2023 Web Application Group Project

Project Name: *Club Management System*

Group Number: 17

Group Name: WDC-23

Group Members: Hong Hong, Peizheng Li(Jack), Ziyuan Li(Lee), Shijie Zhang(Jay)

Date: 2023.5.12

Introduction part (JACK)

Introduction:

This project aims to develop a platform that empowers student clubs to promote themselves, attract new members, and keep existing members updated by providing access to all university events, news, and announcements in one place. And the system enables students to browse posts, join discussion groups, and communicate with each other at the same time.

Moreover, the admin manages the entire system, including club managers and users and monitors the forum with club managers.

System Overview:

Our Club Management System is a social forum for students. Front-end technologies such as HTML, css , JavaScript. The back-end part of our project is developed using Express framework and database using mysql.

Our Club Management System involves the following:

1. Guests can browse public updates. They can register an account to unlock more content

2. Users can join multiple clubs to share stories and exchange experiences with like-minded people. Receive updates from their clubs and view their RSVP's.

3. Allow the club manager to update club information, manage users, manage forum events.

4. Allow administrators to manage clubs, sign up for new administrators.

RESEARCH Part (HONG)

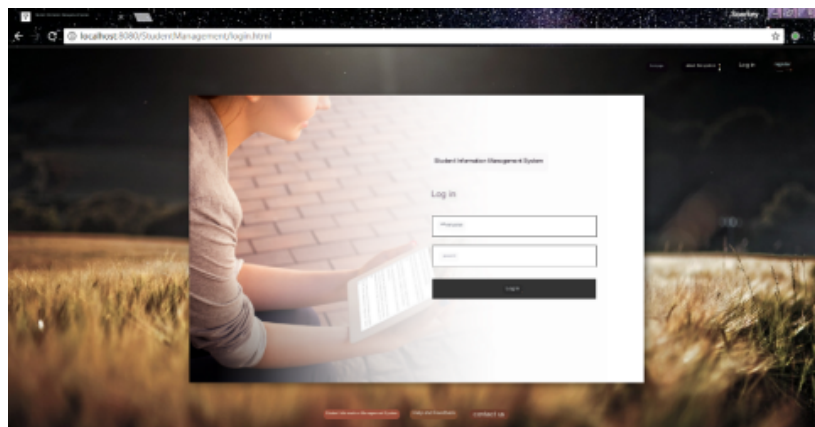# System Research:

Example 1 - System Information Management System

Soarkey. (2021). StudentManagement. GitHub.

Available at: https://github.com/Soarkey/StudentManagement

(Accessed: May 3, 2023).

This system implements a student information management system using Java Web technology, with simple student information management functions.

1) Base case: Login page

Advantages: The website has strategically placed important links to enhance user convenience. Users can easily access links to the homepage, "about the system" page, and login and registration pages located at the top right-hand corner of the page. At the bottom of the web page, users can find links to "help feedback" and "contact us," providing a hassle-free way to reach out to the website's support team.

Disadvantages: The absence of a password reset link on the login page may cause inconvenience for users who forget their login credentials. To enhance usability, a recommended improvement to the page would be to include a "forgot password" link, providing users with a convenient way to reset their passwords.

2) Base case: This page serves as the return page for incorrect login attempts or non-existent users and is applicable for the website.
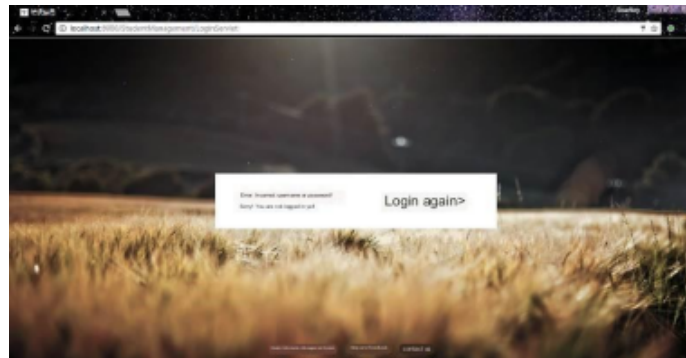
Advantage: The provision of an error page instead of an endless loading or unresponsive page can significantly enhance the user experience. This provides immediate feedback to users and assures them that the website is responsive.

Disadvantage: Users who forget both their username and password may encounter a loop of login errors that result in repeatedly returning to the login page. To overcome this, it is essential to support multiple login methods such as email, as outlined in the requirements.

Example 2 - Event Management System

Chanda, J. (2021). Club-Event-Management-System. GitHub.

Available at: https://github.com/Jugal-Chanda/Club-Event-Management-System

(Accessed: May 3, 2023).

