

Enterprise Web Software Development

COMP1640

EWSD Group_4 Report

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1.Group Work Details

URL of Group Repository: <https://github.com/Group-4-EWSD/Documentation>

Source code repository link: <https://github.com/Group-4-EWSD/Website>

Screencast: https://drive.google.com/drive/folders/1VOjRJ5CZxdPeNfszqsAqEob3n8dxx8Ce?usp=drive_link

Website: <https://aurora-university.vercel.app/home>

Each user role has various types of websites features they can and that is why email and password are created for each user role.

User Role	Email	Password
Admin	avery.morgan@gmail.com	password123
Marketing Manager	tyler.owens@gmail.com	password123
Marketing Co-Ordinator	emma.wilson.coordinator@gmail.com	password123
Student	rachel.scott.student@gmail.com	password123
Guest	connor.hayes@gmail.com	password123

Table 1: User Roles Details

Database

host => mysql-3f974194-myatpaingminn-c35c.c.aivencloud.com

port => 21236

database => defaultdb

username => avnadmin

password => AVNS_w0ns5vkJlaUCcLLaDyU

AWS S3 Credential

*AWS_ACCESS_KEY_ID=AKIA4T4OCN334QRKW3O6
AWS_SECRET_ACCESS_KEY='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'*

AWS_DEFAULT_REGION=ap-southeast-1

AWS_BUCKET=ewsdcloud

AWS_URL=<https://ewsdcloud.s3.ap-southeast-1.com>

AWS_ENDPOINT=<https://s3.ap-southeast-1.amazonaws.com>

Google Mail Credential

MAIL_MAILER=smtp

MAIL_HOST=smtp.gmail.com

MAIL_PORT=587

MAIL_USERNAME=group4.ewsd@gmail.com

MAIL_PASSWORD=brlieeprxliqjjdp

MAIL_ENCRYPTION=tls

MAIL_FROM_ADDRESS=group4.ewsd@gmail.com

MAIL_FROM_NAME="\${APP_NAME}"

2. Introduction & Assumptions

2.1 Introduction to the system

This report outlines the design, development, and implementation of a secure, role-based web system for organizing and gathering student contributions for an annual university magazine. The project was successfully completed through effective group collaboration using agile SCRUM methodologies, as each team member was assigned a specific role, ensuring a well-structured and efficient workflow. The report will also present a user-centered system, highlighting its design, and helpful features.

A university magazine requires an organized, even secure method of collecting and managing students' contributions. A web-based role-based system helps manage submissions, assign roles, and protect data. All participants who use the system would benefit from clarity and speed while the sensitive data will be protected by giving access only to authorized users.

We will describe and document a secure web-based role-based system for collecting student contributions for the Annual AURORA University Magazine. This system is for the six faculties of AURORA university including the: Faculty of Science, Faculty of Mathematics, Faculty of Art, Faculty of Engineering, Faculty of Information Technology (IT) and Faculty of Business. All students from these six faculties are welcomed and encouraged to submit articles to the Annual university Magazine.

The system defines different roles for users such as admin; students; guest; marketing coordinators; and administrators all of whom only get access to information relevant to their roles.

2.2 Assumptions

The following assumptions were made for the requirements for the system developed in this course:

1. There are 6 faculties in Aurora University:
 - Science
 - Mathematics
 - Art
 - Engineering
 - Information Technology (IT)
 - Business
2. The Administrator creates accounts for Students, Guests, Marketing Coordinators, and the Marketing Manager, so a registration page is not required.
3. Students can view 'how many students have submitted a contribution' report after published.
4. Students can update their information for security, but their Faculties and Emails cannot be changed.
5. Marketing Manager, Marketing Coordinator & Admin view reports.
6. Guest users can view and comment the approved articles from their relevant faculties.
7. Pre-Upload Deadline and Actual Deadline are different dates and those days are set by Administrator.
8. The Administrator will be able to view analytic reports that track:
 - Most viewed pages.
 - Biggest user activity
 - Browsers used to access the system.
9. If a guest account for a faculty member is created, a notification email will automatically be sent to the Faculty's Marketing Coordinator.
10. Faculty Marketing Coordinators will have the access to view a list of all guest accounts associated with their faculty.

3. Agile Methods

3.1. Planning

3.1.1. RACI Chart

RACI is the model that quick way to lay out roles and duties on the project. It should have at the early stage of the project and it's made all the team member in the right channel when work together to achieve the target. If the project is slow down or any barrier, easy to trace back which area require for reinforcement. Our team use for RACI chart to assign duties and roles before starting the project.

(Sharma, 2025)

EWSD: RACI Chart (GROUP 4)									
S/N	Description	Frontend	Database	Backend	Tester	Document	Team Lead	Product Owner	
		Group	Group	Group	Group	Group	Thu Za Myat	TR. Htar	
1	Template to finalize	R	I	I	I	I/R	A	C	
2	Form Design	R	I	I	I	I/R	A	C	
3	System and Function Analysis	R	R	R	I	I/R	A	C	
4	Reaction of design, Interaction by using VUEJS	R	I	R	I	I/R	A	C	
5	Create Form and backend coding by using Laravel	I	R	R	I	I/R	A	C	
6	Database Design	I	R	R	I	I/R	A	C	
7	ERD	I	R	I	I	I/R	A	C	
8	Normalization	I	R	I	I	I/R	A	C	
9	Use Case Diagram	I	R	I	I	I/R	A	C	
10	Class Diagram	I	R	I	I	I/R	A	C	
11	Insert Sample Dataset for Coding	I	I	R	R	I/R	A	C	
12	Prepare Dataset for Project	I	R	I	I	I/R	A	C	
13	Insert Dataset Through Form	I	R	R			A	C	
14	Testing	I/R	I/R	I/R	R/A	I/R	I	C	
15	Documentation : Report Template	I	I	I	I	R	A	C	
16	Documentation : Power Point	I	I	I	I	R	A	C	
17	Documentation : Weekly Meetign Minute	I	I	I	I	R	A	C	
18	Presentation	I	I	I	I	R	A	C	
19	Submission	I	I	I	I	I	R/A	C	

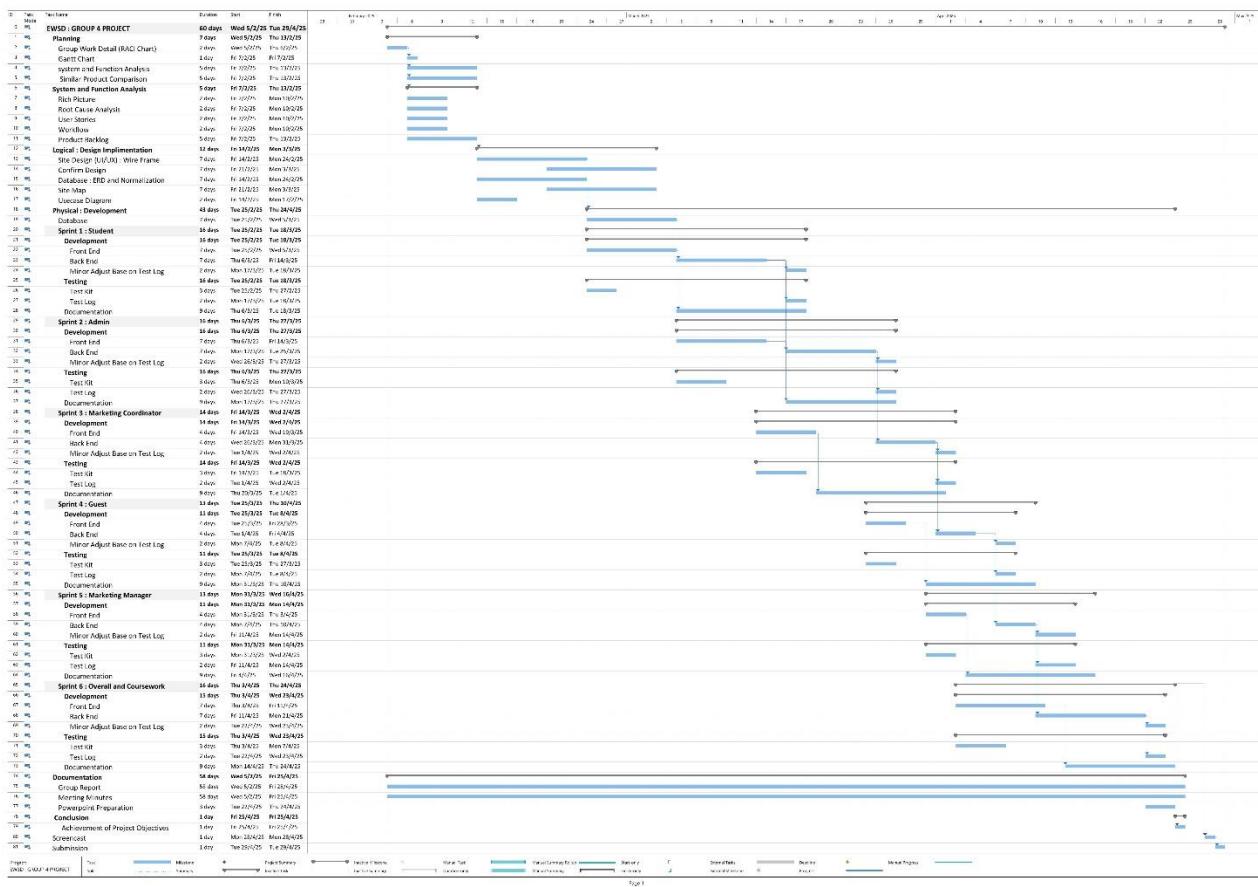
R : Responsible
 A : Accountable
 C : Consult
 I : Inform

Figure_1.1: RACI Chart Details

3.1.2. Gantt Chart

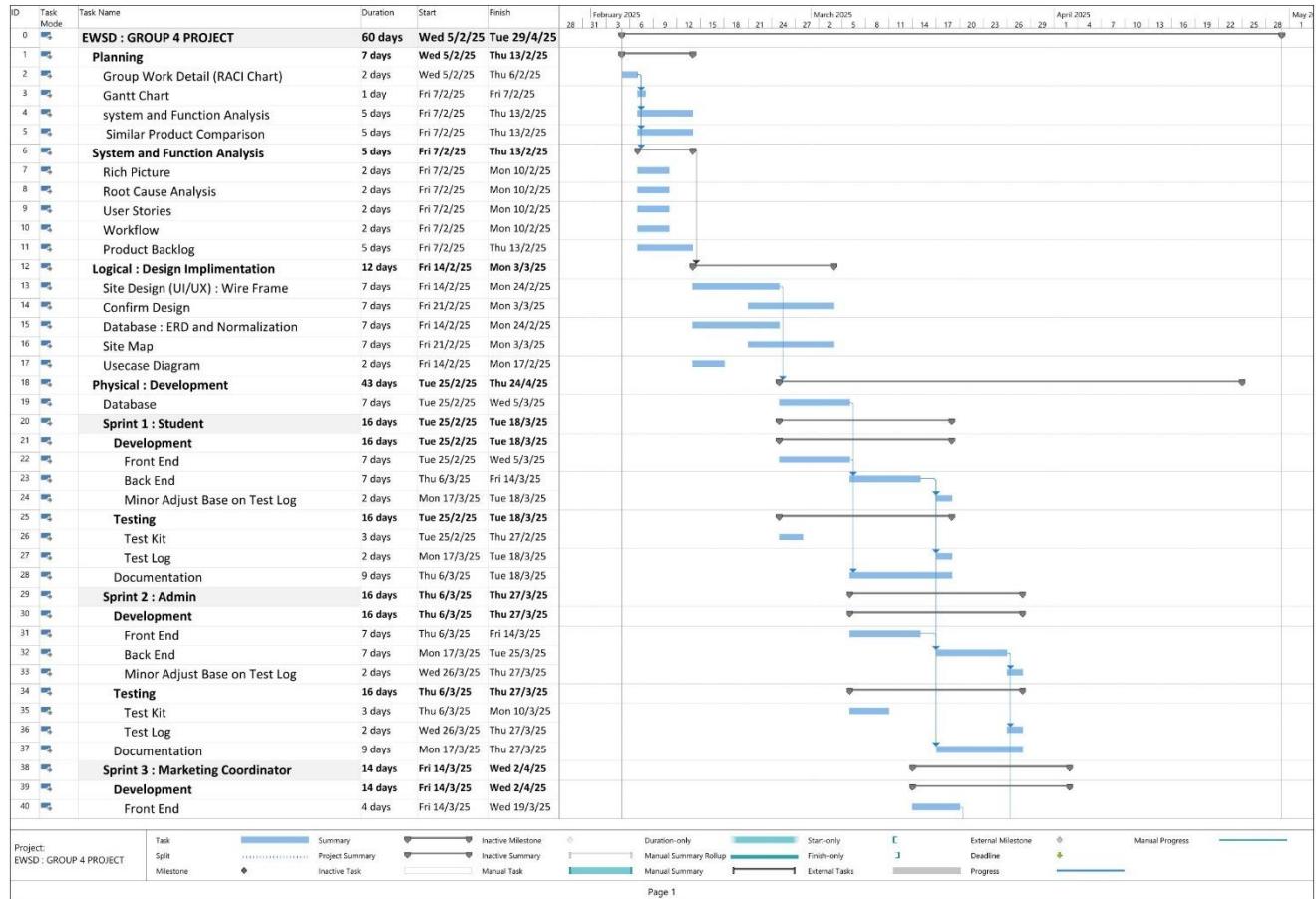
Gantt Chart is the most popular and common using in project management. It's showing activities with time frame is the useful way to monitor. It's help to monitor not only own task and time frame but also from others who have to carry out duties afterward. Such as each activity is represented by a bar with start and end date as well as the link to the related task, overlap with other activities. In this project using Gantt chart for project management. (Gantt, 2025)

