content area displays the title 'The Name of the Task/Project'. Below it, under 'Content', there is a note 'N/A'. Under 'Submitted Text', there is a placeholder 'Type'. At the top right of this section are buttons for 'Request Revision' and 'Complete'. A red arrow points from the 'View' button in the previous page's screenshot down to the 'View' button in this page's screenshot.

Use Case #4

Dr. Susie uses the TeamMate platform's "Equipment and Supplies Management" section to input details about lab equipment and supplies, including quantities, locations, and maintenance schedules. Lab technicians log usage and report issues, while maintenance staff schedules and performs necessary maintenance. Dr. Susie reviews usage logs, schedules maintenance, and receives alerts when supplies are low, allowing her to place orders and update inventory, with the system regularly tracking and confirming these updates.

Use Case #4: Member's Perspective

1. Start - Organization Dashboard Page

Organization

+ Create

2 Organization 2

Members Groups Events

Tasks/Projects Recognition Highlights

Find

Bell User icon

1

2. Empty Tasks/Projects List Page

Organization

+ Create

2 Organization 2

Members Groups Events Tasks/Projects Recognition Highlights

Search

2

Task/Project 1

00/00/2024

Title

Description

00/00/2024

Title

Description

00/00/2024

Find

Bell User icon

2

Use Case #4: Member's Perspective

3. Tasks/Projects Detail Page

Organization

Members Groups Events Tasks/Projects Recognition Highlights

Tasks/Projects Details

Task/Project 1

Deadline: 00/00/2024

Description

Lore ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.

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Text Entry

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Upload Task/Project

4. Tasks/Projects Detail Page / Upload

Organization

Members Groups Events Tasks/Projects Recognition Highlights

Tasks/Projects Details

Task/Project 1

Deadline: 00/00/2024

Description

Lore ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.

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Text Entry

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Successfully Uploaded Your Task/Project.

Okay

Upload Task/Project

Use Case #4: Member's Perspective

5. Tasks/Projects Detail Page

Organization

Members Groups Events Tasks/Projects **6** Recognition Highlights

Tasks/Projects Details

Task/Project 1

Deadline: 00/00/2024

Description

Lore ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.

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Text Entry

Lore ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.

Re-upload Task/Project

6. End - Tasks/Projects List Page

Organization

Members Groups Events Tasks/Projects **Recognition** Highlights

Tasks/Projects

Current Tasks/Projects

Title	Description	Date
		00/00/2024
		00/00/2024

Past Tasks/Projects

Title	Description
	Task/Project 1 Lore ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut

Use Case #5

Steve, a manager at NGO XYZ, is eager to recognize and monitor volunteer activities but finds it challenging to ensure everyone is on the same pace. Discovering TeamMate, he uses the platform to track and provide a comprehensive overview of all members, ensuring no one is overlooked. He issues digital accolades visible on profiles, and TeamMate suggests awarding badges for completed tasks, which can be shared publicly on social media to recognize volunteer contributions.

Use Case #5: Leader's Perspective

1. Start - Members' Profile Page

The screenshot shows the Member's Profile page. At the top, there is a navigation bar with tabs: Members, Groups, Events, Tasks/Projects, Recognition, and Highlights. The Highlights tab is highlighted with a red circle containing the number 1. Below the navigation bar, the page title is "Member's Profile". On the left sidebar, there is a "Create" button with a plus sign, a "1" indicating the count for "Organization 1", and a "Find" button with a magnifying glass icon.

Profile

- Group: N/A
- Role: Member

Recognition

Title	Description	Title	Description	Title	Description	Title	Description
[Image]	[Image]	[Image]	[Image]	[Image]	[Image]	[Image]	[Image]

2. Empty Highlights List Page

The screenshot shows the Highlights list page. At the top, there is a navigation bar with tabs: Members, Groups, Events, Tasks/Projects, Recognition, and Highlights. The Highlights tab is highlighted with a red circle containing the number 2. Below the navigation bar, the page title is "Highlights". On the left sidebar, there is a "Create" button with a plus sign, a "1" indicating the count for "Organization 1", and a "Find" button with a magnifying glass icon. A search bar is located at the top right of the main content area. The main content area displays the message "No Tasks/Projects Created".

Use Case #5: Leader's Perspective

3. Empty Highlights List Page / Create Highlight

The screenshot shows the 'Highlights' section of a web application. On the left, there is a sidebar with 'Organization' (containing a '+ Create' button and 'Organization 1'), 'Find', and a globe icon. The main area has tabs for 'Members', 'Groups', 'Events', 'Tasks/Projects', 'Recognition', and 'Highlights'. The 'Highlights' tab is active. A search bar and a '+' button are at the top right. Below them, a modal window titled 'Create a Highlight' is open. The modal contains fields for 'Name' (with 'Highlight 1' entered), 'Description' (with a placeholder text about labor rights), 'Upload Content' (with 'File.jpg' selected), 'Tag Members' (with three members tagged: 'Member 1', 'Member 2', and 'Member 3'). A large red circle labeled '3' is positioned above the 'Create' button. A red oval labeled '4' is positioned below the 'Create' button.

4. End - Highlights List Page

The screenshot shows the 'Highlights' section of the web application after a highlight has been created. The sidebar and tabs are identical to the previous screenshot. The main area now displays a single highlight card for 'Highlight 1', published on 07/16/2024. The card includes a placeholder image, an 'Edit' button, and a 'Published' timestamp. Below the card, there is a section for 'Tagged Members' showing a placeholder icon and the text 'Member 1 and others'. A red arrow points from the 'Create' button in the previous screenshot down to the 'Published' timestamp in this screenshot.

Use Case #6

Bob, a CS graduate from SFSU, founded a gaming community called Inferno, which grew to 100 active members hosting events across the Bay Area. As the community expanded, managing events, teams, and individual achievements became challenging without raising membership fees. A member introduced him to TeamMate, an online management platform that organizes events, tracks achievements, and manages profiles. Using TeamMate, the community can efficiently handle events and tournaments, track attendance, and make announcements, ensuring smooth operations and detailed member profiles.

Use Case #6: Leader's Perspective

1. Start - Empty Event List Page / Create Event

The screenshot shows the 'Create an Event' form. A red box highlights the input fields for Name, Upload Content, Description, Event Type, Location or Link, Date & Time, and Hosted by. A red circle labeled '1' points to the 'Events' tab in the top navigation bar. A red circle labeled '2' points to the '+' button in the top right corner. A red circle labeled '3' points to the 'Create' button at the bottom of the form. A red arrow points from the 'Create' button down to the 'Events' list page.

Create an Event

Name: Event 1
Upload Content: File.jpg
Description: Lorem ipsum dolor sit amet.
Event Type: In-Person
Location or Link: Location Address
Date & Time: 07/16/2024 1 pm to 07/16/2024 2 pm
Hosted by: Type member's name or group name

Create

2. Event List Page

The screenshot shows the 'Events' list page. A red box highlights the event card for 'Event 1'. A red circle labeled '5' points to the event card. A red arrow points from the event card back up to the 'Create an Event' form.

Events

Upcoming Events

Event 1
Lorem ipsum dolor sit amet.
07/16/2024/1pm – 2pm

Use Case #6: Leader's Perspective

3. Event Detail Page

Organization

Members Groups Events Tasks/Projects Recognition Highlights

Description
Lorem ipsum dolor sit amet.

Attendees

Name	Joined Date	Group
Member 1	00/00/2024	N/A
Member 2	00/00/2024	N/A

Set Up Groups 7

4. Event Detail Page / Set Up Group

Organization

Members Groups Events Tasks/Projects Recognition Highlights

Create Groups

Number of Groups: 2

Group Assign Type: Assign Automatically

Attendees

Name	Joined Date	Group
Member 1	00/00/2024	N/A
Member 2	00/00/2024	N/A

Set Up Groups 8

Use Case #6: Leader's Perspective

5. Event Detail Page / Assign Group

Assign Groups

Group 1
Member 1

Group 2
Member 2

Attendees

Name	Joined Date	Group
Member 1	00/00/2024	N/A
Member 2	00/00/2024	N/A

Save 9

Set Up Groups

6. End - Event Detail Page

Description

Member 1
Member 2

Attendees

Name	Joined Date	Group
Member 1	00/00/2024	Group 1
Member 2	00/00/2024	Group 2

Set Up Groups

Use Case #7

Dan, a manager at Danliland construction company, employs 20 workers and uses the TeamMate App to track their training needs and experience. Workers like Luigi, Angel, and Joshi complete a survey in the app to highlight their knowledge and past learning. The app allows Dan to manage worker accounts, monitor survey completion, and schedule meetings based on the survey results to address any learning gaps.