This project is to create a platform where university students can find all events of their university and know the updated news and notices from one place and the organizer of the events can manage the student's information of who were participating in their past events.

1) Base case: (Admin Dashboard) This dashboard is accessed by university authorities.
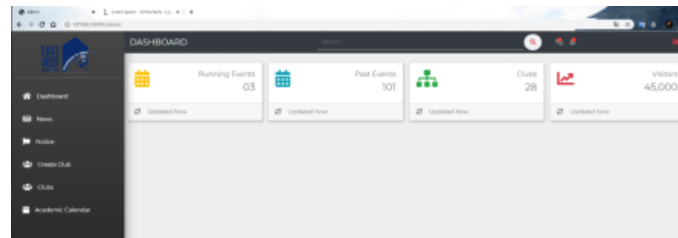
Advantages: The admin interface provides a clear overview of the current events and clubs that they are responsible for, which is a significant advantage. A notable feature is that the admin can monitor the visitor flow rate on the website, generating valuable data that can positively impact the overall strategy of the website.

Disadvantages: However, this page may be too simplistic and brief, as it may lack the necessary features to manage all users of the website and access their information. A separate section dedicated to managing user data could be more convenient for admins.

2) Base case: University authority can add news and can delete unnecessary news and can see all added notice and can delete old notice.
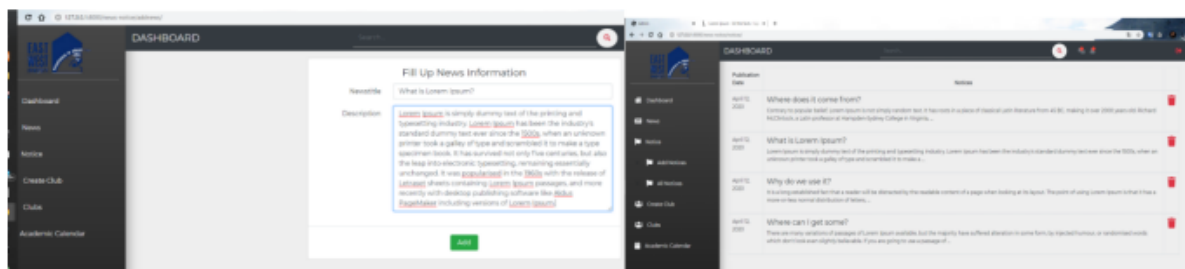

Advantages: The news section presents a clear and organized outline of the latest updates. Furthermore, the sidebar serves as a valuable tool for admins by providing most of the necessary functions, including club management, which can be accessed quickly. This allows admins to find what they need without having to navigate through the entire web page.

Disadvantages: However, the website could be improved by incorporating a selection bar that permits authorized personnel, such as club managers and admins, to select one or more specific clubs to post and search content. Additionally, authorized individuals should be given the option to make their posts public or private for guests, enhancing the website's overall functionality.

3) University authority can add an executive member of every club. And search by email address for adding an executive member. If the email is valid for if this user has the ability to be an executive member authority can add him.

The ability is checked by the following information:

- Is he an executive member of another club?

- Is he an admin?
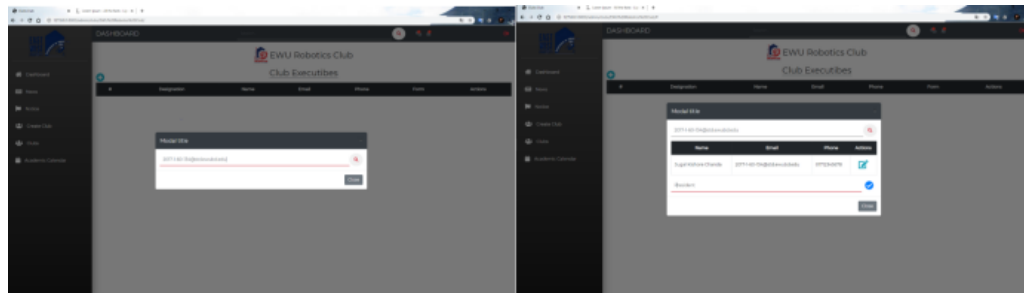
Advantage: The executive member addition function allows for quick and accurate identification of individuals who are qualified for the role based on their existing positions as executive members of other clubs or as admins. This enhances the efficiency of the system and enables better management of clubs by managers and admins.

Disadvantage: However, this function requires the university to have access to the email addresses of all potential executive members, which may raise privacy concerns among certain individuals.