Overall Plan



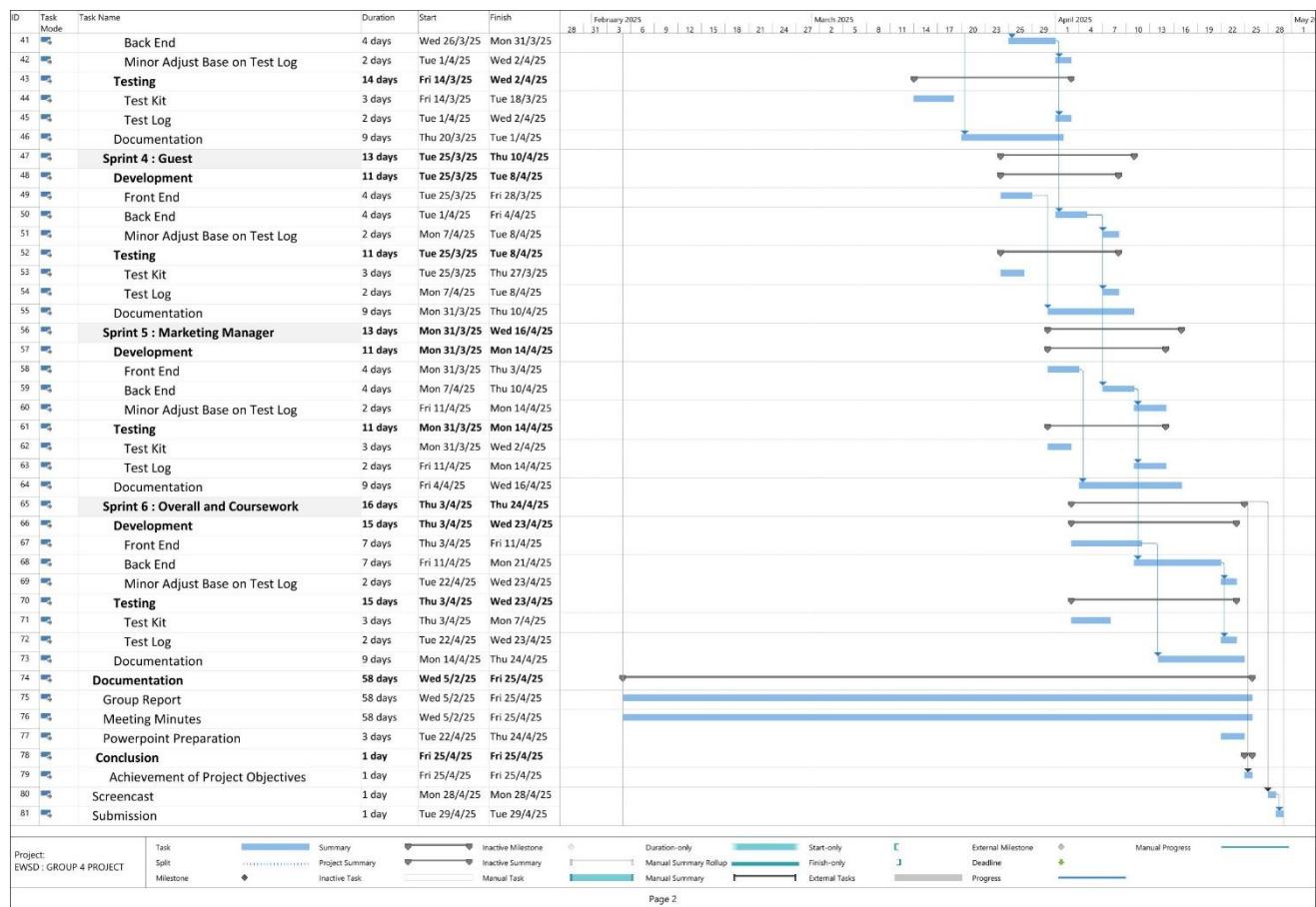
Figure_2.1: Overall Gantt Chart Details

Overall: Part 1



Figure_2.2: Gantt Chart Details showing Planning to Sprint 3 (Part-1)

Overall: Part 2



Figure_2.3: Gantt Chart Details showing Sprint 3 (Part-2) to Conclusion

3.2. Minutes of meetings

Week	Date & Time	Attendance	Activities / Discussions	Tasks to follow up for Next Week
1.	11/01/2025 10:00–01:00 (90 mins)	Kyaw Thu Absent	<ul style="list-style-type: none"> • Roles on the team were assigned. • Decided on the mode of communication through Microsoft Teams. • Discussed UI/UX, frontend, backend, database, testing, and documentation responsibilities. 	<ul style="list-style-type: none"> • Finalizing on UI/UX template and basic form design. • Starting with basic queries and ERD. • Create initial documentation. • Type of software use for the project to propose.
2.	18/01/2025 10:00–01:00 (90 mins)	All Present	<ul style="list-style-type: none"> • UI/UX to use Figma. • Frontend to use Vue.js, Typescript, Tailwind. • Backend to use Laravel. • Need Task management for frontend/backend. • To create individual groups for follow up discussions. • Will discuss and agree upon the database structure. • Testing to be done with real data. 	<ul style="list-style-type: none"> • Will put together and propose initial design at next meeting for Registration Form and User Login. • Prepare initial SQL queries to provide back-end team. Once you are done, follow up with filling in data in excel.
3.	25/01/2025 10:00–01:00 (90 mins)	Thu Za & Zar Li Absent (Overseas trip)	<ul style="list-style-type: none"> • Discussed initial UI/UX sample designs with Zar Li in individual group. • Frontend discussion about the details in the initial design. • Backend discussion about the details in the initial stages • Database ERD and Testing preparations initiated. • Documentation Template & Power Point Presentation Template is uploaded in team file tab. 	<ul style="list-style-type: none"> • Discussion about factors in Weighted Scoring Model in next week's meeting.

Week	Date & Time	Attendance	Activities / Discussions	Tasks to follow up for Next Week
4.	01/02/2025 10:00–01:00 (90 mins)	All Present	<ul style="list-style-type: none"> • Breakdown Design Details requirement as per coursework. • Regarding the recommendations, break the roles between Student, Marketing Coordinator, Marketing Manager, Admin & Guest. • Need to make the website responsive. • Academic, role as per year. • All students will submit the Articles prior to the due dates - once they are submitted, no further submissions will be allowed. • The Marketing Manager can only download the articles, i.e., will not be allowed to edit any articles. • The Marketing Coordinator will provide feedback within 14days. Articles to be separate as their faculties. • Frontend and Backend discussed the synchronization requirements. • Updated database attributes. • Sample Testing plan discussed. 	<ul style="list-style-type: none"> • Dashboard designs for all user types began. • Student Home Page and Student Articles Page to follow up per UI/UX Design once confirmed. • UI / UX will design as per magazine-based idea. • Finalize dashboards and database design alignment. • To find out the sample articles post for data input.
5.	08/02/2025 10:00–01:00 (90 mins)	All Present	<ul style="list-style-type: none"> • Wireframes of UI/UX made for Student need to suggestion from the team. • Team comments and input needed on logo design and color palette for the project. • Discussed the frontend navbar to keep at top and left navbar as well. 	<ul style="list-style-type: none"> • ERD, Class Diagrams and draft complete function of the articles discussed. • Input from all members for Assumption to be used for record keeping.

Week	Date & Time	Attendance	Activities / Discussions	Tasks to follow up for Next Week
			<ul style="list-style-type: none"> Began backend coding for login/register/upload/download/register. 	
6.	15/02/2025 10:00–01:00 (90 mins)	All Present	<ul style="list-style-type: none"> UI/UX design for student dashboards, articles, settings, and notifications are completed. The other dashboards are still in progress. Frontend to complete the student dashboard and articles in coding. Backend added ID column for Faculty. Plans have been drawn up for the testing team. Documentation has been updated for weighted scoring model. 	<ul style="list-style-type: none"> The dashboard designs to continue. Testing to start progress.
7.	22/02/2025 10:00–01:00 (90 mins)	All Present	<ul style="list-style-type: none"> The UI/UX for the Marketing Coordinator's dashboard is complete including the dashboard, articles, settings, and notifications. The other dashboards are still in progress. Frontend backend synchronization is ongoing. Backend Student Dashboard in postman done. Discussed implementation of primary key UUID. Sample Test Plan and activity for Student is completed. 	<ul style="list-style-type: none"> To confirm ERD changes. Proposed rich picture design to confirm. Workflow design discussion to complete next week.
8.	01/03/2025 10:00–01:00 (90 mins)	All Present	<ul style="list-style-type: none"> Incorporated new features into Marketing Coordinator dashboard design as detailed in the coursework requirements. 	<ul style="list-style-type: none"> Front end and backend to complete dashboard integrations. Testing to proceed.

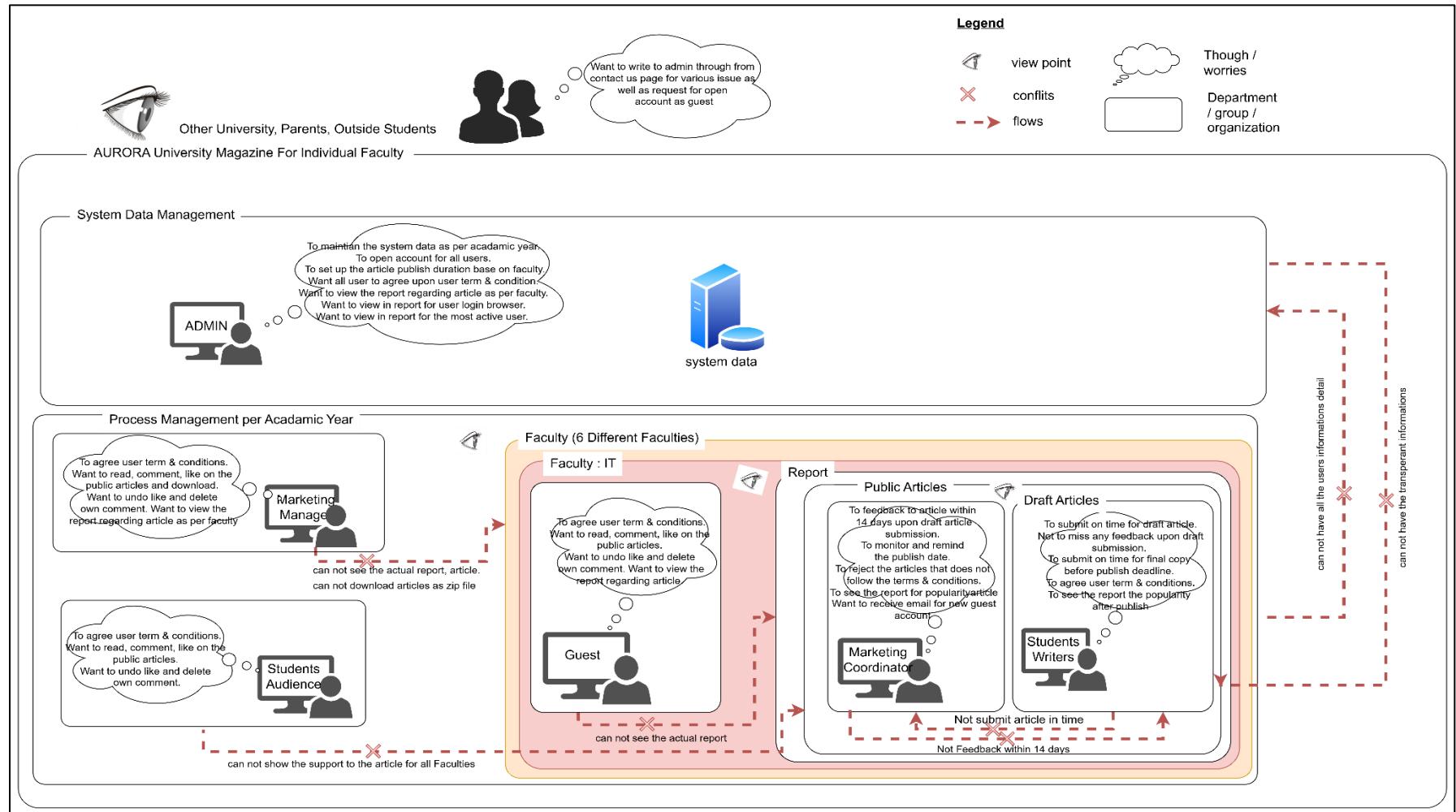
Week	Date & Time	Attendance	Activities / Discussions	Tasks to follow up for Next Week
			<ul style="list-style-type: none"> Frontend code to push in postman for backend to link with database. Backend completed Dashboard APN. Email function and file uploads coding are still testing. Database to capture the user login tracking system was discussed. 	<ul style="list-style-type: none"> To complete terms and condition page.
9.	08/03/2025 10:00–01:00 (90 mins)	Kyaw Thu (Absent)	<ul style="list-style-type: none"> All Dashboard page logos need to be changed. Marketing Coordinator dashboards need to be built in the Design and add some more functionality. To demonstrate status of countdown and show publish date in real time. New database columns have been added (DOB, Contact No.) Testing for dashboard login 	<ul style="list-style-type: none"> Complete backend integration with marketing coordinator functions
10.	15/03/2025 10:00–01:00 (90 mins)	Myat Paing Min (Oversea)	<ul style="list-style-type: none"> UI/UX no changes on Marketing Coordinator Dashboard. Proposed Design for marketing manager dashboards design. Combined the frontend/backend coding. Fixing back-end APN. 	<ul style="list-style-type: none"> Complete the remaining dashboard designs. APN to fix and combine pages.
11.	22/03/2025 10:00–01:00 (90 mins)	All Present	<ul style="list-style-type: none"> UI/UX Marketing Manager dashboard completed. Frontend Marketing manager dashboard to combine with backend. Backend Still in progress of fixing APN issues. 	<ul style="list-style-type: none"> To complete Admin and Guest Dashboard. Finalize backend testing for the marketing manager page.