Use Case #7: Leader's Perspective

1. Start - Empty Tasks/Projects List Page / Create Task/Project

The screenshot shows a user interface for managing tasks and projects. On the left, there's a sidebar with a '+ Create' button and a '1 Organization 1' section. The main area is titled 'Tasks/Projects'. At the top, there are tabs for 'Members', 'Groups', 'Events', 'Tasks/Projects' (which is highlighted with a red circle labeled '1'), 'Recognition', and 'Highlights'. To the right of the tabs is a search bar and a user profile icon. In the center, there's a 'Current Tasks/Projects' section with a placeholder image and some placeholder text. Below it is a 'Create a Task/Project' form with fields for 'Name' (with 'Title' as a placeholder), 'Description' (with placeholder text about Lorem ipsum), 'Upload Content' (with a file input field containing 'File.jpg' and a 'Upload File' button), 'Assigned to' (with a text input field containing 'Type member's name, everyone, or group name' and a 'Member 1' entry with a delete button), and 'Deadline' (with a date input field set to '07/16/2024'). At the bottom of the form is a large black 'Create' button. A red box labeled '3' encloses the entire form area. A red arrow labeled '4' points downwards from the 'Create' button towards the bottom of the page.

2. Tasks/Projects List Page

This screenshot shows the same interface after a task has been created. The 'Tasks/Projects' tab is still selected. The 'Current Tasks/Projects' section now displays a single task card. The card features a placeholder image, the title 'Title', a description placeholder text about Lorem ipsum, and a deadline of '07/16/2024'. The rest of the interface remains the same, with the sidebar, other tabs, and the overall layout.

Use Case #8

Mary, a coordinator at a local non-profit, struggled to track volunteer hours, activities, and accomplishments manually. Discovering TeamMate, she created an account, imported historical data, and set up her organization. The platform allows her to assign tasks, track hours in real-time, manage schedules, and generate reports to highlight volunteer efforts, making the process efficient and helping secure future funding.

Use Case #8: Member's Perspective

1. Start - Sign In Page

TeamMate

Welcome, Mate!

Email Address

Password

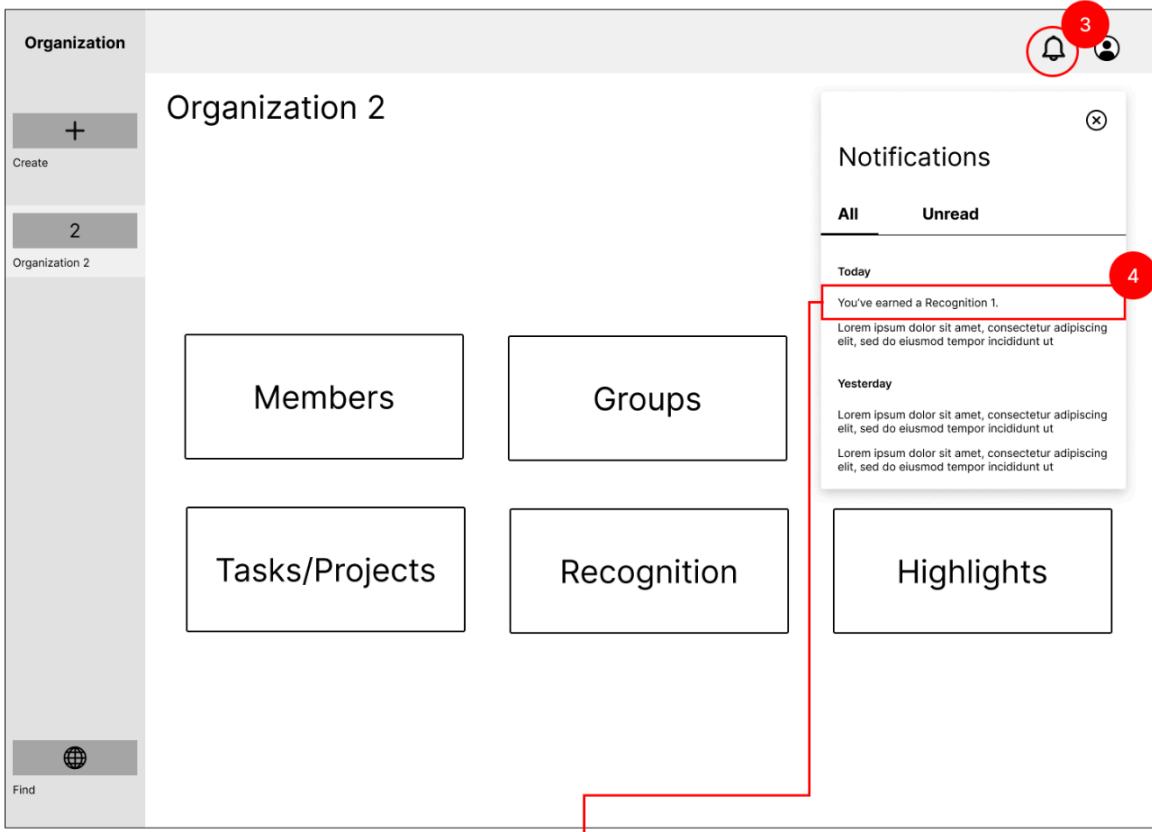
Remember Me [Forgot Password?](#)

Sign In

Or

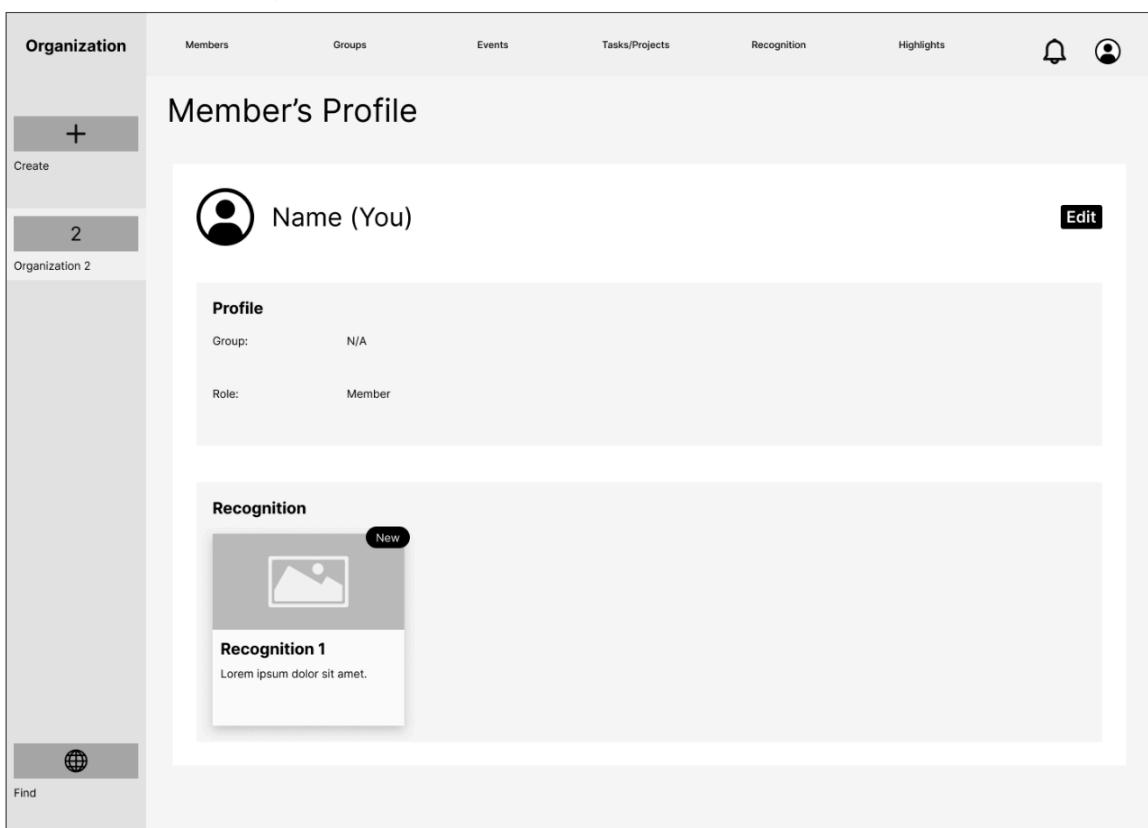
[Create an Account](#)

2. Organization Dashboard Page / Notofication



Use Case #7: Member's Perspective

3. End - Member's Profile Page / New Notification



The screenshot shows a user interface for a member's profile page. On the left, there is a sidebar with a 'Create' button and a 'Find' button. The main content area is titled 'Member's Profile' and displays the user's name ('Name (You)') with an 'Edit' button. Below this, there are sections for 'Profile' (Group: N/A, Role: Member) and 'Recognition' (Recognition 1, which is a placeholder for 'Lorem ipsum dolor sit amet.' and has a 'New' button). The top navigation bar includes links for Members, Groups, Events, Tasks/Projects, Recognition, and Highlights, along with a notification bell icon and a user profile icon.