4) Base Case: Users can register this event. This is the general user view of this platform. And users can go to events and see all events.
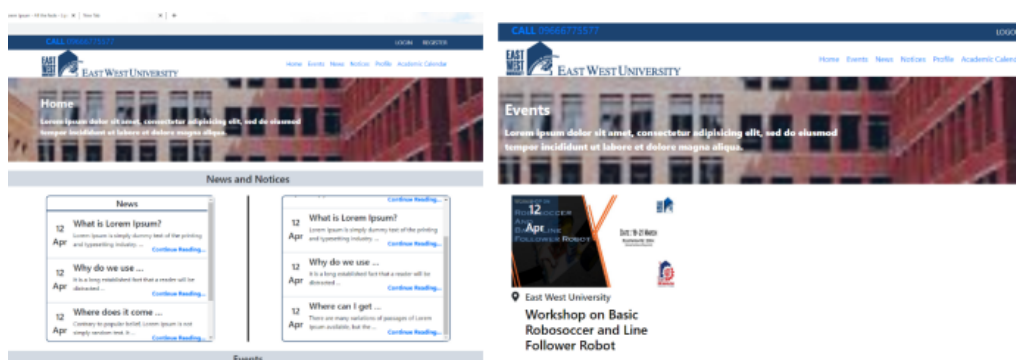

Advantage: The user-friendly interface of this page simplifies the process of finding events for general users, enhancing the platform's overall usability. Additionally, this page offers transparency and builds trust between the club and its members by displaying all organized events and their schedules.

Disadvantage: However, the absence of restrictions on the number of registrations allowed may lead to overbooking of certain events, resulting in convenience for those who are unable to attend.

Example 3 - Meetup (https://www.meetup.com/)

Meetup is a social media platform for hosting and organizing in-person and virtual activities, gatherings, and events for people and communities of similar interests, hobbies, and professions.

1) Base case : Users without accounts can view public upcoming online events.
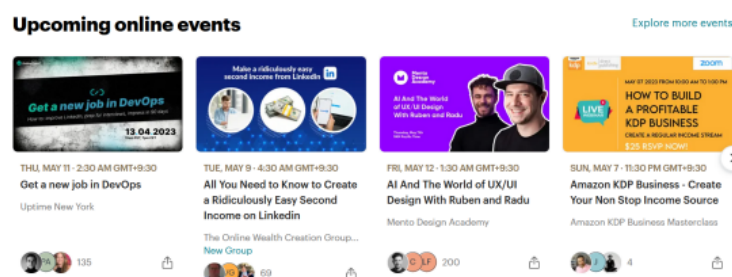
Advantage: The interface effectively provides information about online activities, hosts, and schedules to unregistered users, promoting events and increasing attendance. The "share" button in the lower right corner further expands the event's visibility.

Disadvantage: However, displaying the specific number of participants may discourage attendance to niche events, as users may opt for more popular options. To remedy this, a maximum number of participants can be set, and the number of participants can be displayed using a percentage progress bar.

2) Base case: It shows the popular groups currently for guests.
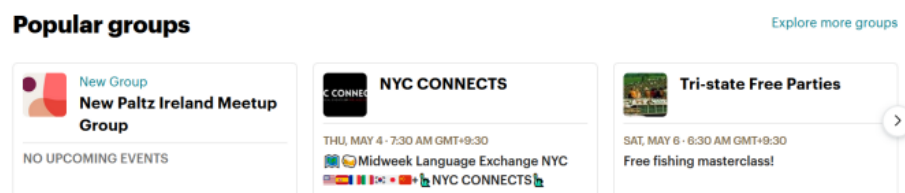
Advantages: Users can discover trending and popular groups, increasing engagement and fostering a sense of community among like-minded individuals.

Disadvantages: However, placing new groups alongside popular ones may make it challenging for new groups to attract members and gain visibility. This may lead to a lack of diversity in available groups and limit opportunities for users to connect with others who share niche interests.

It may need to create a dedicated "New Group" section, which will update in real-time with the latest created groups, and offer some rewards for new users and new groups such as points, to stimulate their activity.

3) Base case: The information area at the bottom of the web page allows users to join, follow Meetup on social media, download the app and so on.
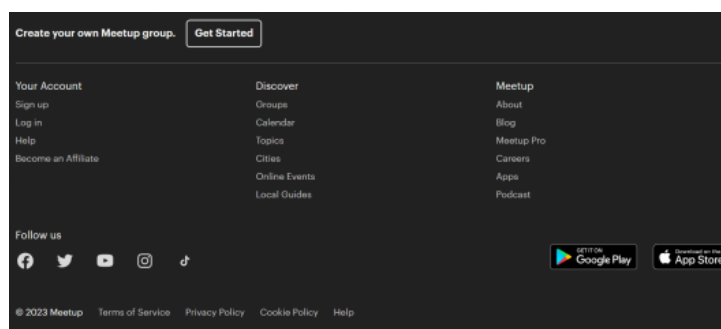
Advantage: It provides users with easy access to additional resources and information related to the platform, which can help increase user engagement.