Week	Date & Time	Attendance	Activities / Discussions	Tasks to follow up for Next Week
			<ul style="list-style-type: none"> • Documentation updates for Wireframes (new changes), assumptions as per new discussion 	
12.	29/03/2025 10:00–01:00 (90 mins)	Kyaw Thu (Absent)	<ul style="list-style-type: none"> • UI/UX Admin and Guest dashboards completed. • UI/UX Main Web Page Design was done for further discussion. • Frontend Marketing Manager Dashboard Data Integration done. Admin Design to combine with backend. • The API push had been done. • Database normalization updated. • Testing will be done once data migration to Vercel. 	<ul style="list-style-type: none"> • Continue frontend / backend final integration and testing. • The remaining works to follow up for homepage and Guest Page.
13.	05/04/2025 10:00–01:00 (90 mins)	Kyaw Thu Thi Han (Absent)	<ul style="list-style-type: none"> • All Dashboard Design was finalized and no further changes. • Vercel deployment issues resolved. • Database to update as per frontend/backend changes data. 	<ul style="list-style-type: none"> • Complete dashboard testing. • Screenshot and finalize for documentation
14.	12/04/2025 10:00–01:00 (90 mins)	Kyaw Thu Thi Han (Absent) Thu Za (work matters)	<ul style="list-style-type: none"> • Frontend feedback value for Marketing Coordinator page with backend. • Frontend added new features at marketing coordinator dashboard with approve button, quick approve button and cancel button. • Started Admin and Guest with actual data. 	<ul style="list-style-type: none"> • To complete Admin, Guest testing data to achieve functionality. • To update final documentation
15.	19/04/2025 10:00–01:00 (90 mins)	Kyaw Thu (Absent)	<ul style="list-style-type: none"> • Backend to link feature articles on homepage. • Admin contact form completed. 	<ul style="list-style-type: none"> • Final testing with real data. • Need user profile photos for backend to update.

Week	Date & Time	Attendance	Activities / Discussions	Tasks to follow up for Next Week
			<ul style="list-style-type: none"> Backend/frontend synchronization discussed 	<ul style="list-style-type: none"> Update documentation for extra features.
16.	26/04/2025 10:00–01:00 (90 mins)	Kyaw Thu (Absent)	<ul style="list-style-type: none"> Backend/frontend final bug error to fix filters as per testing team. Screencast to be done by leader. The presentation topics to be done by at least 1 representative. 	<ul style="list-style-type: none"> The password and email to finalize. Code and documentation to upload at github.

3.3. Rich Picture and Root Cause Analysis

A virtualize approach for the various related part of the problem in current situation. Its help the team members to easy understanding for the whole situation approach for focus area of the project. (Sciences, 2025)



Figure_3.1: Rich Picture of Aurora University

Root causes are the source of the problem that facing the organization but they are hidden.
 (George, 2023)

People	Issue	Possible root cause	Possible solution / explanation
Admin	To maintain the system data as per academic year. To open account for all users. To set up the article publish duration base on faculty. Want all user to agree upon user term & condition. Want to view the report regarding article as per faculty. Want to view in report for user login browser. Want to view in report for the most active user.	Difficult to maintain and trace the system data report because of no database system in the organization. Might not have full set of user information and event process information.	Create database system for organization. It will improve to maintain and trace the system data report. Opening account user and set up the magazine publish duration control by admin. It will help admin to not to duplicate user register and filter fake account creation by user. Allow admin to have the report dashboard. It will help admin easy to control the relevant information and view the overall report. Create contact us page on school website. It will help admin to have communication channels without spent plenty of time without postponed current duties.

People	Issue	Possible root cause	Possible solution / explanation
Marketing Manager	<p>To agree user term & conditions.</p> <p>Want to read, comment, like on the public articles and download.</p> <p>Want to undo like and delete own comment.</p> <p>Want to view the individual report regarding article as per faculty.</p> <p>Want to keep article from all faculty.</p>	<p>It is difficult to maintain and trace the article overall report and involve in all activities after publishing the magazine because of no database system in the organization.</p> <p>Might not have standardized report from the individual faculty's marketing coordinator.</p> <p>No space to store all printed article from all faculty.</p>	<p>Allow Marketing Manager to have report dashboard. It will help the marketing manager to oversee the whole process and view the report as he require from individual faculty on one glance.</p> <p>Allow him to download the selected articles as zip files. It will help him to keep the selected articles without using physical room space.</p>
Marketing Coordinator	<p>To feedback to article within 14 days upon draft article submission.</p> <p>To monitor and remind the publish date.</p> <p>To reject the articles that does not follow the terms & conditions.</p> <p>To see the report for popularity article</p> <p>Want to receive email for new guest account.</p>	<p>It is difficult to maintain and trace the articles individual submission, can't get the real-time popularity of the published article among audience.</p> <p>Might not have enough time to prepare real-time up to date report to</p>	<p>Allow the Marketing coordinator to have a report dashboard. It will help him to proceed with the whole process of publishing magazine within schedule without burden and allow to view the real time report about publishing articles.</p>

People	Issue	Possible root cause	Possible solution / explanation
		marketing manager while focus on publish date.	Allow email receipt as soon as admin creates visitor user account to relevant faculty. It will help to know how many visitors are willing to register and draw public attractions from their faculty.
Students	To submit on time for draft article. Not to miss any feedback upon draft submission. To submit on time for final copy before publish deadline. To agree user term & conditions. To see the report the popularity after publishing	It is difficult to maintain and trace the individual articles upon individual submission and revision, since each student has the right for submission more than one article. Can't get the real-time popularity of the published article among audience and might not be easy to meet with individual support readers.	Allow all students to have their own dashboard. It will help them to proceed with the whole process of draft article submission to publish magazine within schedule without burden. Easy access for individual feedback to relevant articles. Allow their article to have comments, like from audience and they can reply back. It will improve the connection and point of view between the author and audience. All users must acknowledge the term and

People	Issue	Possible root cause	Possible solution / explanation
			conditions under the agreement. It can help to reduce the conflict or break the rules for overlook upon user agreement.
Guest	To agree user terms & conditions. Want to read, comment, like on the public articles. Want to undo like and delete own comment. Want to view the report regarding the article.	Overlook under term & condition. Can't get the real-time popularity of the published article among audience and might not be easy to meet with author.	All users must acknowledge the terms and conditions under the agreement. It can help to reduce the conflict or break the rules for overlook upon user agreement. Allow all users to comment, like and can get reply back. As well as allow to delete or edit the own comment. It will improve the connection and point of view between the author and audience.

3.4. User Stories

Marketing Manager

As a	Want to	So that
Marketing Manager	ability to access the system	ability to monitor the process
Marketing Manager	view all selected contributions without editing ability	can view final content without the ability to edit
Marketing Manager	download a ZIP file of all selected contributions	download a ZIP file of all selected contributions
Marketing Manager	ability to access statistic article reports	view the report of approved articles, organized by faculty and academic year

Marketing Coordinator

As a	Want to	So that
Marketing Coordinator	have access to the system	supervised the entire process for my faculty.
Marketing Coordinator	unique access to the system	gather the contributions produced by the students of my faculty for publication
Marketing Coordinator	review and edit student contributions	can ensure quality and consistency before publication
Marketing Coordinator	receive an email notification when there is a submitted contribution	to review it in a timely manner
Marketing Coordinator	provide a comment on each submitted contribution within 14 days	students can improve their work for future submissions
Marketing Coordinator	be able to access statistic page	the report of approved articles, organized by can, and academic year

Administrator

As a	Want to	So that
Administrator	access the system	manage the data on the system
Administrator	manage the User table	create and update accounts for managing-level users and modify their information
Administrator	edit or delete the closure dates for each academic year	the system remains up to date and functions correctly
Administrator	be able to access the reports about system information	can view the report for most active users, most view pages and most used browsers
Administrator	access the statistic page	can monitor the usage of the system

Student

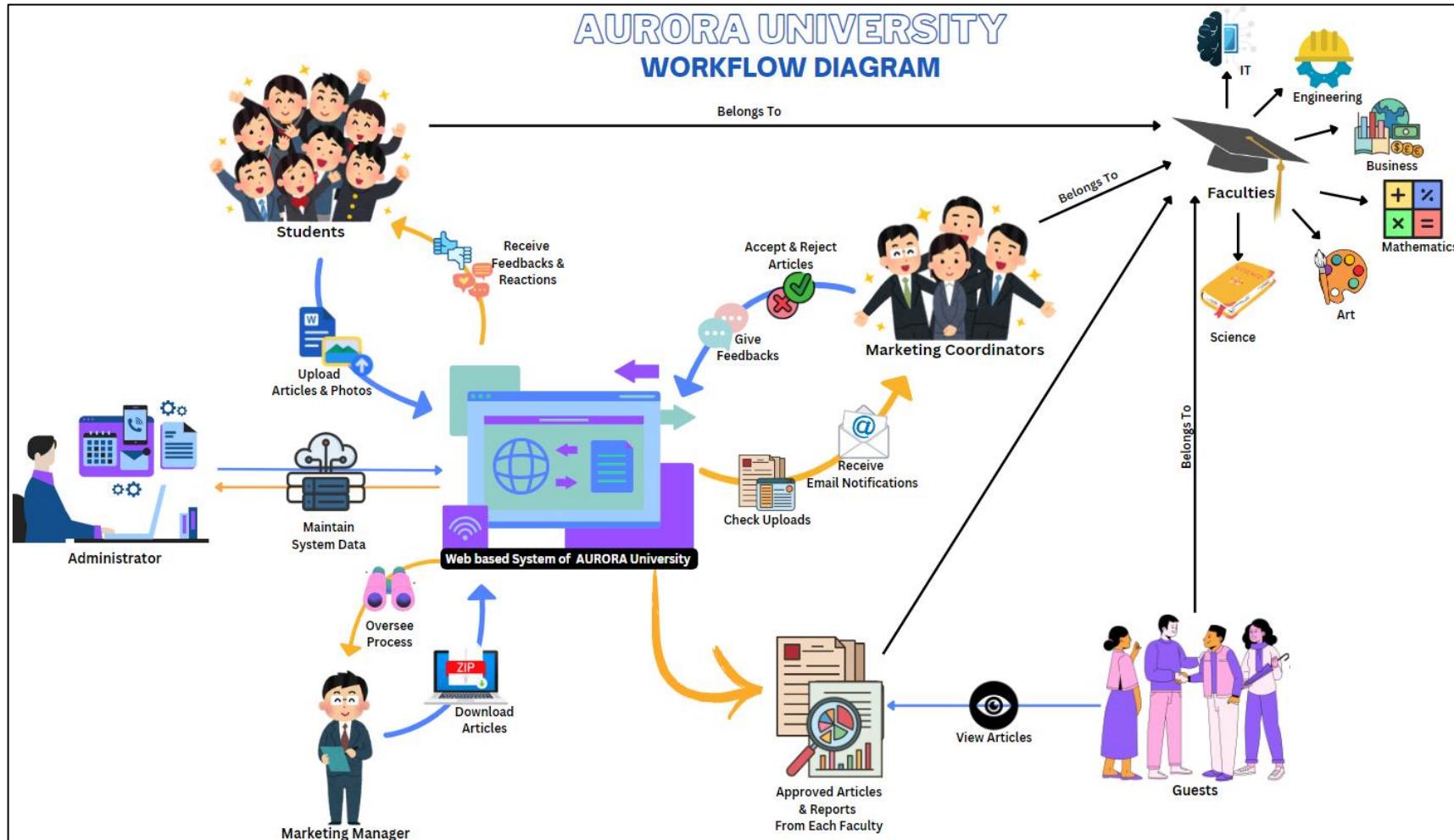
As a	Want to	So that
Student	supply one or more documents that are in word document	offer the articles for publishing
Student	upload medium to high quality images	can enhance the articles with images
Student	submit new entries before the closure date and update existing ones until the final closure date	can polish my work before it is finalized
Student	agree to T&C before submitting work	agree to the magazine's T&Cs and policies
Student	receive notifications when getting comments from Marketing Coordinator	can improve the work for future submissions
Student	the interface to be responsive on all devices (mobile phones, tablets, desktops)	can access the system conveniently.