Use Case #9

Alex, a teacher running a high school gaming club, struggled to manage the growing number of participants, organize teams, track rankings, and find new opponents. Discovering TeamMate, he created an account and set up the club's organization, enabling students to join and participate through the platform. TeamMate allows Alex to efficiently create teams, update scores, track rankings, schedule matches, and organize tournaments, while students can view their rankings, team assignments, sign up for competitions, and communicate with teammates, keeping everyone informed and motivated.

Use Case #9: Member's Perspective

1. Start - Groups List Page

The screenshot shows the 'Groups' tab selected in the top navigation bar (circled in red with number 1). A search bar is present on the right. The main area displays two sections: 'My Groups' (empty) and 'All Groups'. Under 'All Groups', there are three cards, each with a thumbnail, title ('Title'), description ('Description'), and status ('Invite Only' or 'Full'). The third card, 'Group 1', is highlighted with a red box and circled with number 2. It contains a description: 'Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do.' Below the cards is a message: 'You're not in any groups'.

2. Groups Detail Page

The screenshot shows the 'Group 1' detail page. At the top right, a 'Join' button is circled with number 3. The page includes sections for 'Description' (with placeholder text) and 'Members'. The 'Members' table lists three members: 'Member 1', 'Member 2', and 'Member 3', all joined on '00/00/2024' and assigned 'N/A' roles. A red arrow points from the 'Join' button on the previous screen down to the 'Join' button on this screen.

Name	Joined Date	Role
Member 1	00/00/2024	N/A
Member 2	00/00/2024	N/A
Member 3	00/00/2024	N/A

Use Case #9: Member's Perspective

3. Groups Detail Page / Join

The screenshot shows the Groups Detail Page. On the left sidebar, there are buttons for 'Create' (with a plus sign) and 'Organization 2'. At the bottom are 'Find' and a magnifying glass icon. The main area has a title 'Groups' and a sub-section 'Group 1'. Below it, status information says 'Anyone Can Join | 4 Members | 5 Members Limit'. A modal window titled 'Join the Group?' contains the button 'Yes, I'll Join', which is circled in red with the number '4' above it. Below the modal is a table titled 'Members' with three rows: Member 1, Member 2, and Member 3. Each row includes a profile icon, name, joined date (00/00/2024), and role (N/A). A red arrow points from the 'Join' button in the modal down to the 'Joined' button in the 'Group 1' section.

4. Groups List Page

The screenshot shows the Groups List Page. The left sidebar is identical to the previous page. The main area has a title 'Groups' and a search bar. Below it is a section titled 'My Groups' containing a card for 'Group 1' with a placeholder image, a 'Joined' button, and a '5/5' rating. Below this is a section titled 'All Groups' with three cards. The first card for 'Group 1' has an 'Invite Only' button. The second card has a 'Full' button. The third card for 'Group 1' has a 'Joined' button. A red arrow points from the 'Joined' button in the 'Group 1' card under 'My Groups' down to the 'Joined' button in the 'Group 1' card under 'All Groups'.

Use Case #10

John, a full-time basketball team leader working multiple part-time jobs for funding, struggled to manage team activities, training schedules, physical conditions, and communication. After being introduced to TeamMate, he created an account and set up his organization, enabling teammates to join. The app allows John to assign tasks, track progress, make announcements, and reward active players, fostering a positive and engaged environment while simplifying team management.

Use Case #10: Leader's Perspective

1. Start - Tasks/Projects Submission View Page

The Name of the Task/Project

< Member 1 >

Content
N/A

Submitted Text
Type

Organization

Create

1 Organization 1

Find

Members Groups Events Tasks/Projects Recognition Highlights 1 Request Revision Complete

2. Empty Highlight List Page

Highlights

Search

+ 2

No Tasks/Projects Created

Organization

Create

1 Organization 1

Find

Members Groups Events Tasks/Projects Recognition Highlights + 2

Use Case #10: Leader's Perspective

3. Highlight List Page / Create Highlight

The screenshot shows the 'Create a Highlight' form. The 'Name' field contains 'Highlight 1'. The 'Description' field contains a long block of placeholder text about labor rights. The 'Upload Content' section shows a file named 'File.jpg' and a 'Upload File' button. The 'Tag Members' section has a search bar and three member tags: 'Member 1', 'Member 2', and 'Member 3'. A large red oval surrounds the entire form area, and a red circle labeled '4' is positioned over the 'Create' button at the bottom.

4. End - Highlight List Page

The screenshot shows the 'Highlights' page after creation. It displays a card for 'Highlight 1', which was published on 07/16/2024. The card features a placeholder image, an 'Edit' button, and a 'Tagged Members' section showing 'Member 1 and others'. Below the card is a paragraph of placeholder text.

Use Case #11

Eric, managing a large orphanage and struggling with limited staff, sought to streamline volunteer management. Introduced to the TeamMate app, he created an account and onboarded his faculty and volunteers to facilitate communication, task assignment, rewards, and a leaderboard. Despite initial convenience, Eric found managing still challenging due to his busy schedule, so he delegated administrative tasks to a trusted faculty member. This reduced Eric's workload significantly, allowing him to focus on overseeing operations and empowering active volunteers as temporary leaders.

Use Case #11: Leader's Perspective

1. Start - Recognition List Page / Create Recognition

The screenshot shows the 'Recognition' tab selected in the top navigation bar. A modal window titled 'Create a Recognition' is open. Inside the modal, several input fields are visible: 'Recognition Name' (containing 'Recognition 1'), 'Description (5/50 words)' (containing 'Lorem ipsum dolor sit amet.'), and 'Type of Recognition' (containing 'Option1'). At the bottom of the modal is a large black button labeled 'Create'. A red arrow points from the 'Create' button down to the 'Recognition' list page.

Organization

Members Groups Events Tasks/Projects Recognition **1** Highlights

Search

Recognition

Create

1 Organization 1

+ Find

Create a Recognition

Recognition Name

Recognition 1

Description (5/50 words)

>Lorem ipsum dolor sit amet.

Type of Recognition

Option1

Create **4**

2. Recognition List Page

The screenshot shows the 'Recognition' tab selected in the top navigation bar. A single recognition item is listed under the heading 'Option 1'. The item includes a thumbnail image, the title 'Recognition 1', and a brief description 'Lorem ipsum dolor sit amet.'. A red arrow points from the 'Recognition 1' item back up to the 'Create' button on the previous screen.

Organization

Members Groups Events Tasks/Projects Recognition **1** Highlights

Search

Recognition

Create

1 Organization 1

+ Find

5

Option 1

Recognition 1

Recognition 1
Lorem ipsum dolor sit amet.

Use Case #11: Leader's Perspective

1. Start - Recognition Detail Page / Add Member

Organization

Members Groups Events Tasks/Projects Recognition Highlights

Recognition Details

Recognition 1

Description

Add a Member

Member's ID

Member 1

Members

Create

No members yet

Share

Edit Add Member

2. Recognition Detail Page

Organization

Members Groups Events Tasks/Projects Recognition Highlights

Recognition Details

Recognition 1

Description

Member 1

Members

Name Issued Date

Member 1 00/00/2024

Share

Edit Add Member

Use Case #11: Leader's Perspective

3. Member's Profile Page

The screenshot shows a 'Member's Profile' page for 'Member 1'. The left sidebar has sections for 'Organization' (with '+ Create' and 'Organization 1'), 'Find', and 'Groups'. The main content area has tabs for 'Members', 'Groups', 'Events', 'Tasks/Projects', 'Recognition', and 'Highlights'. The 'Recognition' tab is active. It displays 'Recognition 1' with the text 'Lorem ipsum dolor sit amet.' Below this is a 'Profile' section with fields for 'Group' (N/A) and 'Role' (Member). A red circle highlights the 'Edit' button in the top right corner of the profile section.