Disadvantage: The information area is a bit cluttered and difficult to navigate, especially "Discover" and "Meetup". There are many things below without vital points. So it's important to carefully consider the placement of functions in the information area in order not to overwhelm users.

Design Considerations:

Overview when designing

The student club application includes users such as students and managers. Users with different levels of access to files and documents will use the platform depending on their token grants.

We must protect their privacy, prevent information leaking, consider compatibility and scalability when selecting online programs, and not be overly creative in designing the site — keep it simple so that we can implement it.
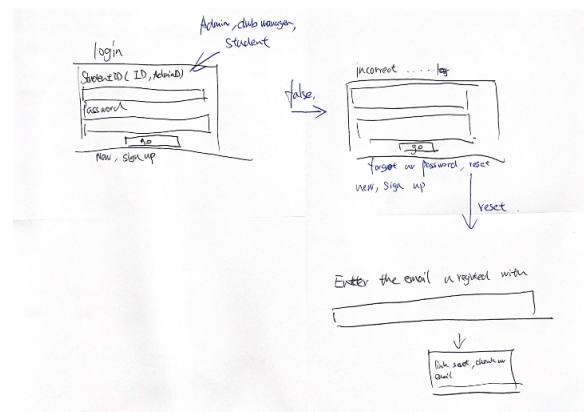
Goals and Guidelines

The web app should be easy-to-use, safe, and engaging for its users. Users should have the option to link social media accounts—and email if possible—for easier login. People who don't have an account can still view public information about a club/team they're interested in joining, but won't be able to post updates on their own or comment on other people's posts or view private updates posted for club members only. Email notifications, or links to social media outlets such as Twitter and Facebook, can be added as special features. We have decided to include email notifications as part of our web app.
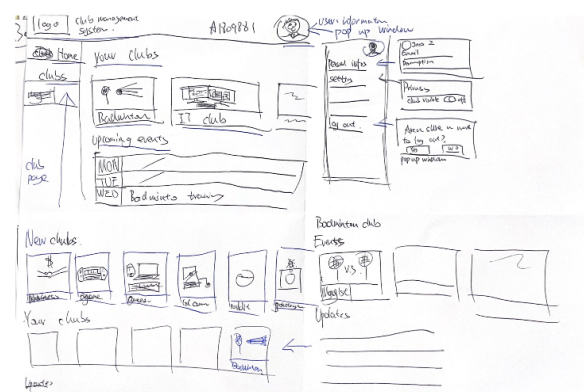
Development Methods

I used pen and paper to draw the initial design. This was helpful when I digitized it on Pixso.