Guest

As a	Want to	So that
Guest	access to the system	view the selected reports of my faculty.
Guest	be able to view the approved articles	enjoy the content without requiring additional permissions.
Guest	the interface to be responsive on all devices (mobile phones, tablets, desktops)	can access the system conveniently.

3.5. Workflow

A workflow diagram was necessary to clearly visualize the process that was under the system after the user stories list was created in accordance with the coursework specification.



Figure_3.2: Workflow Diagram of Aurora University Web-based System

3.6. Product Backlog

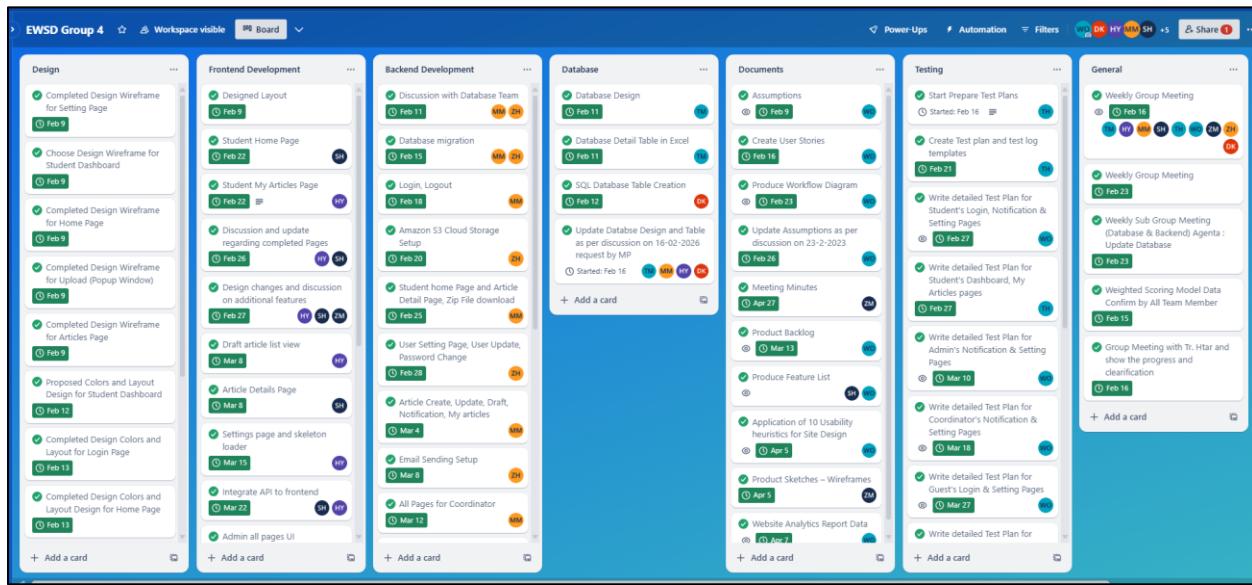
At the beginning of the project, we experienced the creation of a product backlog - which is a way to group and visualize the activities (that need to be developed) as well as organize and track what we were doing. We used the product backlog as a tool (like a roadmap) to ensure that we built all of the necessary features correctly. The list of the initial requirements is displayed in the following table in the order that we considered most important.

Very High Priority	
Task Name	Description
Marketing Manager Oversight	The Marketing Manager of Aurora University need to over sees the entire process.
Faculty Marketing Coordinator Management	There is a Marketing Coordinator for every Faculty. Each Coordinator is responsible for managing the process for the corresponding faculties, it is the responsibility of each Marketing Coordinator, for each Faculty, to manage the process, for the corresponding faculty.
Student Article Upload	All students should be able to upload the one or more articles in the word documents format for the yearly magazine.
High Priority	
Task Name	Description
Student Image Upload	All the student must be able to uploads high-quality images such as photographs.
Terms & Conditions Agreement	All the student must agree terms and conditions of Aurora University's website before submitting their articles.
Coordinator- Student Communication	The coordinators require to communicate with student of their faculties in order to edit the submission and choose which ones to publish.
Marketing Manager Contribution Access	The Marketing Manager of Aurora can view & download (in a ZIP file) all the selected contributions but do not have access to edit the contributions.

User Login Notification	The system has to welcome users if this is their first-time logging in and remind them of the time and date of their most previous login for better the security.
Medium Priority	
Task Name	Description
Submission & Update Deadlines	Updates can be made until a final close date (final upload deadline), but after a close date (pre-upload deadline), new submissions are disabled for new articles.
Articles Submission Notifications	The system notifies the Faculty's Marketing Coordinator through email when an article is submitted, and the coordinator must respond to the submission within 14 days.
System Data Management	All system data, such as the deadlines for every school year, is maintained by the administrator.
Administrator Usage Report	The administrator needs to view a number of reports that indicate what pages are being accessed the most, which users are active the most, which browsers are being used, etc. to determine how the system is being utilized.
Low Priority	
Task Name	Description
Guest Account Report Access	Reporting Each guest account must be able to see the reports relevant to the faculty.
Faculty Contribution Statistics	There has to be stats such as the number of contributions from each faculty.
Responsive System Interface	Interface must cater to a responsive system for any device mobile phones, tablets or desktops.
Guest List Access for Coordinators	Marketing coordinators will be able to see the list of guests in their relevant faculties.
Guest Account Registration Notification	The system notifies the relevant Faculty's Marketing Coordinator through email when a guest account is registered for each faculty,

3.7. Sprints

After creating the product backlog, the team began to create sprints and collectively determined if they could share the tasks amongst them so that they would still be able to work efficiently and get the product finished on time. In their research, the team found that the Trello software was user-friendly, and all the members found it easy to use. The team was able to track their progress in the Trello app using burn-down charts.



Figure_3.3: Trello sprints

Design

Sprints	Deadline	Assigned to	Accomplished
Completed Design Wireframes for General Pages	9 Feb 2025	Zar Li Maw	On-time
Proposed Colors and Layout Design for Student Dashboard	12 Feb 2025	Zar Li Maw, Swe Thu Htet, Htet Wai Yan	On-time
Completed Design Colors and Layout for Login Page	13 Feb 2025	Zar Li Maw	On-time
Completed Design Colors and Layout for Student's Dashboard	13 Feb 2025	Zar Li Maw	On-time

Sprints	Deadline	Assigned to	Accomplished
Completed Design Colors and Layout for Student's Dashboard - My Articles	13 Feb 2025	Zar Li Maw	On-time
Completed Design Colors and Layout for Student's Dashboard - Notification	13 Feb 2025	Zar Li Maw	On-time
Completed Design Colors and Layout for Student's Dashboard - Settings	13 Feb 2025	Zar Li Maw	On-time
Update the Completed Design of Student's Dashboard as per discussion on 16-02-2026	26 Feb 2025	Zar Li Maw	On-time
Proposed Colors and Layout Design for Marketing Coordinator's Dashboard	1 March 2025	Zar Li Maw	On-time
Completed Design Colors and Layout for Marketing Coordinator's Dashboard - My Articles	6 March 2025	Zar Li Maw	On-time
Completed Design Colors and Layout for Marketing Coordinator's Dashboard - Notification	6 March 2025	Zar Li Maw	On-time
Completed Design Colors and Layout for Marketing Coordinator's Dashboard - Settings	6 March 2025	Zar Li Maw	On-time
Update the Completed Design of Marketing Coordinator's Dashboard as per discussion on 08-03-2026	8 March 2025	Zar Li Maw	On-time
Proposed Colors and Layout Design for Marketing Manager's Dashboard	13 March 2025	Zar Li Maw	On-time

Sprints	Deadline	Assigned to	Accomplished
Completed Design Colors and Layout for Marketing Manager's Dashboard - My Articles	14 March 2025	Zar Li Maw	On-time
Completed Design Colors and Layout for Marketing Manager's Dashboard - Notification	14 March 2025	Zar Li Maw	On-time
Completed Design Colors and Layout for Marketing Manager's Dashboard - Settings	14 March 2025	Zar Li Maw	On-time
Update the Completed Design of Marketing Manager's Dashboard as per discussion on 15-03-2026	15 March 2025	Zar Li Maw	On-time
Proposed Colors and Layout Design for Admin's Dashboard	18 March 2025	Zar Li Maw	On-time
Completed Design Colors and Layout for Admin's Dashboard - Management	19 March 2025	Zar Li Maw	On-time
Completed Design Colors and Layout for Admin's Dashboard - Reports	19 March 2025	Zar Li Maw	On-time
Completed Design Colors and Layout for Admin's Dashboard - Users	19 March 2025	Zar Li Maw	On-time
Completed Design Colors and Layout for Admin's Dashboard - Contactus	19 March 2025	Zar Li Maw	On-time
Completed Design Colors and Layout for Admin's Dashboard - Settings	19 March 2025	Zar Li Maw	On-time
Completed Design Colors and Layout for Guest's Dashboard	19 March 2025	Zar Li Maw	On-time

Sprints	Deadline	Assigned to	Accomplished
Completed Design Colors and Layout for Guest's Dashboard - Articles	19 March 2025	Zar Li Maw	On-time
Completed Design Colors and Layout for Guest's Dashboard - Settings	19 March 2025	Zar Li Maw	On-time
Update the Completed Design of Admin's Dashboard as per discussion on 22-03-2026	22 March 2025	Zar Li Maw	On-time
Update the Completed Design of Guest's Dashboard as per discussion on 22-03-2026	22 March 2025	Zar Li Maw	On-time

Frontend Development

Sprints	Deadline	Assigned to	Accomplished
Designed Layouts	9 Feb 2025	Swe Thu Htet, Htet Wai Yan	On-time
Student Home Page	22 Feb 2025	Swe Thu Htet	On-time
Student My Article Page	22 Feb 2025	Htet Wai Yan	On-time
Discussion and update regarding completed Pages	26 Feb 2025	Swe Thu Htet, Htet Wai Yan	On-time
Design changes and discussion on additional features	27 Feb 2025	Swe Thu Htet, Htet Wai Yan, Zar Li Maw	On-time
Draft article list view	8 March 2025	Htet Wai Yan	On-time
Article Details Page	8 March 2025	Swe Thu Htet	On-time
Settings page and skeleton loader	15 March 2025	Htet Wai Yan	On-time
Integrate API to frontend	22 March 2025	Swe Thu Htet, Htet Wai Yan	On-time
Coordinator all page's UI	23 March 2025	Swe Thu Htet	On-time
Admin all page's UI	23 March 2025	Htet Wai Yan	On-time
Manager all page's UI	28 March 2025	Swe Thu Htet, Htet Wai Yan	On-time
Coordinator integrate Backend	14 April 2025	Swe Thu Htet	On-time
Guest all page UI	13 April 2025	Swe Thu Htet	On-time

Sprints	Deadline	Assigned to	Accomplished
Magazine static pages	15 April 2025	Htet Wai Yan	On-time
Vercel Deployment	20 April 2025	Swe Thu Htet, Htet Wai Yan	On-time
Fix Bugs and Feedbacks	28 April 2025	Swe Thu Htet, Htet Wai Yan	On-time

Database Design

Sprints	Deadline	Assigned to	Accomplished
Database Design	11 Feb 2025	Thu Za Myat	On-time
Database Detail Table in Excel	11 Feb 2025	Thu Za Myat	On-time
SQL Database Table Creation	12 Feb 2025	Kyaw Thu	On-time
Update Database Design and Table as per discussion on 16-02-2026 request by MP	16 Feb 2025	Thu Za Myat, Kyaw Thu, Myat Paing Min, Htet Wai Wan	On-time