4. End - Member's Profile Page / Edit

The screenshot shows the same 'Member's Profile' page for 'Member 1', but now in edit mode. The 'Edit' button is highlighted with a red circle and a red arrow points from the previous screenshot to this one. The 'Profile' section now contains dropdown menus for 'Group' (set to 'N/A') and 'Role' (set to 'Admin'). The 'Recognition' section remains the same, showing 'Recognition 1' with the text 'Lorem ipsum dolor sit amet.'

Use Case #12

Cianci, director of a Yoga class in Novato, faces challenges with student motivation and goal achievement. To address this, she uses the TeamMate app to set monthly goals for her students and track their progress and methods used. The app allows her to monitor obstacles hindering progress, such as tardiness or distractions, and track designated days for achieving goals, ensuring accountability and continuous improvement among her students.

Use Case #12: Member's Perspective

1. Start -Organization Dashboard Page / Notification

The screenshot shows the Organization Dashboard Page. On the left, there is a sidebar with a '+ Create' button, a '2 Organization 2' section, and a 'Find' button. The main area is titled 'Organization 2' and contains five cards: 'Members', 'Groups', 'Tasks/Projects', 'Recognition', and 'Highlights'. In the top right corner, there is a 'Notifications' icon with a red badge containing the number '1'. A red arrow points from this icon to the 'Notifications' section on the right. The 'Notifications' section has tabs for 'All' and 'Unread'. It shows a list of notifications: 'Today' has one unread notification ('You've earned a Recognition 1.') and several read notifications ('Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut'); 'Yesterday' has two read notifications ('Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut').

2. Member's Profile Page / New Notification

The screenshot shows the Member's Profile page. The top navigation bar includes tabs for 'Members', 'Groups', 'Events', 'Tasks/Projects', 'Recognition', and 'Highlights', along with a bell and user icons. The main content area is titled 'Member's Profile' and shows a profile card with a placeholder image, the name 'Name (You)', and an 'Edit' button. Below this is a 'Profile' section with fields for 'Group: N/A' and 'Role: Member'. The 'Recognition' section is highlighted with a red box and a red badge with the number '3'. It displays a card for 'Recognition 1' with the text 'Lorem ipsum dolor sit amet.' A red arrow points from the 'Recognition' section on the Organization Dashboard to this section on the Member's Profile page.

Use Case #12: Member's Perspective

3. End - Recognition Detail Page

The screenshot shows a user interface for managing organization recognitions. On the left, there is a sidebar with a 'Create' button and a 'Find' button. The main area displays a list of recognitions, with 'Recognition 1' currently selected. The selected recognition shows a 'Description' section containing placeholder text: 'Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do.' Below this is a 'Members' section listing two members: 'Name (You)' and 'Member 2', each with their respective profile icons and issue dates.

Organization

Members Groups Events Tasks/Projects Recognition Highlights

+

Create

2

Organization 2

Recognition Details

Recognition 1

Description

>Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do.

Members

Name	Issued Date
Name (You)	00/00/2024
Member 2	00/00/2024

Share

High Level Database Architecture

DBMS Summary

For this project, we will use MySQL as the DBMS and connect it to an EC2 instance to manage and track the database. MySQL is chosen for our project because of its reliability, scalability, and wide support. It will be an excellent tool for efficiently handling database operations on a cloud-based environment like AWS EC2 we are using.

Functional Requirements

1. Registered Users (pka: account)

- 1.1. Registered users shall at most make one new account.
- 1.2. A Registered user shall have one ID.
- 1.3. A Registered user shall have one unique email.
- 1.4. A Registered user shall have one username.
- 1.5. A Registered user shall have one password.
- 1.6. A Registered user shall have at most one profile picture.
- 1.7. A Registered user shall have one first name.
- 1.8. A Registered user shall have one last name.
- 1.9. A Registered user can make many comments.
- 1.10. A registered user can make many organizations.
- 1.11. A registered user can be one or many members.

2. Member

- 2.1. A member shall have an ID.
- 2.2. A member is a registered user.
- 2.3. A member shall have one first name.
- 2.4. A member shall have one last name.
- 2.5. A member shall have one datetime stamp showing their last login.
- 2.6. A member can receive many qualification instances.
- 2.7. A member can receive many award instances.
- 2.8. A member can give many qualification instances.
- 2.9. A member can give many award instances.
- 2.10. A member shall have an organization.

- 2.11. A member shall have many event reminders.
- 2.12. A member can have a group.
- 2.13. A member can create a custom section if able.

3. Organization

- 3.1. An organization shall have an ID.
- 3.2. An organization shall have a name.
- 3.3. An organization shall have one owner (member).
- 3.4. An organization will have one description.
- 3.5. An organization shall have many groups.
- 3.6. An organization shall have many events.
- 3.7. An organization shall have one or many members.
- 3.8. An organization shall have many custom sections.

4. Award Instance

- 4.1. An award instance shall have an ID.
- 4.2. An award instance shall have one member who issued it.
- 4.3. An award instance shall have one member who received it.
- 4.4. An award instance shall have one award type.
- 4.5. An award instance shall have one nomination status.
- 4.6. An award instance shall have the date of when it was given.
- 4.7. An award instance shall have a citation.

5. Award Type

- 5.1. An award type shall have an ID.
- 5.2. An award type shall have one description.
- 5.3. An award type shall have an associated image.
- 5.4. An award type shall have a title.
- 5.5. An award type shall have one or many award instances.
- 5.6. An award type will have an associated org

6. Qualification Instance

- 6.1. An qualification instance shall have an ID.
- 6.2. A qualification instance shall have one member who issued it.
- 6.3. A qualification instance shall have one member who received it.

- 6.4. A qualification instance shall have one qualification type.
- 6.5. A qualification instance shall have one nomination status.
- 6.6. A qualification instance shall have the date of when it was given.
- 6.7. A qualification instance shall have a citation.

7. Qualification Type

- 7.1. A qualification type shall have an ID.
- 7.2. A qualification type shall have one description.
- 7.3. A qualification type shall have an associated image.
- 7.4. A qualification type shall have a title.
- 7.5. A qualification type shall have one or many qualification instances.
- 7.6. A qualification type will have an associated org

8. Events

- 8.1. An event shall have an ID.
- 8.2. An event shall have one participating organization.
- 8.3. An event shall have one title.
- 8.4. An event shall have one description.
- 8.5. An event shall have one start datetime.
- 8.6. An event shall have an event type.
- 8.7. An event shall have many prerequisites.
- 8.8. An event shall have one or many event reminders.

9. Custom Section

- 9.1. A custom section will have an ID.
- 9.2. A custom section will have one title.
- 9.3. A custom section will have access levels to edit.
- 9.4. A custom section will have a “plaintext” section.
- 9.5. A custom section will have a third party section.
- 9.6. A custom section will have a member be the creator.
- 9.7. A custom section will belong to one organization.

10. Comments

- 10.1. A comment shall have an ID.
- 10.2. A comment shall have one user associated with it.

- 10.3. A comment shall have one page type.
- 10.4. A comment shall have one page key.
- 10.5. A comment shall have one comment description.
- 10.6. A comment shall have one date for when it was posted.