The physical design of our app helped visualize the web application concept, and gave a clear guide as to how it should be implemented using code.
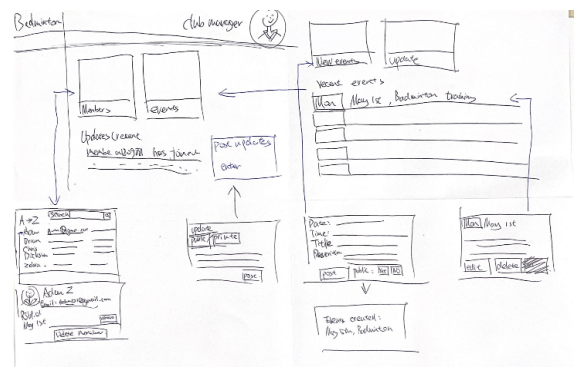
|	
1. Login page, combined with base case if login was unsuccessful or forget password.	
2. General view of the home page(student or guest). Here I did not note what color will be used in each part. Which I have included in the digital version.	
3. Club manager view The blue lines identified as function connection lines. Where the manager can check out members, individual member information, post updates and create new events in line with an inbox bar for receiving alerts on pending events.	
4. Admin view. Where it has 3 main parts to manage: clubs, user, other.	
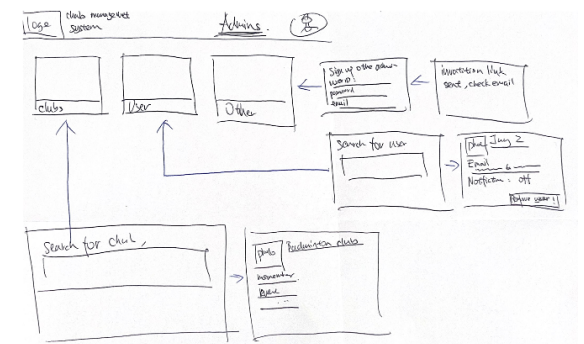
The software chosen to visualize the web app on the computer is Pixso. It has all kinds of sizes for boards—from 1920 by 1080 pixel screens down to mobile devices. The connection lines were used for marking how each page connects with others, including their true or false values (as indicated by red and green lines). Black lines are general connections between pages that aren't related with specific conditions; they're just there so users know where other things live in case it seems important later.
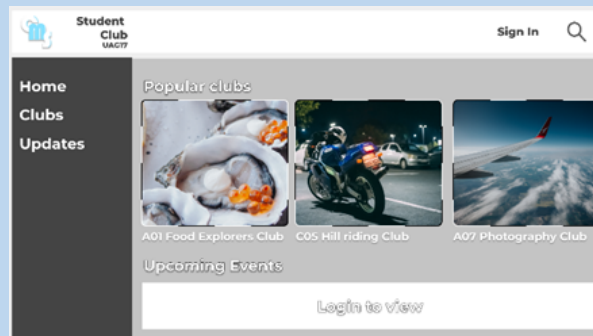
The software design was done in two parts. The first part was a high-level design that included all of the screens, interactions and information flow that the app would have. The second part was the implementation of this design in code.
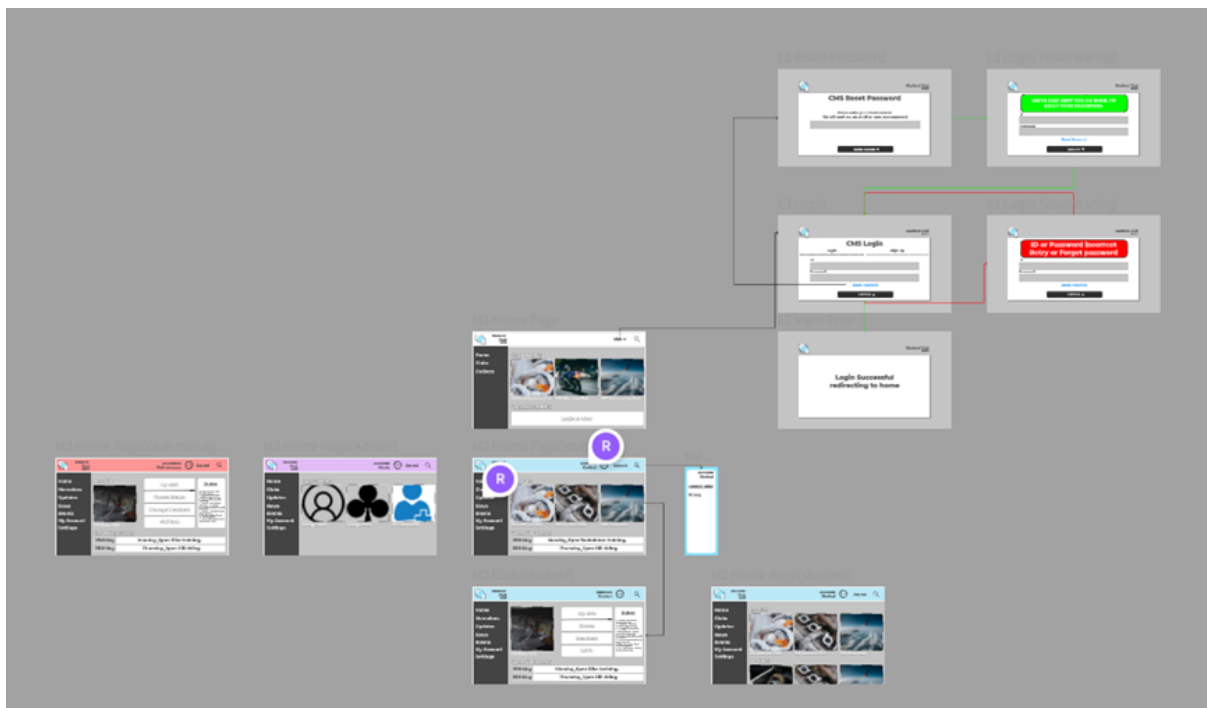
Here is what it looks like with the connection line. I will be showing the pics one by one.
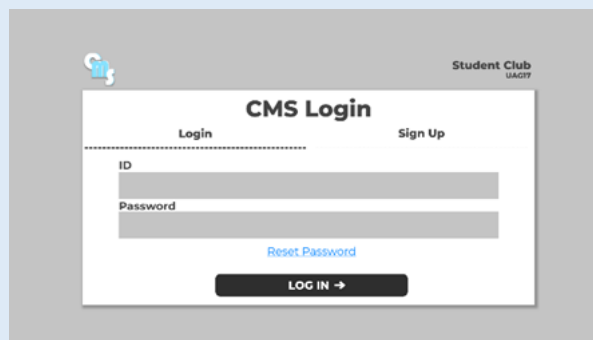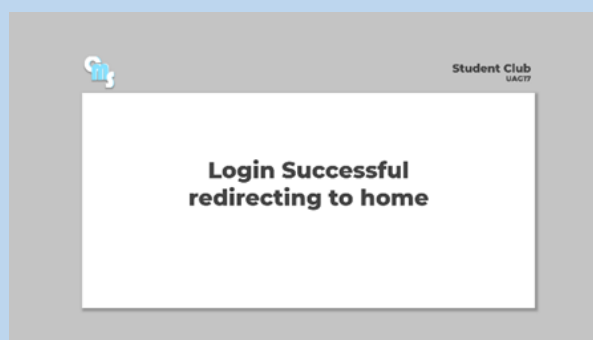
Page list		
Home page		At this page, user can login, signup, search or just view as a guest.
Login		When the user clicks the sign in at home page, it leads the user to this page where the user can login using their email or id with password.
Login true		When the given info matches what we have stored in the database, it will automatically redirect users to the home page with the correct user type.