Backend Development

Sprints	Deadline	Assigned to	Accomplished
Discussion with Database Team	11 Feb 2025	Myat Paing Min, Zay Yar Lin Htut	On-time
Database migration	15 Feb 2025	Myat Paing Min, Zay Yar Lin Htut	On-time
Login, Logout	18 Feb 2025	Myat Paing Min	On-time
Amazon S3 Cloud Storage Setup	20 Feb 2025	Zay Yar Lin Htut	On-time
Student Home Page and Article Detail Page, Zip File Download	25 Feb 2025	Myat Paing Min	On-time
User Setting Page, User Update, Password Change	28 Feb 2025	Zay Yar Lin Htut	On-time
Article Create, Update, Draft, Notification, My Articles	4 March 2025	Myat Paing Min	On-time
Email Sending Setup	8 March 2025	Zay Yar Lin Htut	On-time
All Pages for Coordinator	12 March 2025	Myat Paing Min	On-time
All Pages for Manager	20 March 2025	Myat Paing Min	On-time
All Pages for Guest and Admin	29 March 2025	Myat Paing Min	On-time
Admin Report and User List	29 March 2025	Zay Yar Lin Htut	On-time

Sprints	Deadline	Assigned to	Accomplished
Vercel Deployment	10 April 2025	Myat Paing Min	On-time
Photo and Article Data collection	15 April 2025	Zay Yar Lin Htut	On-time
Data Preparation	17 April 2025	Myat Paing Min	On-time
Improve source code performance	19 April 2025	Myat Paing Min, Zay Yar Lin Htut	On-time
Bug Fix for User Settings	27 April 2025	Zay Yar Lin Htut	On-time
Bug Fix for article, academic_year and notification functionalities	27 April 2025	Myat Paing Min	On-time

Documents

Sprints	Deadline	Assigned to	Accomplished
RACI Chart		Thu Za Myat	On-time
Gantt Chart		Thu Za Myat	On-time
Assumptions	9 Feb 2025	Wut Yi Oo	On-time
Create User Stories	16 Feb 2025	Wut Yi Oo	On-time
Produce Workflow Diagram	23 Feb 2025	Wut Yi Oo	On-time
Update Assumptions as per discussion on 23-2-2023	26 Feb 2025	Wut Yi Oo	On-time
Meeting Minutes	27 April 2025	Zar Li Maw	On-time
Product Backlog	13 March 2025	Wut Yi Oo	On-time
Produce Feature List	15 March 2025	Wut Yi Oo, Swe Thu Htet	On-time
Rich Picture and Root Cause Analysis	13 March 2025	Thu Za Myat	On-time
ERD Diagram	13 March 2025	Thu Za Myat	On-time
Class Diagram		Thu Za Myat	On-time
Use Case Diagram		Thu Za Myat	On-time
BurnDown Chart	27 April 2025	Thu Za Myat, Zar Li Maw	On-time
Site Map		Thu Za Myat, Swe Thu Htet	On-time

Sprints	Deadline	Assigned to	Accomplished
Application of 10 Usability heuristics for Site Design Report	5 April 2025	Wut Yi Oo	On-time
Product Sketches – Wireframes	5 April 2025	Zar Li Maw	On-time
Website Analytics Report Data	7 April 2025	Wut Yi Oo	On-time

Testing

Sprints	Deadline	Assigned to	Accomplished
Start Prepare Test Plans	16 Feb 2025	Thi Han Naing	On-time
Create Test Plan, Test Script and Test Log templates	21 Feb 2025	Thi Han Naing	On-time
Write detailed Test Plan for Student's Login, Notification & Setting Pages	27 Feb 2025	Wut Yi Oo	On-time
Write detailed Test Plan for Student's Dashboard, My Articles pages	27 Feb 2025	Thi Han Naing	On-time
Write detailed Test Plan for Admin's Notification & Setting Pages	10 March 2025	Wut Yi Oo	On-time
Write detailed Test Plan for Coordinator's Notification & Setting Pages	18 March 2025	Wut Yi Oo	On-time
Write detailed Test Plan for Guest's Login & Setting Pages	27 March 2025	Wut Yi Oo	On-time
Write detailed Test Plan for Manager's Login, Notification & Setting Pages	2 April 2025	Wut Yi Oo	On-time
Write detailed Test Plan for Student's My Article page, Coordinator's Article page, Manager's Article page, and Admin's User page and Reports page.	2 April 2025	Thi Han Naing	On-time
Testing on Student, Coordinator, Manager and Admin setting and other pages and produce test logs.	14 April 2025	Wut Yi Oo	On-time

Sprints	Deadline	Assigned to	Accomplished
Testing on Student, Coordinator, Manager and Admin Dashboard pages and produce test logs.	14 April 2025	Thi Han Naing	On-time
Testing on Student, Coordinator Article and Manger pages, Admin's User page and Reports page.	14 April 2025	Thi Han Naing	On-time
Finalized Testing	24 April 2025	Wut Yi Oo, Thu Za Myat	On-time

3.8. Burndown chart

Burndown chart is a visual representation of the amount of work remaining against the time to complete the work. This will help especially the teams that are working in sprints, as it will show very quickly when you are on target to meet the deadlines along the way. (Asana, 2024)

The chart above is the most up-to-date sprint for the project. The X-axis covers the dates from 2025-02-05 to 2025-04-30 for the length of the sprint and the Y-axis shows the remaining percentage of tasks (the story points), starting at 100%, and going down. Each task was given story points rating its complexity; the more story points given to a work item, the more difficult it was to accomplish. This allowed for better prioritization and equitable distribution of workload.

The blue line represents the ideal burndown, which illustrates the rate of declining tasks in a perfect scenario. The red line indicates the actual burndown and demonstrates an honest depiction of just what the team accomplished. The actual burndown is closely aligned with the ideal path that we monitored in our sprint. More deviation from the ideal actuality, simply stated when we caught up or fell back a couple ticks, we were able to monitor this chart and know if the project was falling behind or if we were on the right track. (Keup, 2025)

The integration allowed us to determine the present state of the sprint, as well as anticipate timelines for completion knowing our velocity (the number of completed story points that each the team/chapter updated during each iteration).

This chart was useful for several reasons:

- Provided a truthful, data-driven perspective of the team's progress.
- It enabled us to identify and correct people's workflow before it became blatant.
- This allowed us to forecast and plan more realistically.
- Gave the team accountability and to better communicate amongst each other.

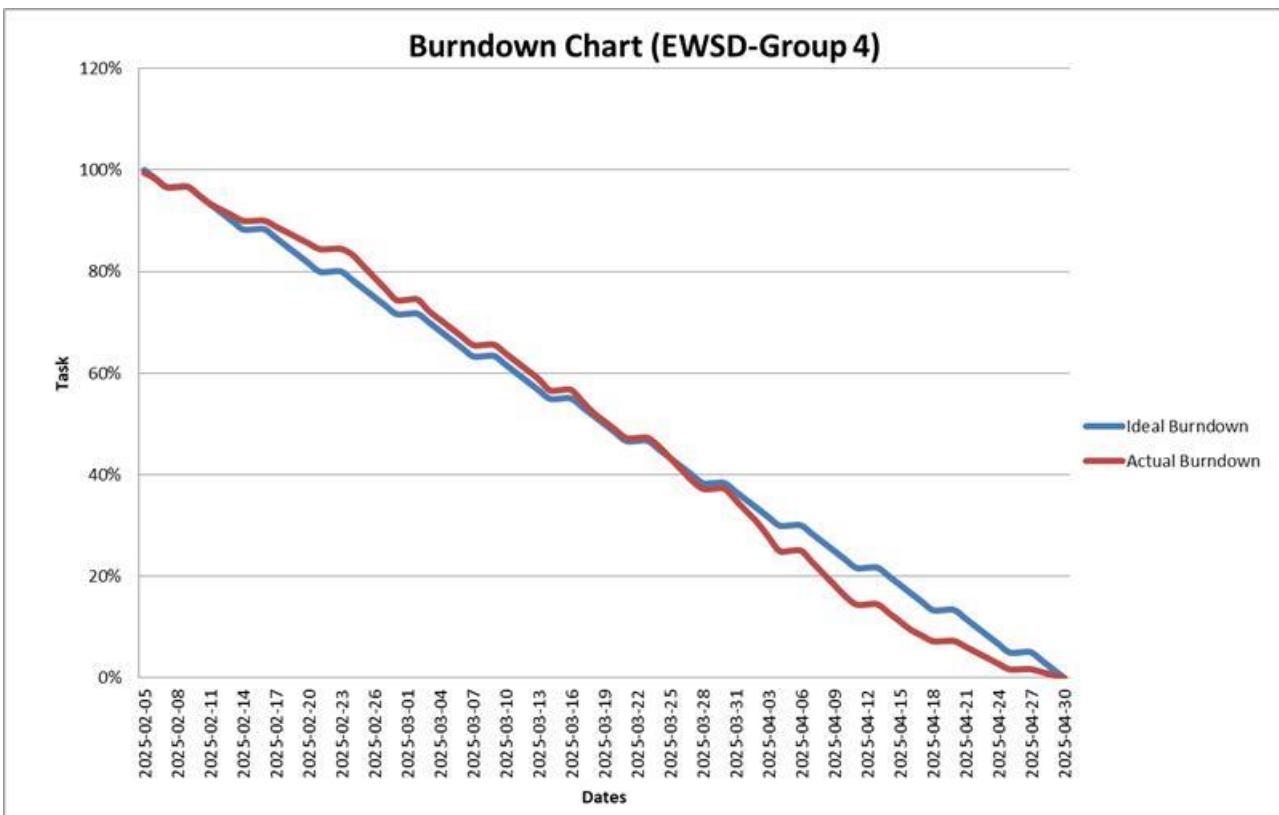


Fig 3.2 Burndown chart

3.9. ERD

Entity Relationship Diagram (ERD) is the high-level conceptual data model. It is showing the relationship between entities, core item with the attributes, in the database system.

(Belcic, 2025)