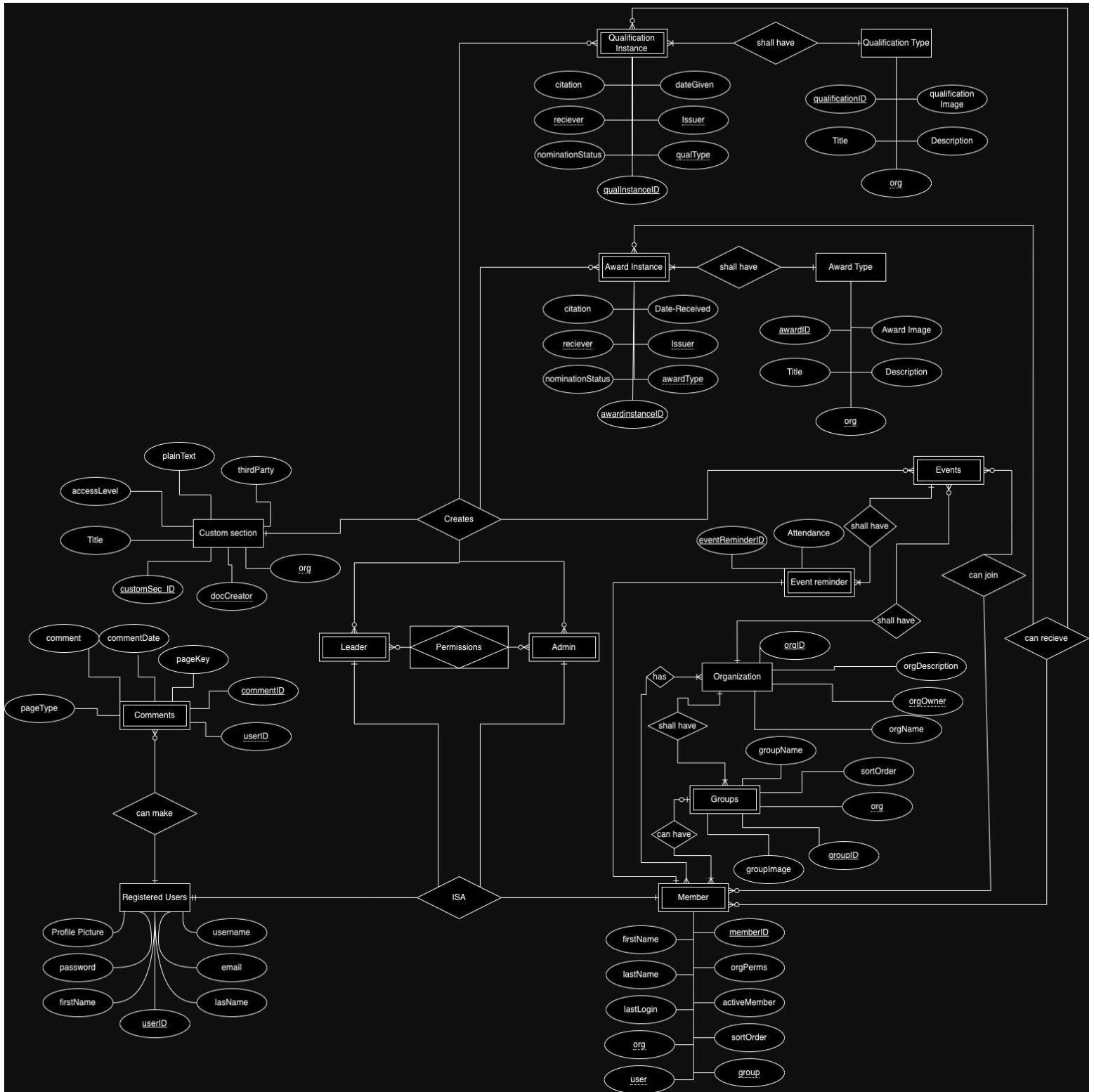
11. Event reminder

- 11.1. An event reminder shall have an ID.
- 11.2. An event reminder shall have one event.
- 11.3. An event reminder shall have one member.
- 11.4. An event reminder shall track if a member went to the event or not (bool).

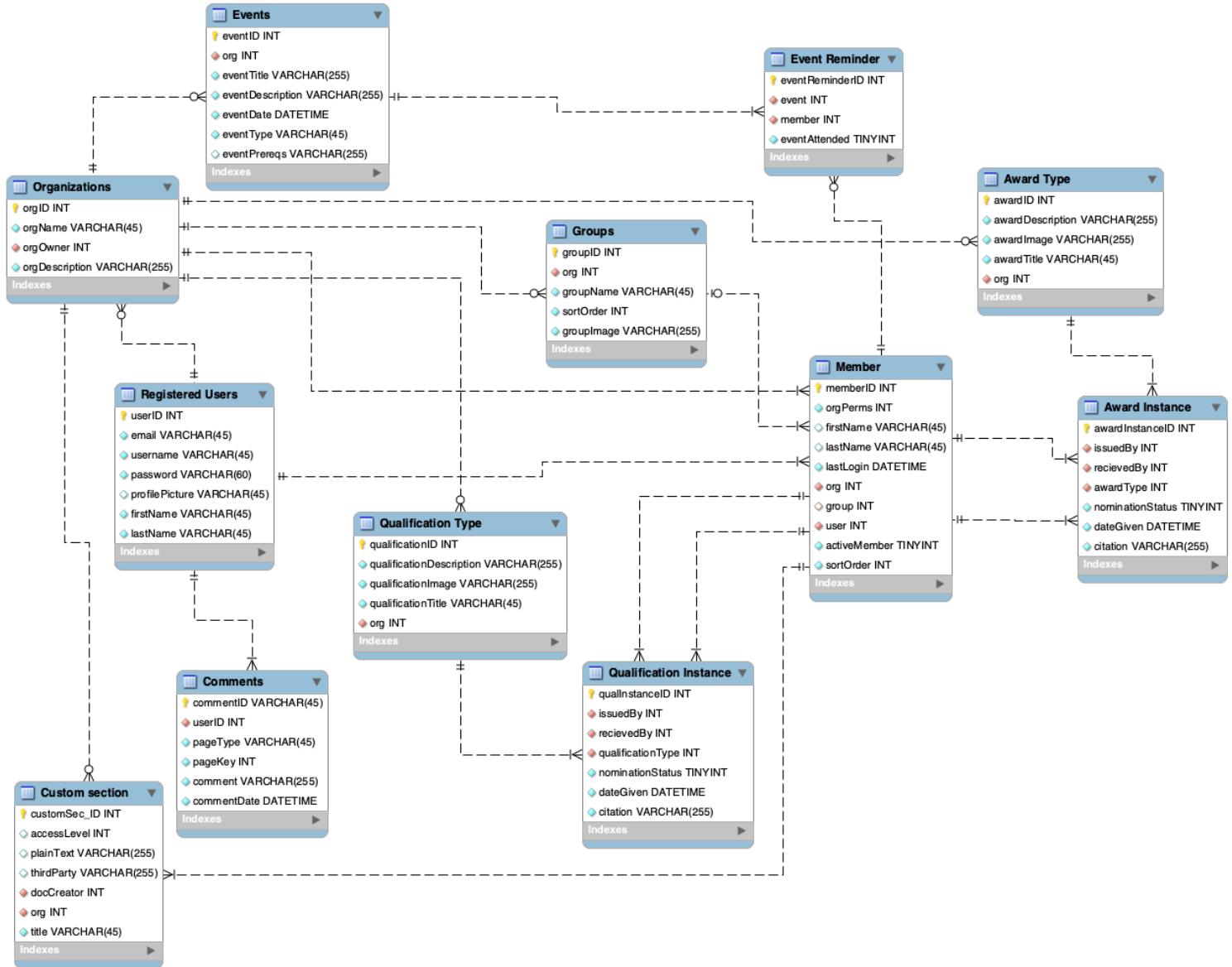
12. Groups

- 12.1. A group shall have an ID.
- 12.2. A group shall have one organization.
- 12.3. A group shall have one group name.
- 12.4. A group shall have a sort order number to organize the groups.
- 12.5. A group shall have an associated image.
- 12.6. A group shall have one or many members.

ERD (Entity Relationship Diagram)



EER (Enhanced Entity-Relationship)



Media Storage:

For media storage we decided to use the file systems as opposed to DB BLOBS because we as a group decided it would be easier for us to do due to our familiarity with it. We will use strings to store the file names so that we can route to it.