Login false		When the database returns false, the login program will pop up a warning like this.
Reset password		Reset password
Reset password true		Showing a warning that reset email has been sent.
Home(student view)		When a user is logged in, it will show up with their role on the top right corner. With the corresponding color background
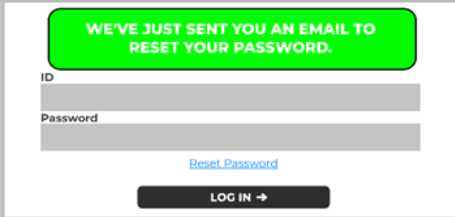
Home(club manager view)		With red header.
Home(admin view)		With purple header.
Clubs(student view)		Student view when clicking clubs
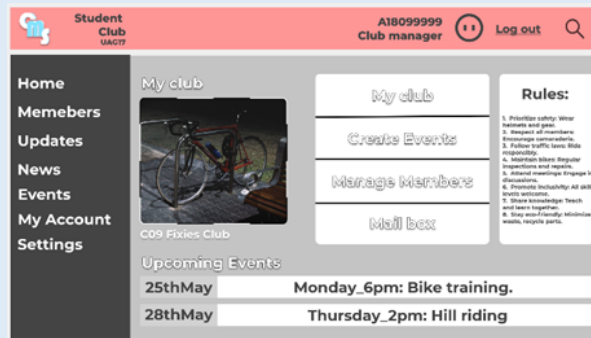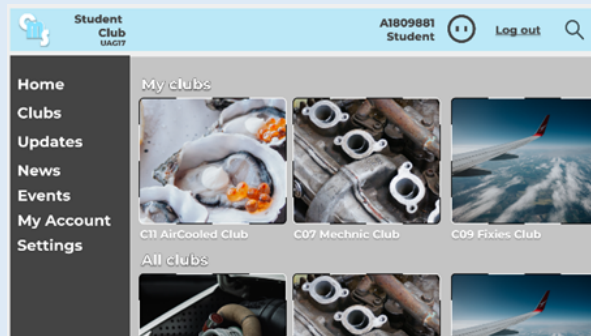
Student icon pop up menu	A1809881 **Student** Personal Infos Privacy	When a student or user clicks the person icon, this menu appears. From here, they can edit their personal information and view privacy settings.

Color theme codes

Color	Color Code	Part
White	FFFFFF	Header background
Light blue	88E2FF	Logo
75%Black	444444	Text with links
Black	000000	Text
Light pink	D688FF	Admin header background
Light red	FF9696	Club manager header background