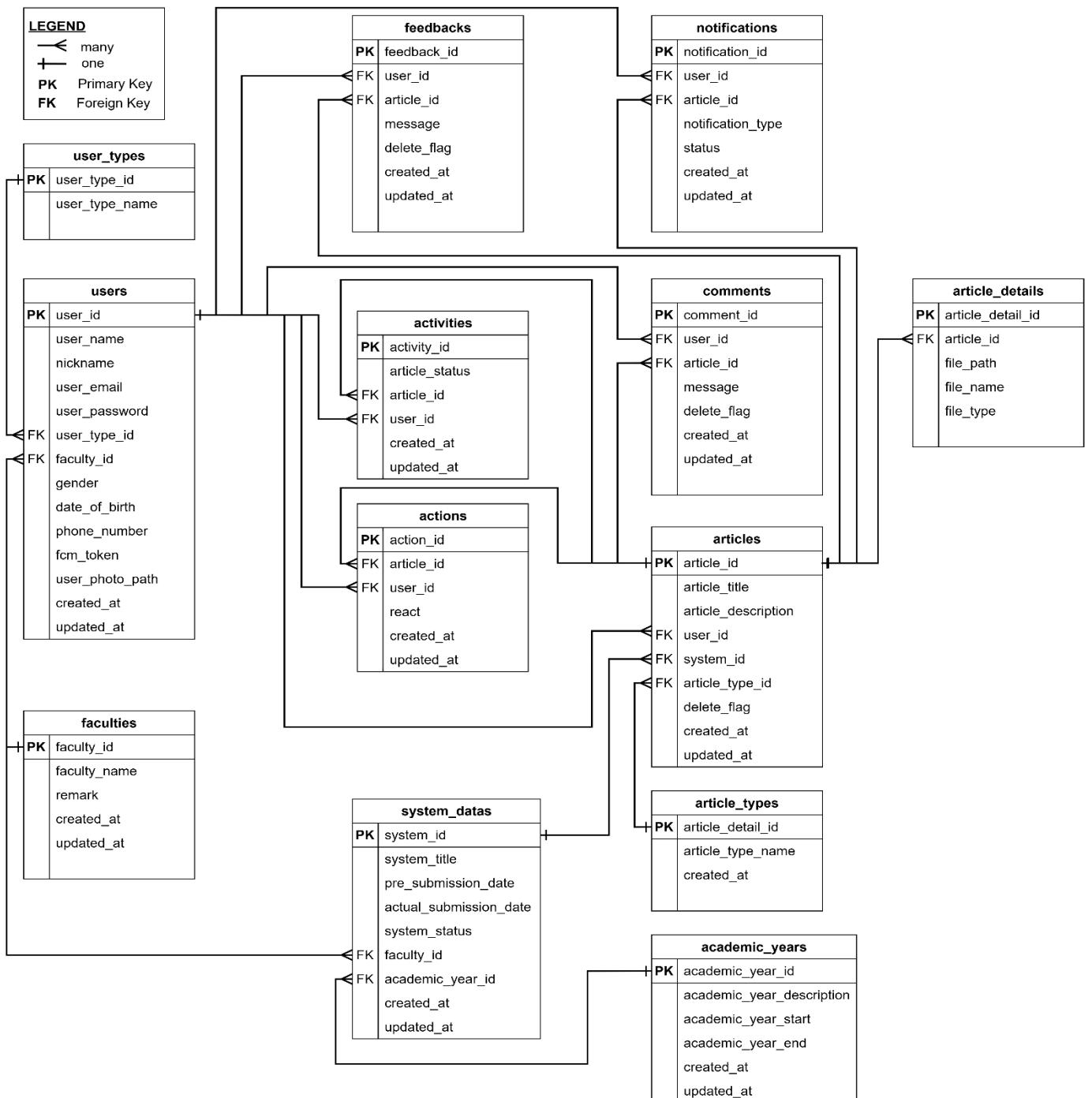


Figure 3.4: Overall ERD Diagram

Student ERD

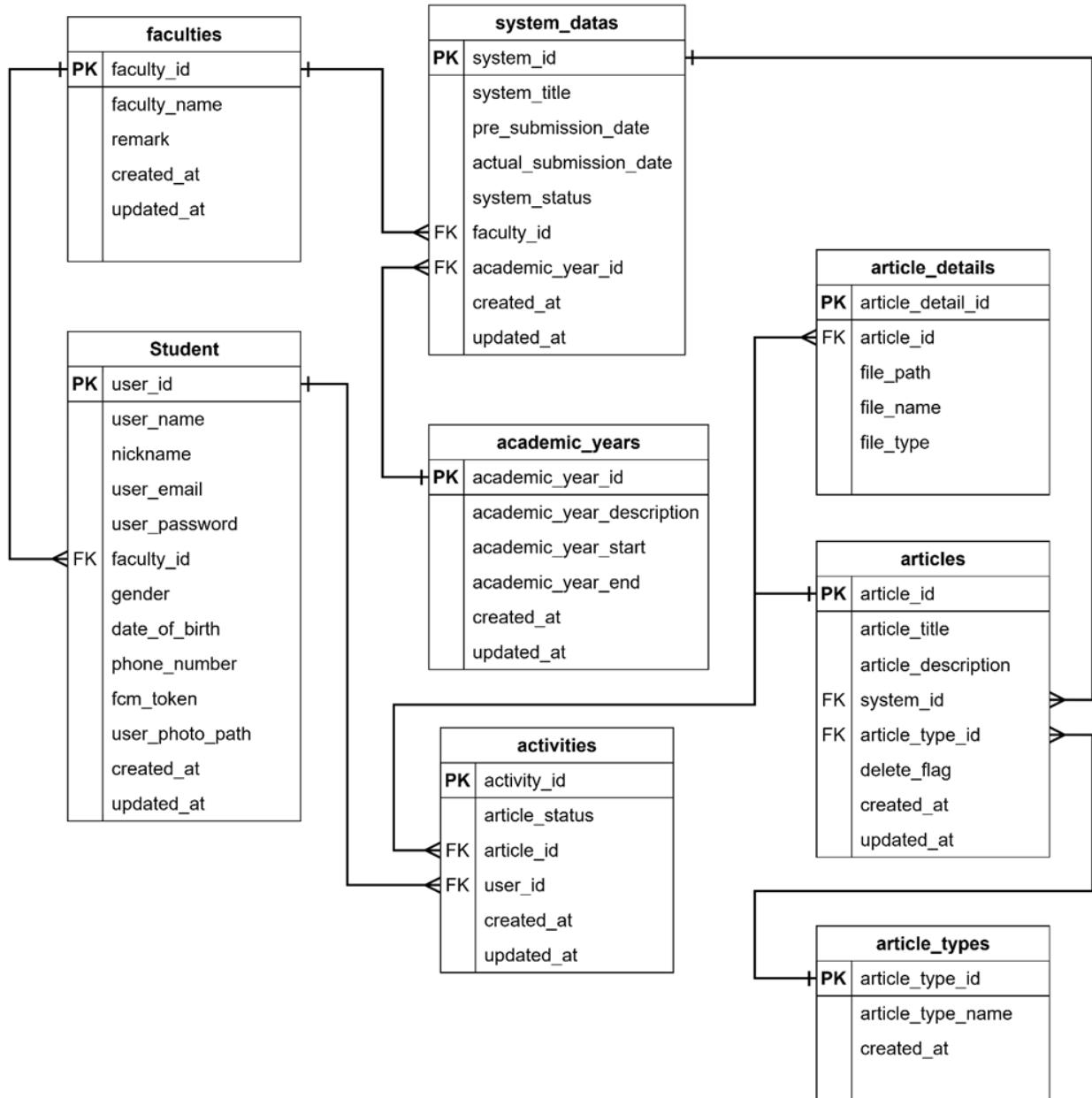


Figure 3.5: Student ERD Diagram

Student ERD (Normalization)

UNF	LEVEL	1NF	2NF	3NF	Entity
user_id	1	<u>user_id</u>	<u>user_id</u> (PK)	<u>user_id</u> (PK)	Student
user_name	1	user_name	user_name	user_name	
nickname	1	nickname	nickname	nickname	
user_email	1	user_email	user_email	user_email	
user_password	1	user_password	user_password	user_password	
faculty_id	1	user_type_id	user_type_id	<u>faculty_id</u> (FK)	
gender	1	faculty_id	faculty_id	gender	
date_of_birth	1	gender	gender	date_of_birth	
phone_number	1	date_of_birth	date_of_birth	phone_number	
fcm_token	1	phone_number	phone_number	fcm_token	
user_photo_path	1	fcm_token	fcm_token	user_photo_path	
created_at	1	user_photo_path	user_photo_path	created_at	
updated_at	1	created_at	created_at	updated_at	
faculty_name	1	updated_at	updated_at	<u>faculty_id</u> (PK)	
remark	1	faculty_name	faculty_name	faculty_name	faculties
activity_id	1	remark	remark	remark	
article_status	1			article_status	
article_id	1			article_id	
article_title	2			created_at	
article_description	2			updated_at	activities
system_id	2	<u>user_id</u>	<u>user_id</u> (FK)	<u>user_id</u> (FK)	
article_type_id	2	<u>activity_id</u>	<u>activity_id</u> (PK)	<u>activity_id</u> (PK)	
delete_flag	2	article_status	article_status	article_status	
article_type_name	2	article_id	article_id	article_id	
article_detail_id	2	created_at	created_at	created_at	
file_path	2	updated_at	updated_at	updated_at	
file_name	2	article_id (PK)			
file_type	2	article_title	<u>article_id</u> (PK)	<u>article_id</u> (PK)	
system_title	2	article_description	article_title	article_title	
pre_submission_date	2	system_id	article_description	article_description	
actual_submission_date	2	article_type_id	system_id	<u>system_id</u> (FK)	articles
system_status	2	delete_flag	article_type_id	<u>article_type_id</u> (FK)	
academic_year_id	2	article_type_name	delete_flag	delete_flag	
academic_year_description	2	system_title	article_type_name	article_type_name	
academic_year_start	2	pre_submission_date	created_at	created_at	
academic_year_end	2	actual_submission_date	updated_at	updated_at	
		system_status	article_type_name	<u>article_type_id</u> (PK)	
		faculty_id	system_title	article_type_name	
		academic_year_id	pre_submission_date	created_at	
		academic_year_end	actual_submission_date		
		article_id (FK)	system_status		article_type
		article_detail_id (PK)	faculty_id		
		file_path	system_title		
		file_name	pre_submission_date		
		file_type	actual_submission_date		
			system_status		
			faculty_id (FK)		
			academic_year_id (FK)		
			created_at		
			updated_at		
				<u>academic_year_id</u> (PK)	system_datas
				academic_year_description	
				academic_year_start	
				academic_year_end	
				created_at	
				updated_at	
					academic_year
					article_details

Admin ERD

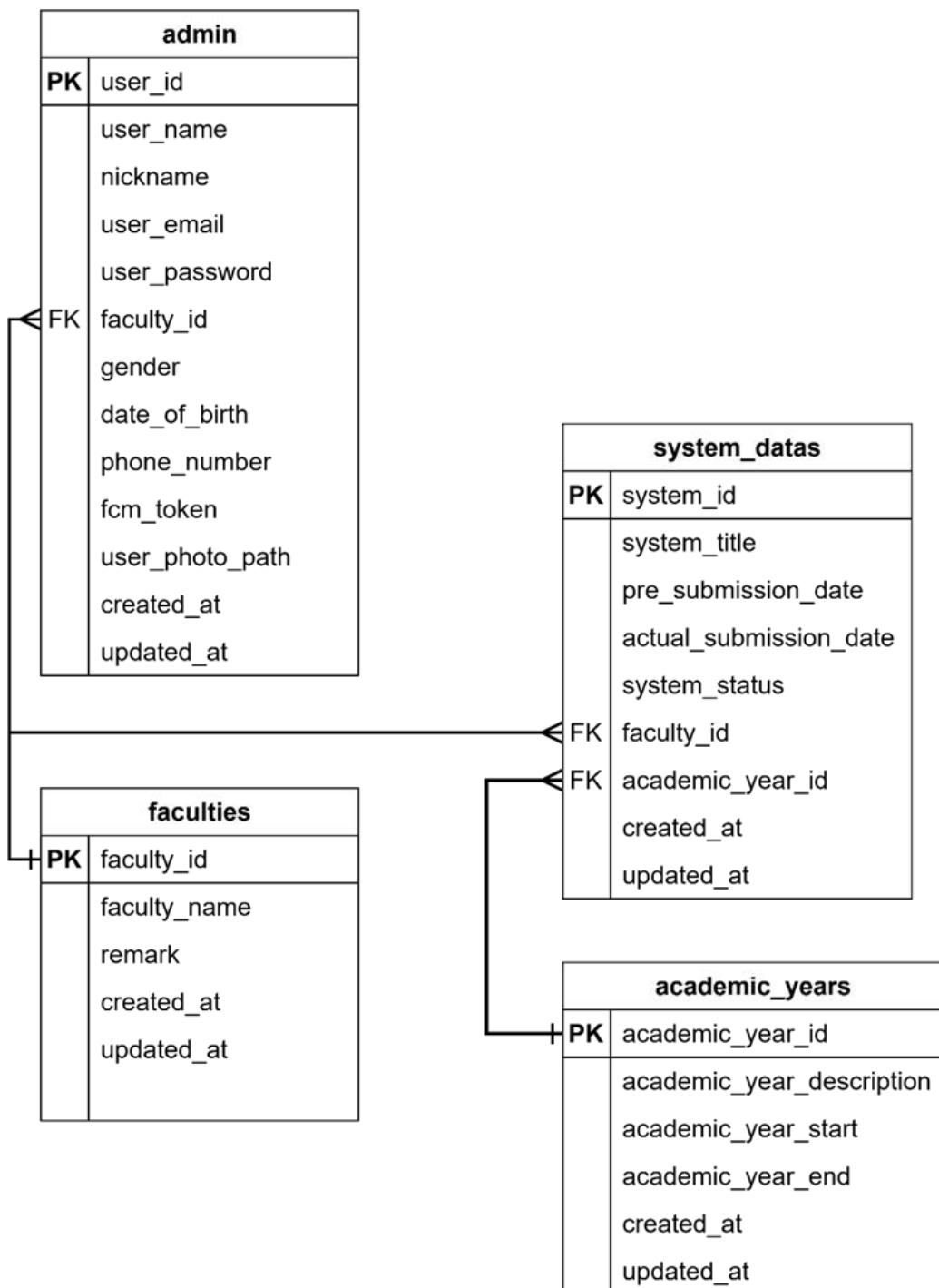


Figure 3.6: Admin ERD Diagram

Admin ERD (Normalization)

UNF	LEVEL	1NF	2NF	3NF	Entity
faculty_id	1	faculty_id	faculty_id (PK)	faculty_id (PK)	faculties
faculty_name	1	faculty_name	faculty_name	faculty_name	
remark	1	remark	remark	remark	
user_id	1	user_id	user_id	created_at	
user_name	1	user_name	user_name	updated_at	
nickname	1	nickname	nickname		
user_email	1	user_email	user_email	user_id (PK)	
user_password	1	user_password	user_password	user_name	
user_type_id	1	user_type_id	user_type_id	nickname	
gender	1	gender	gender	user_email	
date_of_birth	1	date_of_birth	date_of_birth	user_password	admin
phone_number	1	phone_number	phone_number	faculty_id (FK)	
fcm_token	1	fcm_token	fcm_token	gender	
user_photo_path	1	user_photo_path	user_photo_path	date_of_birth	
created_at	1	created_at	created_at	phone_number	
updated_at	1	updated_at	updated_at	fcm_token	
system_id	2			user_photo_path	
system_title	2			created_at	
pre_submission_date	2			updated_at	
actual_submission_date	2				
system_status	2	faculty_id	faculty_id (FK)	faculty_id (FK)	system_datas
academic_year_id	2	system_id	system_id (PK)	system_id (PK)	
academic_year_description	2	system_title	system_title	system_title	
academic_year_start	2	pre_submission_date	pre_submission_date	pre_submission_date	
academic_year_end	2	actual_submission_date	actual_submission_date	actual_submission_date	
		system_status	system_status	system_status	
		academic_year_id	academic_year_id	academic_year_id (FK)	
		created_at	created_at	created_at	
		updated_at	updated_at	updated_at	
		academic_year_description	academic_year_description		
		academic_year_start	academic_year_start		academic_years
		academic_year_end	academic_year_end		
				academic_year_id (PK)	
				academic_year_description	
				academic_year_start	
				academic_year_end	
				created_at	
				updated_at	