High Level APIs and Main Algorithms

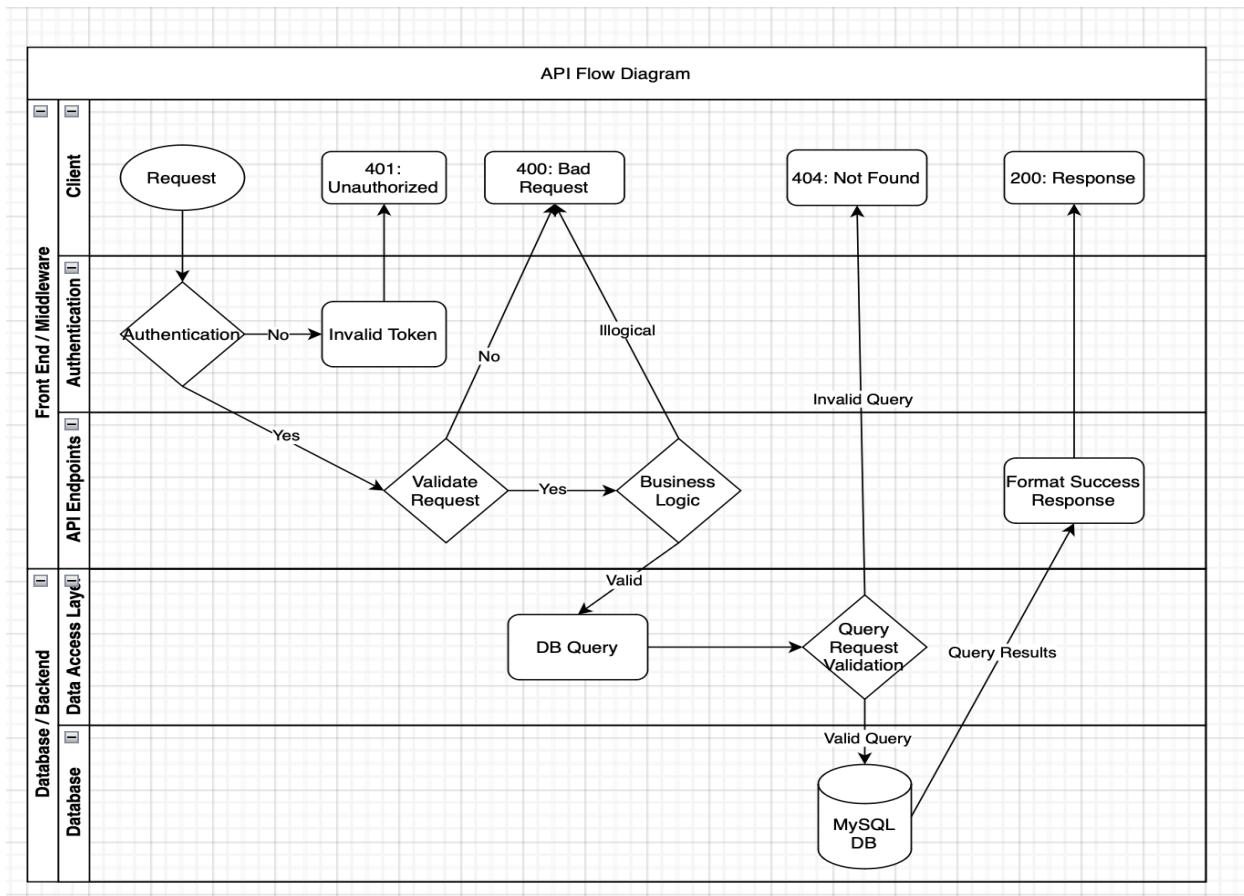
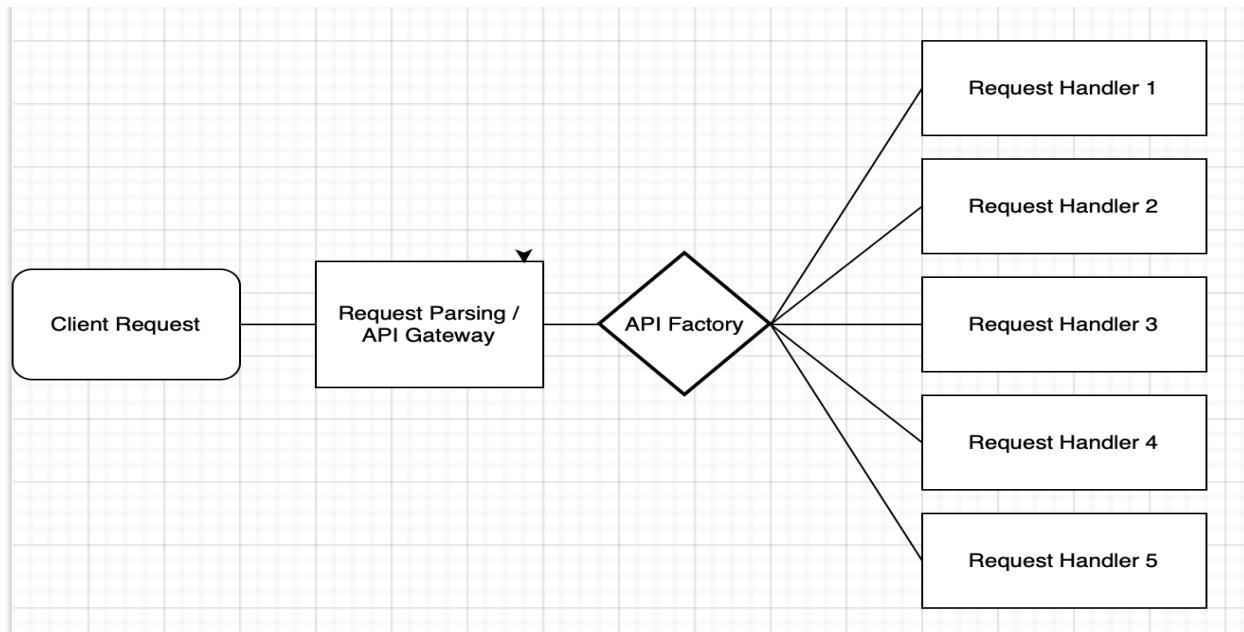
API HIGH LEVEL ARCHITECTURE

Our app, TeamMate, requires various endpoints for its features. These endpoints handle different functions such as login, create organizations, give awards, admin permissions, etc. Because of this diversity, we decided to implement a control flow that allows us to determine the API response dynamically. We need to be able to add features without interfering with the overall structure of the APIs.

This will be achieved through a monolithic architecture with a single gateway but multiple endpoints. This architecture will direct traffic from different API requests based on the type of business logic they need. By utilizing a factory pattern (to determine where the requests need to go), we can scale the number of endpoints and handlers as needed. This way, adding new features will be straightforward for developers and will not affect performance of the API.

To add another business logic/user function, we would need to add the desired route to the API factory and then from the factory to the request handler that manages all the 'business logic' such as database queries.

Below is a control flow of the API illustrating how it handles requests. This method ensures that we validate the request at different stages and return the correct errors based on the context. This multi-stage validation enhances security and accuracy by ensuring that the API passes through several gates before responding to the user. Steps such as authentication, request validation, business logic processing, and query validation prioritize security while ensuring accuracy. By implementing this design into our API architecture, scaling APIs with the same structure becomes easier as these rules are consistently applied.



System Design

Our approach prioritizes cost mitigation by maintaining a monolithic structure while leveraging various technologies to achieve scalability and maintainability. The design allows for the deployment of additional monolithic servers as needed, ensuring a balance between operational efficiency and scalability.

We have chosen Amazon Web Services (AWS) for its robust and stable platform, along with its ease of deployment on EC2 instances. AWS provides a comprehensive suite of services that support scalable application deployment. The application will be accessible via mobile and web applications, compatible across multiple platforms including Linux, Windows, Mac, Android, and iOS. This cross-platform compatibility will be achieved through the use of Docker containers, each configured with system-specific requirements.