Database Schema
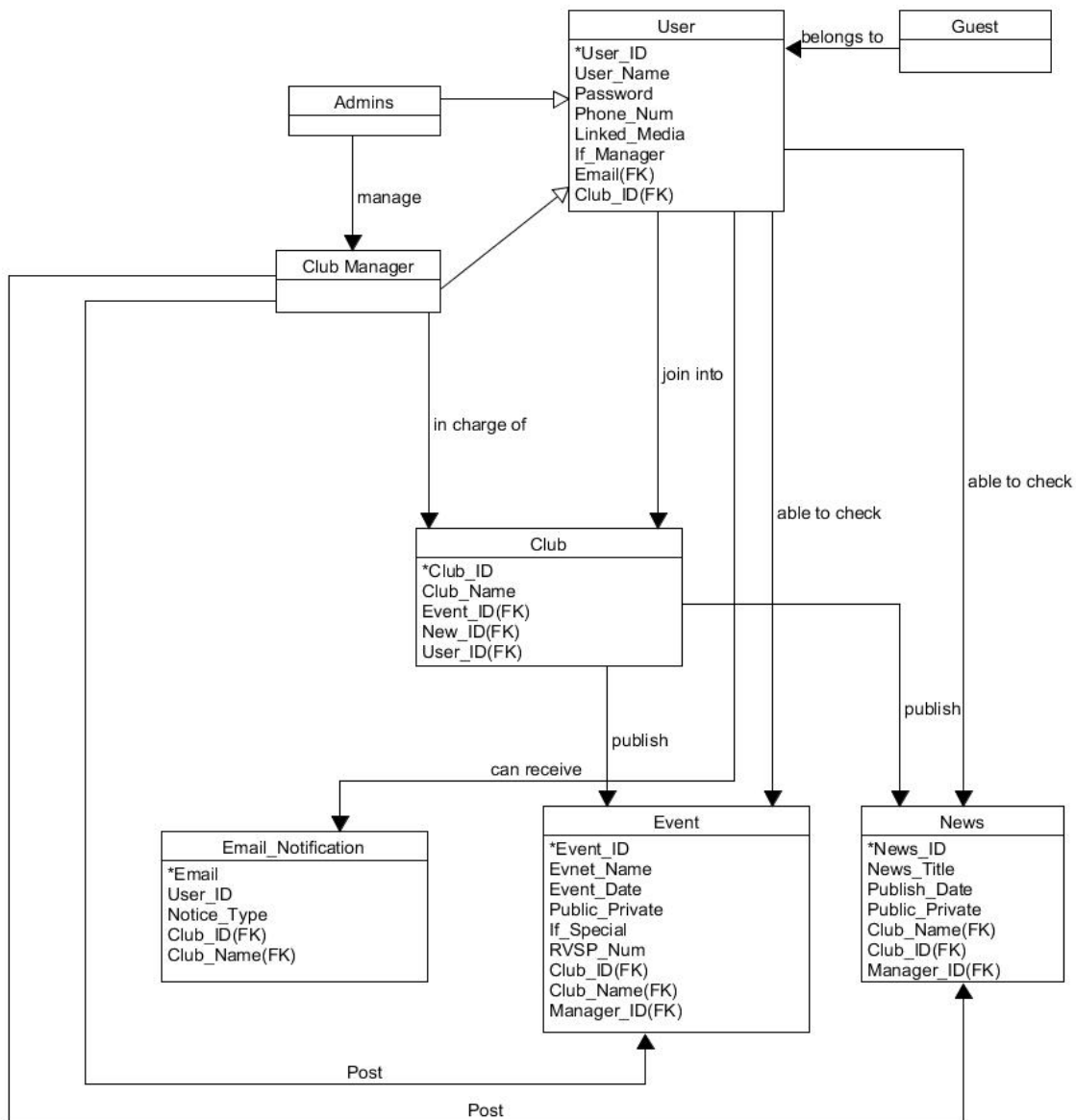
FEATURES PART (LEE)

Architectural Strategies

- HTML
- CSS
- SQL
- Vue3

System Architecture (features)

User Registration and Site Membership

Users can become members of our site by registering. Site members can join the club and view private content in the club, as well as receive bookmark and calendar alerts for events. If you do not register, you will only be able to view public content and many of the site's services will not be available. Therefore, we recommend that you register.

Sign-up Process

To sign up, we require users to provide their username (user ID), email, date of birth, address, and phone number. We request the user's address to make it easier for them to find a club that suits their location. Additionally, we ask users to choose their hobbies and majors to help them find the most suitable club.

Sign-in Process

To sign in, users need to input their user ID or name and password. If the user forgets their password, we can send a verified message to their email to help them change their password. Users can also modify their information on the profile page.

Profile Modification

In the user profile page, users can modify their hobbies and majors. They can also post their messages or articles to attract other people to the website and make friends. The website will prioritize users to push students with the same hobby and major.

User Management

The user manager has superpowers and can manage users who make unfriendly comments by banning them or deleting their posts. Additionally, the manager can visit the website traffic to summarize some useful conclusions for the site.

Club Creation and Joining

Users can create or join a club. The club page will show the number of club members and the owner of the club. It will also display the calendar of events.