Marketing Coordinator ERD

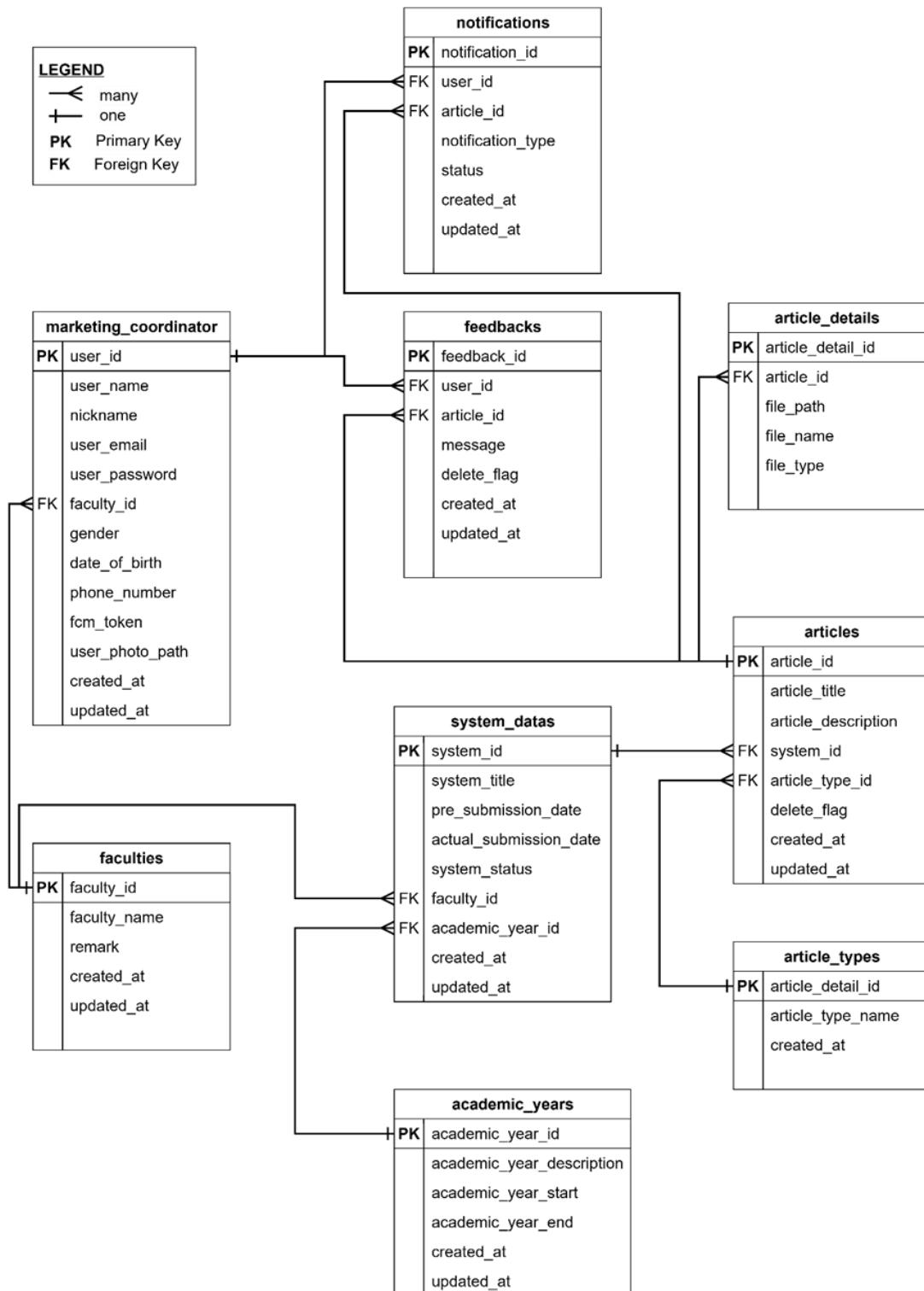


Figure 3.7: Marketing Coordinator ERD Diagram

Marketing Coordinator ERD (Normalization)

UNF	LEVEL	1NF	2NF	3NF	Entity
faculty_id	1	<u>faculty_id</u>	<u>faculty_id (PK)</u>	<u>faculty_id (PK)</u>	faculties
faculty_name	1	faculty_name	faculty_name	faculty_name	
remark	1	remark	remark	remark	
created_at	1	created_at	created_at	created_at	
updated_at	1	updated_at	updated_at	updated_at	
system_id	2				
system_title	2	<u>faculty_id</u>	<u>faculty_id (FK)</u>	<u>faculty_id (FK)</u>	
pre_submission_date	2	<u>system_id</u>	<u>system_id (PK)</u>	<u>system_id (PK)</u>	
actual_submission_date	2	system_title	system_title	system_title	
system_status	2	pre_submission_date	pre_submission_date	pre_submission_date	
academic_year_id	2	actual_submission_date	actual_submission_date	actual_submission_date	system_data
user_id	2	system_status	system_status	system_status	
user_name	2	academic_year_id	academic_year_id	academic_year_id	
nickname	2	user_id	academic_year_description	academic_year_description	
user_email	2	user_name	academic_year_start	academic_year_start	
user_password	2	nickname	academic_year_end	academic_year_end	
user_type_id	2	user_email			academic_years
gender	2	user_password			
date_of_birth	2	user_type_id			
phone_number	2	gender			
fcm_token	2	date_of_birth			
user_photo_path	2	phone_number	<u>system_id (FK)</u>	<u>system_id (FK)</u>	articles
academic_year_description	2	fcm_token	<u>article_id (PK)</u>	<u>article_id (PK)</u>	
academic_year_start	2	user_photo_path	article_title	article_title	
academic_year_end	2	academic_year_description	article_description	article_description	
article_id	2	academic_year_start	article_type_id	article_type_id	
article_title	2	academic_year_end	delete_flag	delete_flag	
article_description	2	article_id	article_type_name	article_type_name	
article_type_id	2	article_title			
delete_flag	2	article_description			
article_type_name	2	article_type_id			
article_detail_id	2	delete_flag			article_types
file_path	2	article_type_name			
file_name	2	article_detail_id	created_at	created_at	
file_type	2	file_path			
feedback_id	2	file_name	<u>article_id (FK)</u>	<u>article_id (FK)</u>	article_details
message	2	file_type	<u>article_detail_id (PK)</u>	<u>article_detail_id (PK)</u>	
notification_id	2	feedback_id	file_path	file_path	
notification_type	2	message	file_name	file_name	
status	2	notification_id	file_type	file_type	
		notification_type			feedbacks
		status	<u>article_id (FK)</u>	<u>article_id (FK)</u>	
			<u>feedback_id (PK)</u>	<u>feedback_id (PK)</u>	
			message	message	
				delete_flag	
				created_at	
				updated_at	
					notifications
					marketing_coordinator