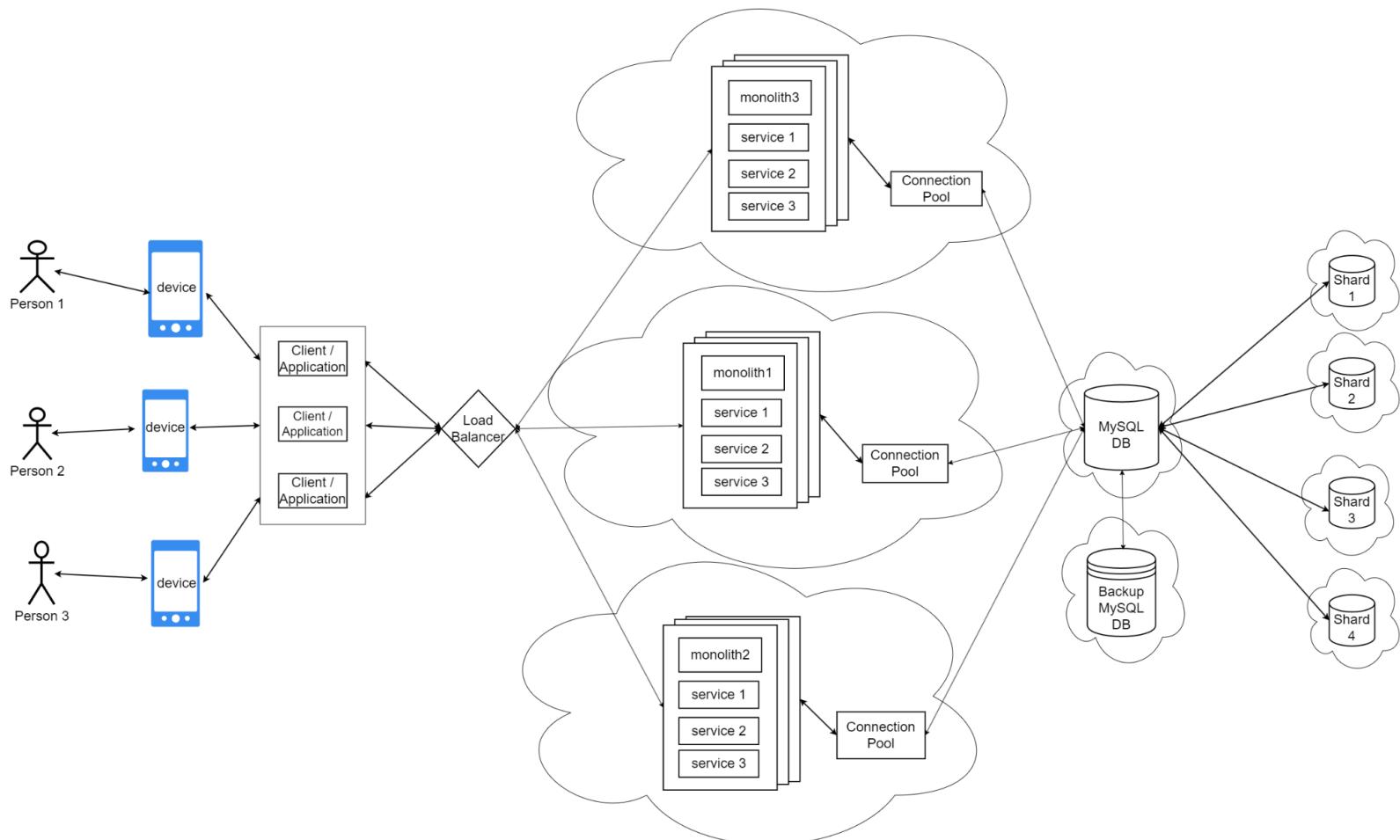
Users will interact with the platform through a React application deployed on EC2. This React front-end will communicate with a back-end server implemented using Express and TypeScript, also hosted on EC2. This setup ensures seamless interaction and maintains cross-language compatibility between the front-end and back-end. Communication between the user, application, and server will utilize TCP connections, with a message queue facilitating request and response management. This message queue decouples the application components, enabling asynchronous communication.

A message queue will precede a load balancer, distributing incoming requests among multiple servers. This ensures high availability, optimal resource utilization, reliability, and performance by preventing any single server from becoming a bottleneck. Horizontal scaling will be implemented by adding additional instances of the monolithic application on separate servers. The load balancer will manage traffic distribution across these instances, enhancing the system's ability to handle increased loads by simply adding more servers as necessary. Vertical scaling involves upgrading the resources (CPU, RAM, storage) of existing EC2 instances. AWS facilitates this by allowing easy upgrades to more powerful instance types, improving the performance of the application on individual servers when horizontal scaling is insufficient.

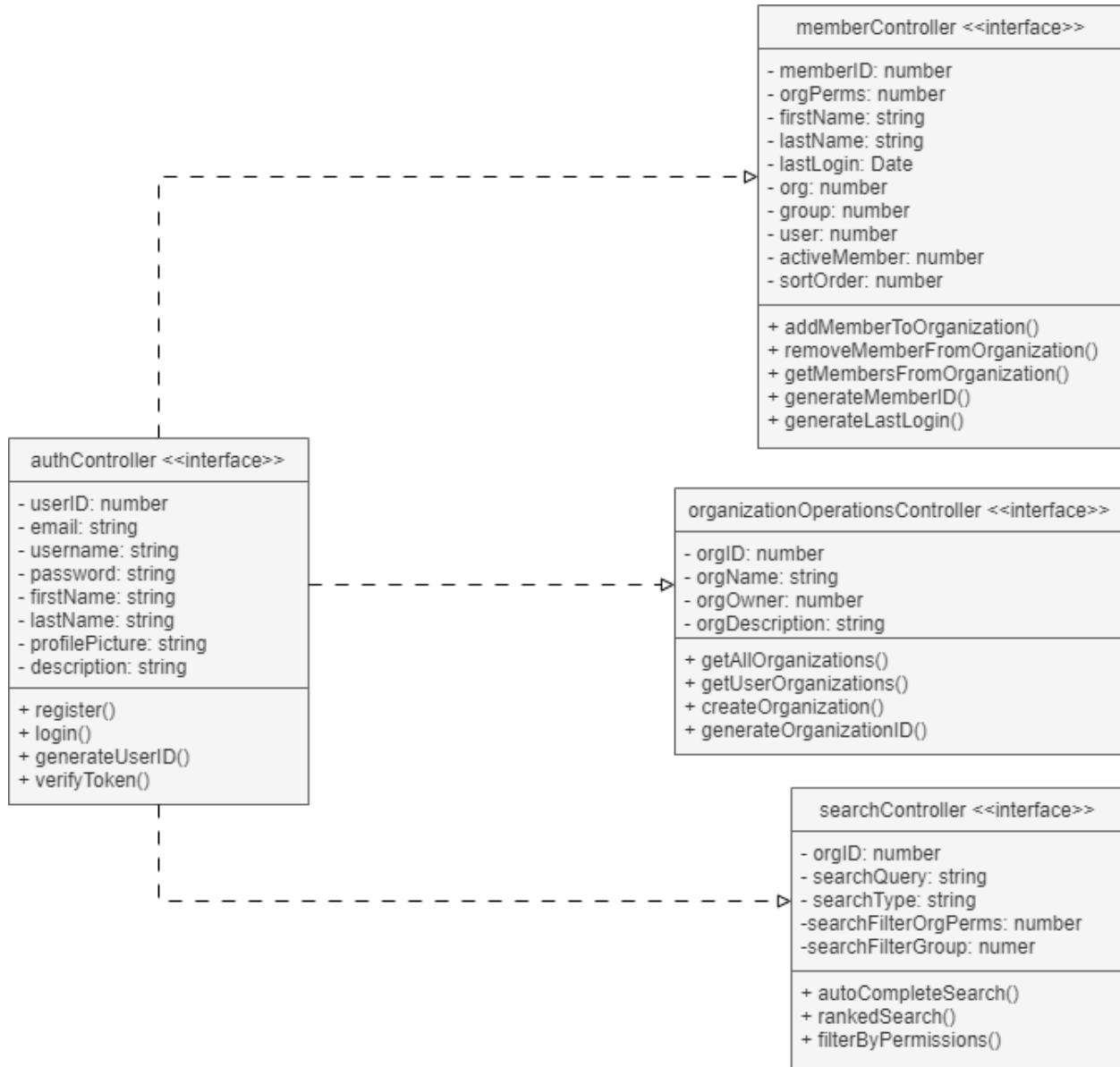
Database operations will be optimized using a connection pool, reusing connections for future database queries to reduce redundancy and manage resources efficiently. As the service grows, the database will be sharded, partitioning large datasets across multiple database nodes. This sharding strategy will increase throughput, expand storage capacity, and ensure high availability in case of a failure. A

backup database will maintain copies of critical data, updated on a regular schedule. This ensures data integrity and availability, preventing data loss in the event of a primary database failure.