Creating a Club

To create a club, the user needs to enter the club name and select the club category (e.g. Music, Study, Movies, Sports). The owner also needs to write an overview of the club to introduce it. After creating the club, the system will audit it, and if successful, the system will allot a unique club ID.

Joining a Club

If the user wants to join a club, they can click the club page and select a category to browse the club list. The list will be based on the user's habits and major to recommend the most suitable clubs. They can click different clubs to view the club members and overview. If the user decides to join a club, they just need to click the "request" button until the club owner allows them to join.

Organizing an Event

Club owners and members can create club events. They need to input the event aim and requirements. When submitted, the event will display in the event calendar, and this information can be set private or open. Club members can see who is attending.

Club Management

The club owner and manager can invest and delete club members. Additionally, the club owner can select people to be club managers to help manage the club.

Discover Feature

Our website can use user authorization to access their location information to push articles and users who are nearby. If interested, users can choose to send a message to each other to make friends or just follow each other. The system will give priority to users who are close to each other and have the same hobbies or majors. This feature is similar to Twitter.

Feedback system

When the user uses our website for 2 hours the website will push a dialog box to ask them suggestions and if they finish the feedback we will give them a chance to draw a reward.

Review

Review group work		
Name — Part	Group member suggestion	Reflect
Hong — Search	Jay: Very well organized. Pictures and sources are provided. And there are analysis comments on this interface under the corresponding picture. The only downside of this approach is that the analysis summary may contain too many words which makes it hard to read. But overall, this is excellent work; it really helps us when we are trying to get ideas from others about how our own web app should look.	Hong: Thank you for your suggestion! I'm glad to hear that you found it well-organized and that the inclusion of pictures and sources was helpful. And I have revised the content by removing some details and summarizing it.
	Lee: Totally is a great work. It has a detailed features introduction and lists the advantages and disadvantages of those features. It gives us a good way to design the website. Maybe we should add one or two more creative features to make our website more	Hong: I'm glad you found the features introduction detailed and the advantages and disadvantages helpful. Adding more creative features is a great idea to make the website

	attractive.	even more attractive. I am going to add more.
	Jack: I think these examples are good, both to write the advantages of these designs and to list the disadvantages. Take the best and discard the worst in your own design.	Hong: Yes, studying examples of both good and bad designs can be helpful in developing our own website!
Jay — Design	Jack: I think it's well written. There are two points that could be optimized: 1.When we click "sign up", a small pop-up window will appear for users to sign in. This pop-up is based on the original interface, so there is no need to make a new page. 2.The page doesn't look like a big deal, and then there are some issues with the proportional design of the UI. When put to page size, all the buttons look overwhelmingly huge and empty of content. The size of these buttons should be reduced and filled with new content in.	Jay: The signup page is an independent page. I refer to the login account scheme of the University of Adelaide. They used an independent page for user to login and it was well designed so that no part made your screen messy I agree that the size of buttons are a bit large. This is just to visualize the page. I will adjust the size of those in the implementation.
	Hong: 1. Add the logout button as other pages in the student home page may be better. 2. Student pop up menu might add into the above sidebar.	1. That is a good idea. I will do so. Thank you for the suggestion! 2. We will try both and decide which is easier to use.
	Lee: Need to improve the aesthetic degree.	Haha, definitely 🙂
Lee — Feature	Jay: 1. Providing more detailed	1. Yes I think so but these are all

	explanations of each feature and how it benefits the user. 2. Organizing the features into categories or subsections to make them easier to navigate. 3. Including visual aids such as diagrams or flowcharts to help illustrate how the features work together. 4. Highlighting any unique or innovative features that set the system apart from competitors. 5. Soliciting feedback from users or stakeholders to identify areas for improvement or additional features that would be useful. By implementing these suggestions, you can create a more comprehensive and user-friendly System Architecture (features) section that effectively communicates the value of your product's features to potential users.	simple features so brevity is enough. 2. Yeah sure. There are four categories:user, club, manager, discover. 3. Sure we can design a guidebook for beginners to help them use this website but it's a little difficult to implement. 4. Sure we can highlight our "Discover" feature to guide users to use it. 5. That's a good idea. It can help us to improve our website. I will write it down.
	Hong: May add a function such as the "might interest" part to recommend clubs and events to students within the discovery part.	Yes, the discover part is similar to your suggestion. In discover part, the user can find some club or user whose system is pushing.
	Jack: I think it's well written. The permissions and functions of all users are very detailed and you can get all the details very clearly. More examples could be included to enrich the language.	Thanks for your recognition.