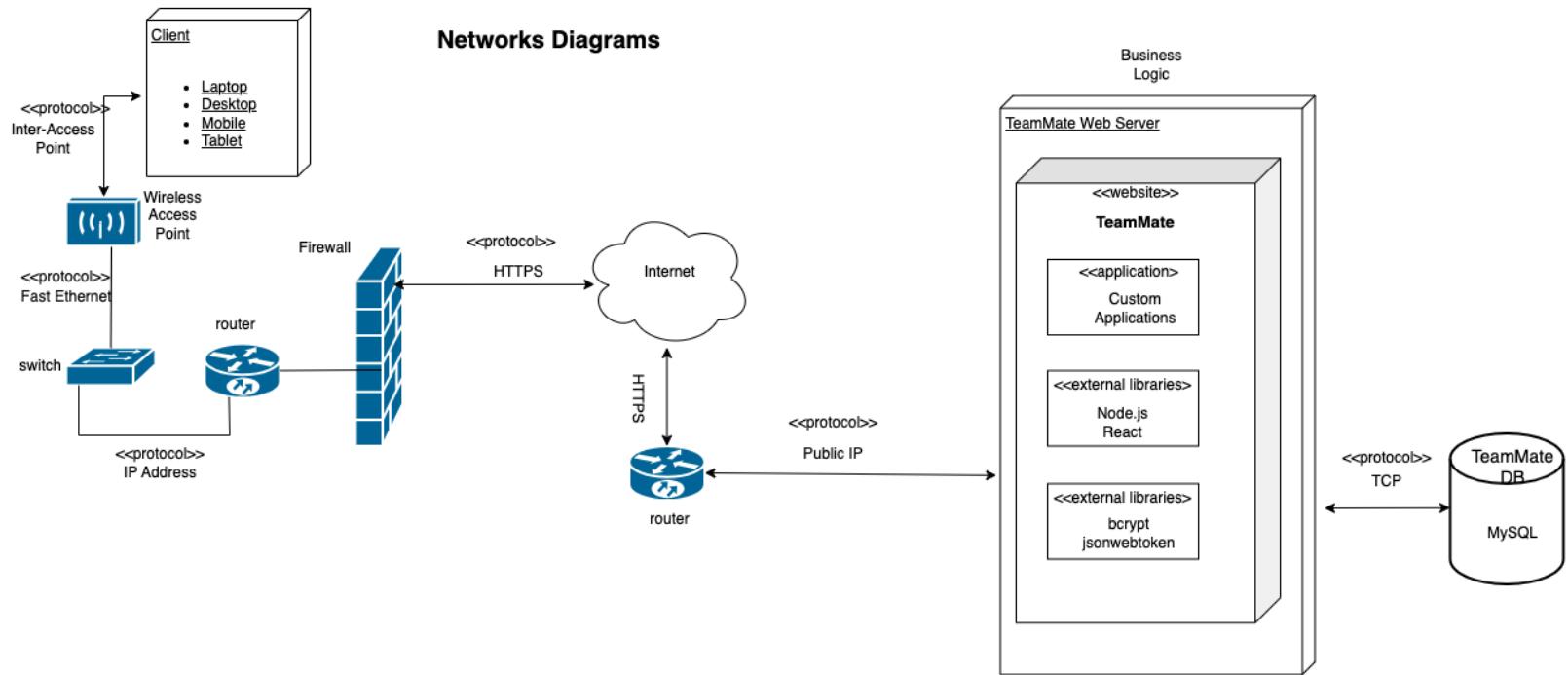
By integrating horizontal and vertical scaling methods, utilizing robust database management, and implementing message queuing for efficient communication, we can ensure that our monolithic architecture remains scalable, cost-effective, and maintainable. This design leverages AWS's capabilities to provide a reliable and scalable infrastructure that meets the needs of our users.



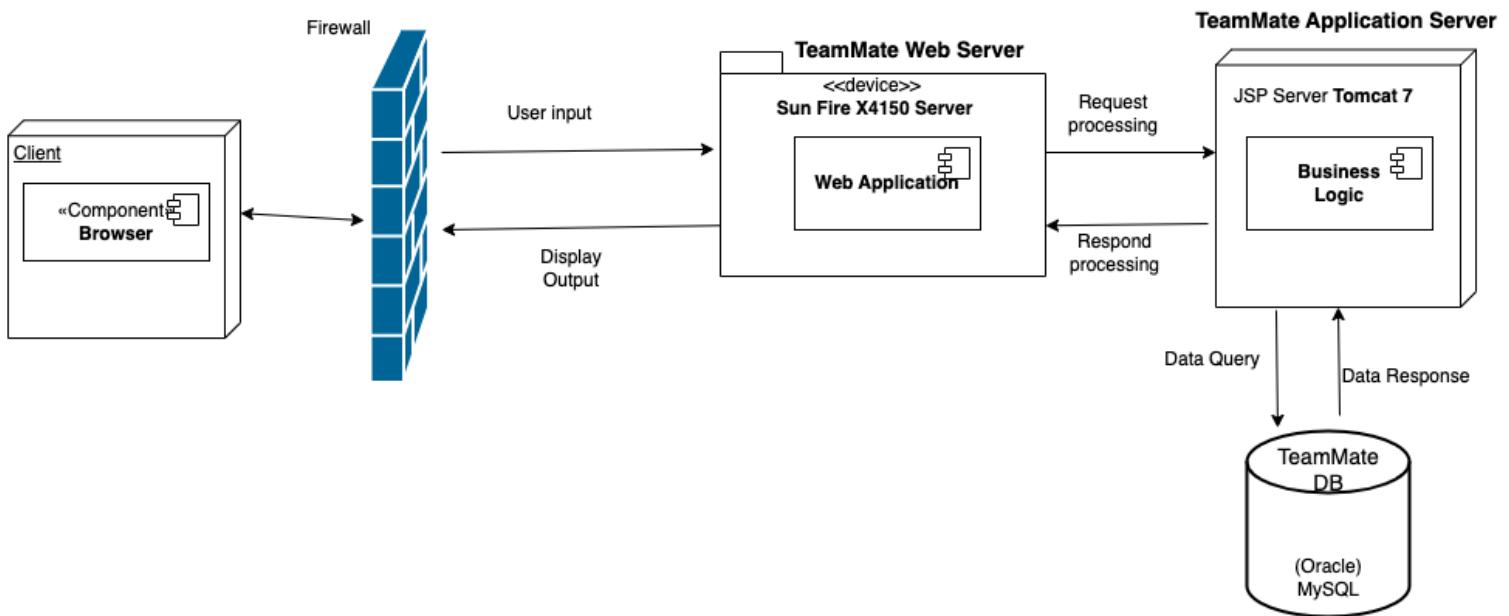
We are primarily using interfaces rather than classes. The interactions between the interfaces and the database tables are identical, and the database tables are well described in the EER (Enhanced Entity-Relationship) diagram. Below are the UML diagrams for our controllers and interfaces:



High Level Application Network and Deployment Design



Deployment Diagram



Team Contributions

- **Tharun Krishna**
 - Documentation revisions.
 - General front-end development.
 - Front-end styling in-line with Figma wireframes.
 - GitHub supervision.
 - AWS synchronization.
- **Tyron Cheung: Contributions Score 10**
 - Created all figma wireframes and prototypes.
 - Contributed to front-end development and design.
 - Oversaw other front-end developers progress.
 - Refined static pages.
- **Randolf Gabrielle Uy: Contributions Score 10**
 - Leading efforts on Backend of the Prototype.
 - Oversaw other back-end developers progress.
 - Mentored other team members.
 - Created Organization Creation Backend.
 - Created Member Addition Backend.
- **Carlos Hernandez: Contributions Score 10**
 - Refined Entity Relationship Diagram (ERD).
 - Refined Entity Establishment Relationship (EER).
 - Assisted Backend team.
 - Created SQL Queries for backend integration.
 - Interfacing front-end components with backend-controllers.

- **Xuefeng Guan (Tony): Contributions Score 7**
 - Contributed to tasks/projects pages.
 - Contributed to static pages.
 - Contributed to events pages.
 - Contributed to sidebar.
- **Naw San: Contributions Score 8**
 - Created Initial Recognition Page.
 - Created Initial Header and Popups.
 - Contributed to peripheral static pages.
 - Created Footer.
 - Refined Footer.
- **Yasmine Sucu: Contributions Score 7**
 - Contributed to backend APIs.
 - Contributed to Event Controller.
 - Contributed to static pages.
- **Jannelly Hernandez Umanzor: Contributions Score 6**
 - Contributed to backend APIs.
 - Contributed to Event Controller.
 - Contributed to static pages.