Marketing Manager ERD

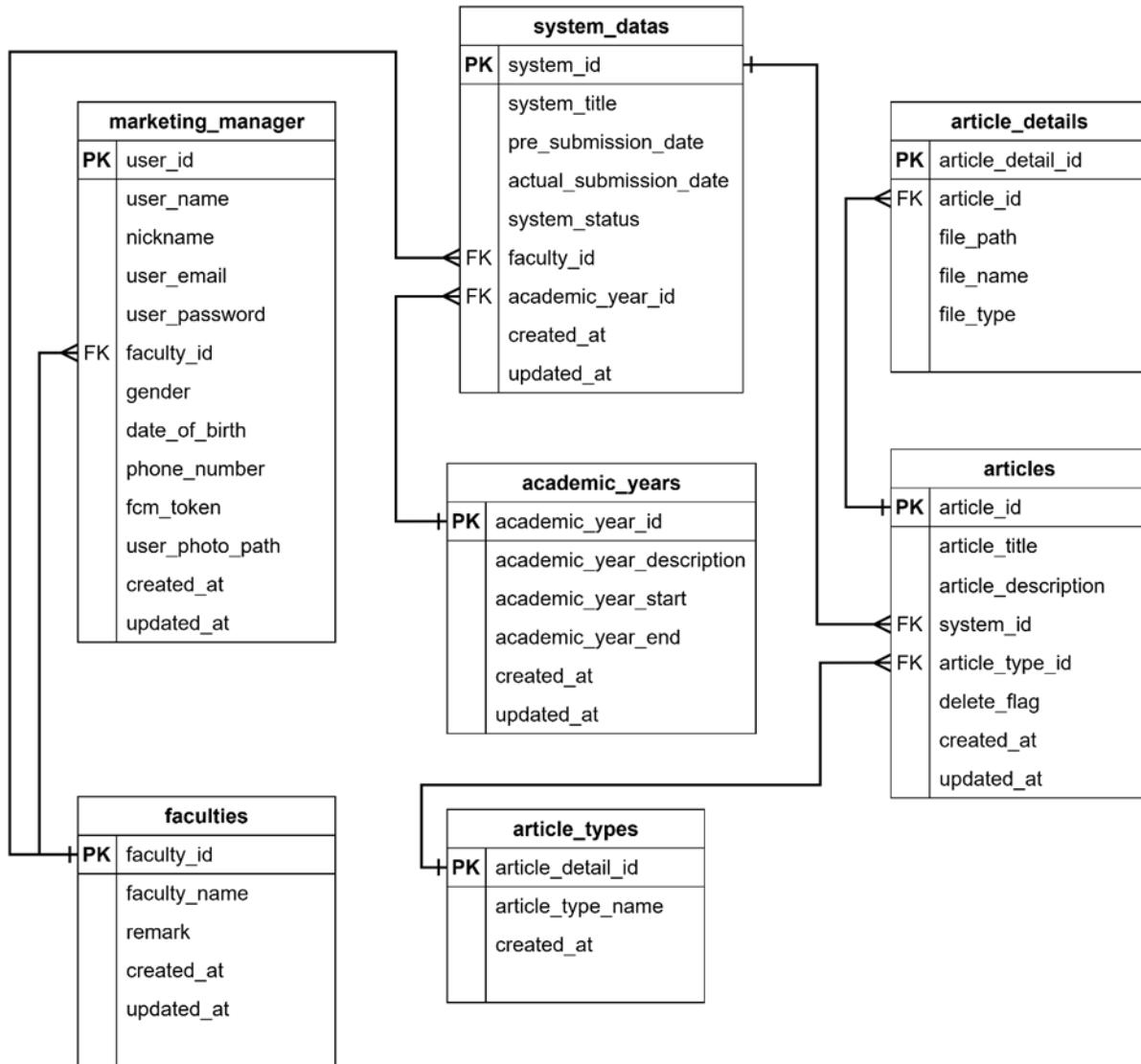


Figure 3.8: Marketing Manager ERD Diagram

Guest ERD

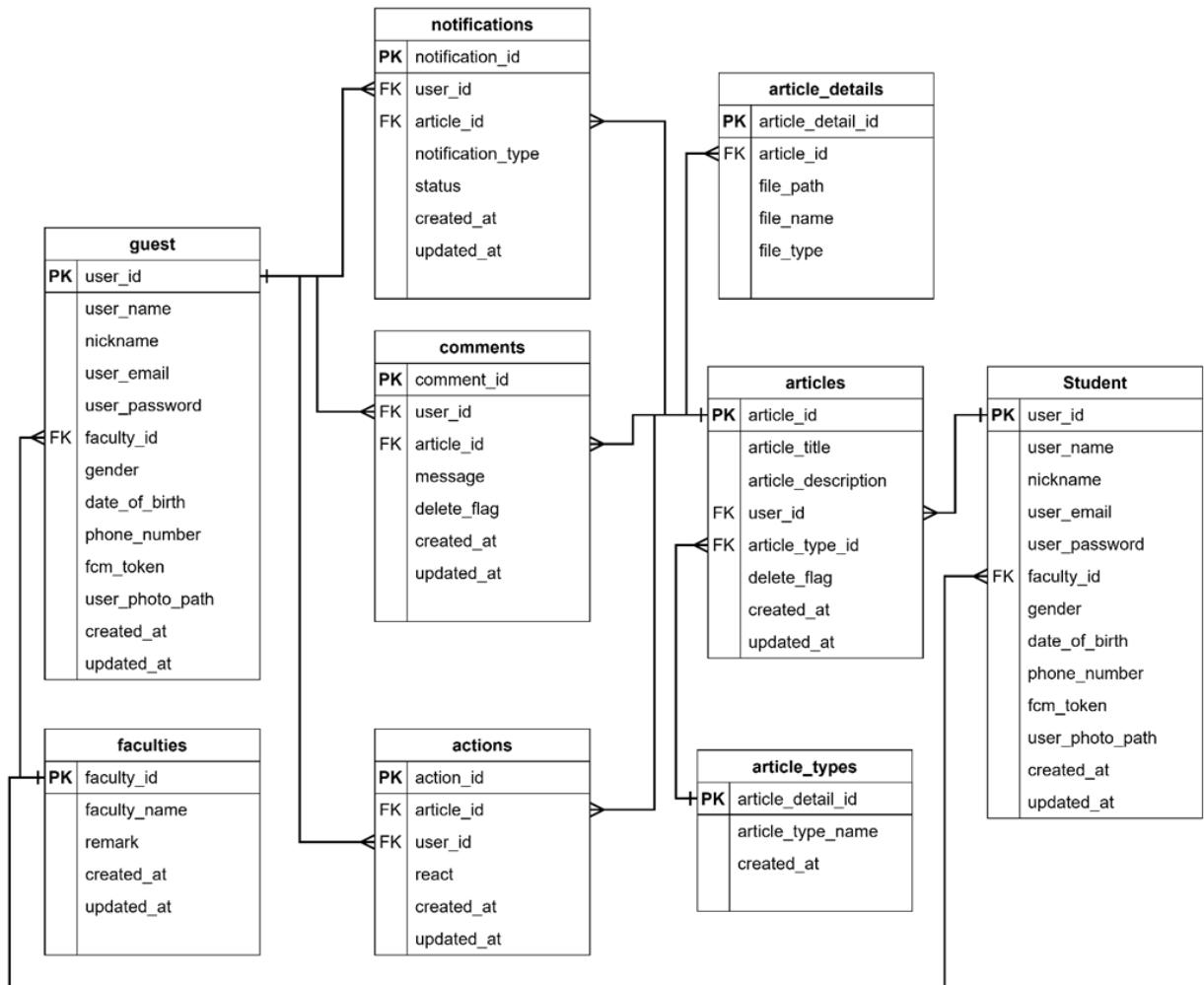


Figure 3.9: Guest ERD Diagram

4. Site Design

4.1. Site Design

Site design is a significant priority for this project. To comply with modern design and give the best user experience possible, all the team members have communicated about different aspects of the site design throughout the life cycle of the project. The primary concern with respect to all types of users navigating to and using the University's system. The website has been designed in accordance with usability with respect to accessibility as well.

Another factor that was considered was the aesthetic appeal to the website. It is also made sure that the Aurora's website matches well with the standards and complies with HTML5 specification. The choice of suitable color palette that would consistently be used throughout all webpages is also considered important so that all the team members.

It was also made sure that the website should be responsive on all devices so that the students, staff and guests will be able to view it on different screen sizes without compromising the overall design.

Choosing a consistent color palette for all webpages was also important, so all the team members carefully selected the colors together. Not only main color palette but also colors for important reminders were also chosen with mindful consideration.

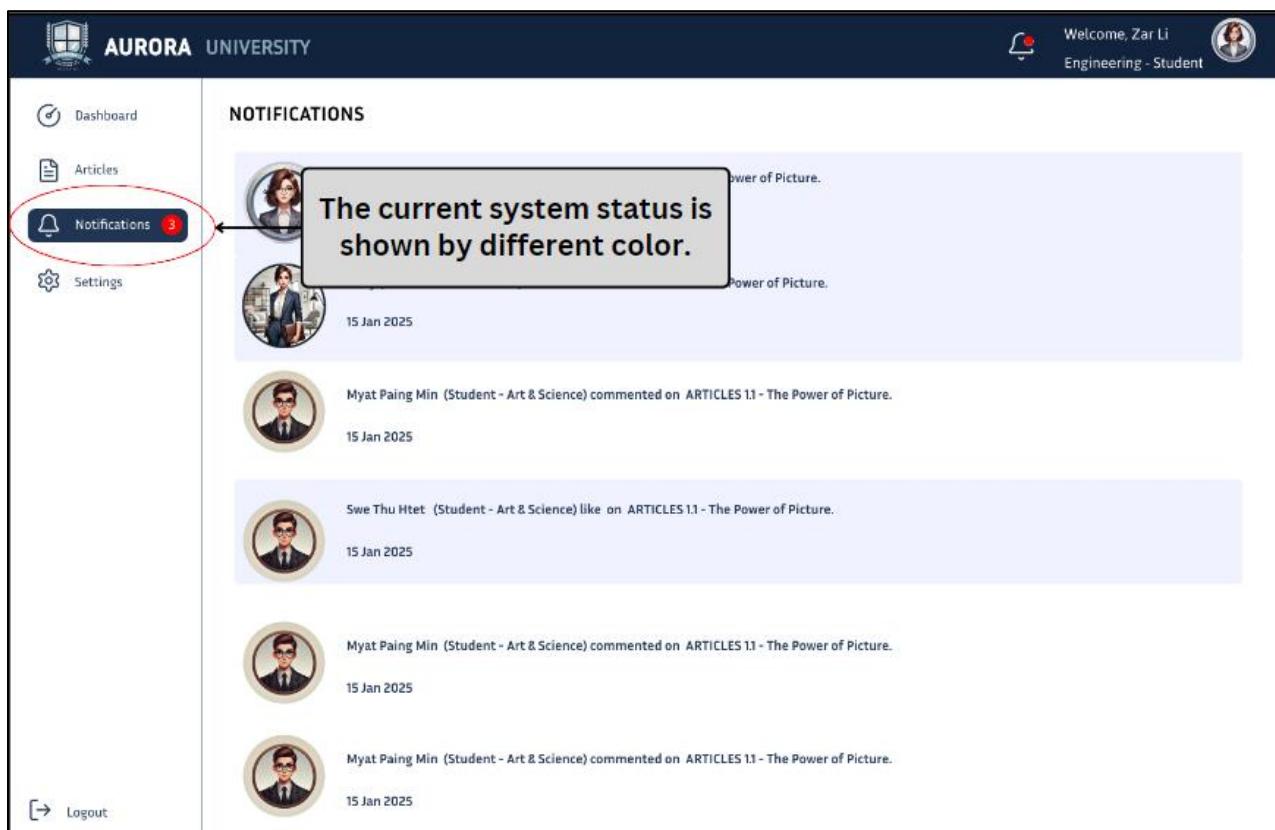
In conclusion, all team members actively collaborated with web designer and gave suggestions on the web design process with great enthusiasm. The design process began by creating wireframes. Based on the product owner's requirements and feedback, necessary improvements were made, and a polished design is created. In the final stage, the front-end developers began implementing the approved designs for each user role.

4.2. Nielsen's heuristics, (Jakob Nielsen 1995)

4.2.1. Visibility of system status

It would be much easier for all user if the design helps them inform about what is going on. If the users know current system status, they can learn from their previous actions and they can decide what will they do in their next steps. (Nielsen, 2024)

Aurora marked the system status in colors for the selected tabs, input boxes, and other elements to convey the status of the system is visible.



Fig_ 4.1: Notification Page

4.2.2. Match between The System & The Real World

Matching the website with the real world is crucial for enhancing user experience. The website will provide users a better-quality experience if it uses familiar words, phrases, colors and concepts from their everyday world. (Nielsen, 2024)

The AURORA website uses simple words like 'Dashboard', 'Notification', 'Upload', 'Settings', etc. for better understanding of the users. The website also uses the color choices of important messages and user expectations. (For example; 'Green for Approved', 'Red for Rejected' and 'Yellow for Pending').

The screenshot shows the 'Articles' page of the AURORA UNIVERSITY website. The interface includes a navigation bar with 'Dashboard', 'Articles' (highlighted with a red circle), 'Notifications' (with a red notification dot), and 'Settings'. Below this is a section titled 'MY ARTICLES' with 'UPLOAD ARTICLES' buttons ('UPLOAD' and 'VIEW DRAFT ARTICLES'). To the right are two calendar icons: 'Pre Upload Deadline 8 FEB 2025' (yellow) and 'Actual Deadline 28 FEB 2025' (red). The main content area displays a table of 'LATEST ACTIVITY' with columns: Tile, Submission Date, Submission Deadline, Status, Categories, Comments, and Actions. A callout box labeled 'Familiar Color Choice for important Messages' points to the 'Status' column, which uses yellow for 'Pending Review', green for 'Approved', and red for 'Rejected'. Another callout box labeled 'Using Simple Words for better understanding for the users' points to the 'Actions' column, which contains simple status indicators like 'Great Well Researched.' and 'Need more research.'. At the bottom, there are three article cards with titles like 'ARTICLES 11 - The Power of Picture by Zar Li' and status buttons like 'Approved', 'Pending', and 'Rejected'.

Annotations on the page:

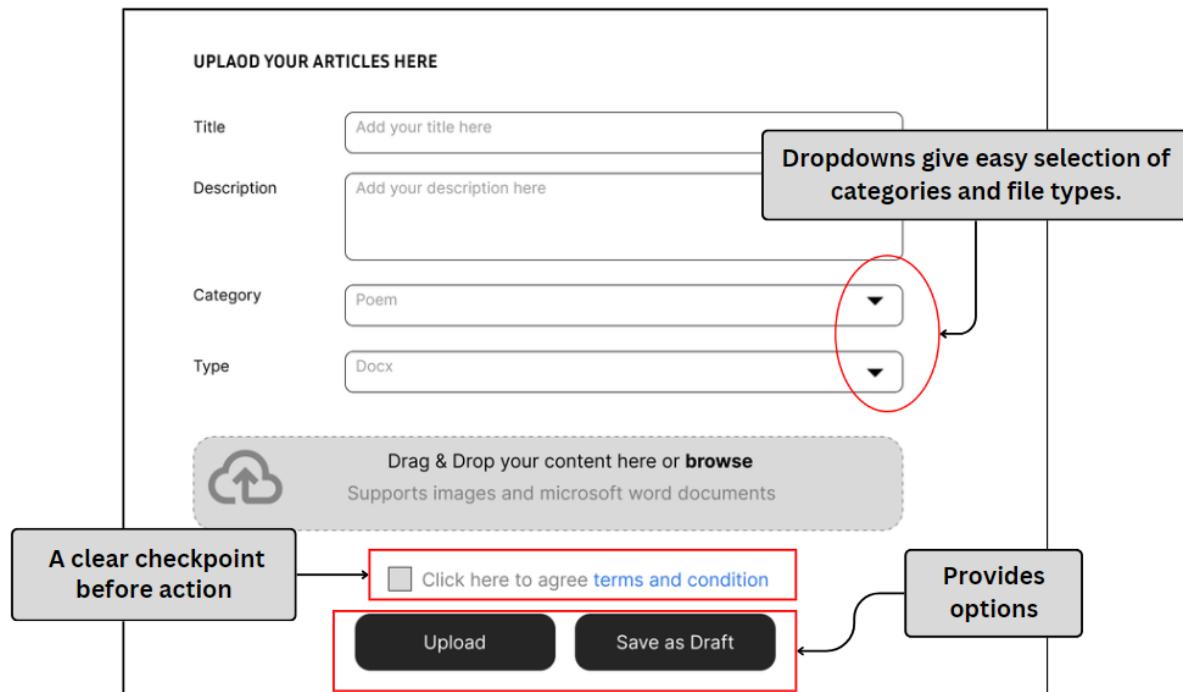
- A red circle highlights the 'Articles' button in the top navigation.
- A red circle highlights the 'MY ARTICLES' section.
- A red circle highlights the 'Pre Upload Deadline' and 'Actual Deadline' sections.
- A red circle highlights the 'Status' column in the table.
- A red circle highlights the 'Actions' column in the table.
- A callout box labeled 'Familiar Color Choice for important Messages' points to the 'Status' column.
- A callout box labeled 'Using Simple Words for better understanding for the users' points to the 'Actions' column.

Fig_ 4.2: Articles Page

4.2.3. User control and freedom

Users often perform actions by mistakes while using the website. It is important to give them control and freedom by providing options or emergency exist for unwanted actions. (Nielsen, 2024)

Aurora's interface is thoughtfully designed to provide users with multiple options, particularly for essential features such as article uploads.



4.2.4. Consistency and Standards

It is beneficial for the users if the systems follow platform and industry conventions. Users do not like to devote their attention worrying whether different words, situations, or actions are intended to mean the same thing. (Nielsen, 2024)

The site at Aurora adheres to consistent design patterns on every page and incorporates a uniform navigation bar. Even the details with the icons and colors were intentionally chosen for consistency and to adhere to standards.

The screenshot shows the 'ARTICLES' section of the Aurora University website. At the top, there's a navigation bar with links for Dashboard, Articles (which is the active tab), Notifications (with 3 notifications), and Settings. The user is logged in as Julia Frankenstein, Engineering - Marketing Coordinator. Below the navigation is a summary bar with four cards: 'Total Submission 25', 'Pending Review 6', 'Approved Articles 8', and 'Rejected Articles 4'. A callout box highlights 'Follow Consistent navigation bar and design patterns in every web page.' A red box highlights the 'ARTICLES' section title. Another red box highlights the status column in the main table, which includes 'Pending Review', 'Approved', 'Rejected', and 'Approved' entries. A third red box highlights the 'Action' column, which contains 'View' and 'Rejected' buttons. A callout box within this area highlights 'Consistent color choices and designs.' The main table lists articles with columns for Title, Submission Date, Submission Deadline, Status, Categories, Submission By, and Action.

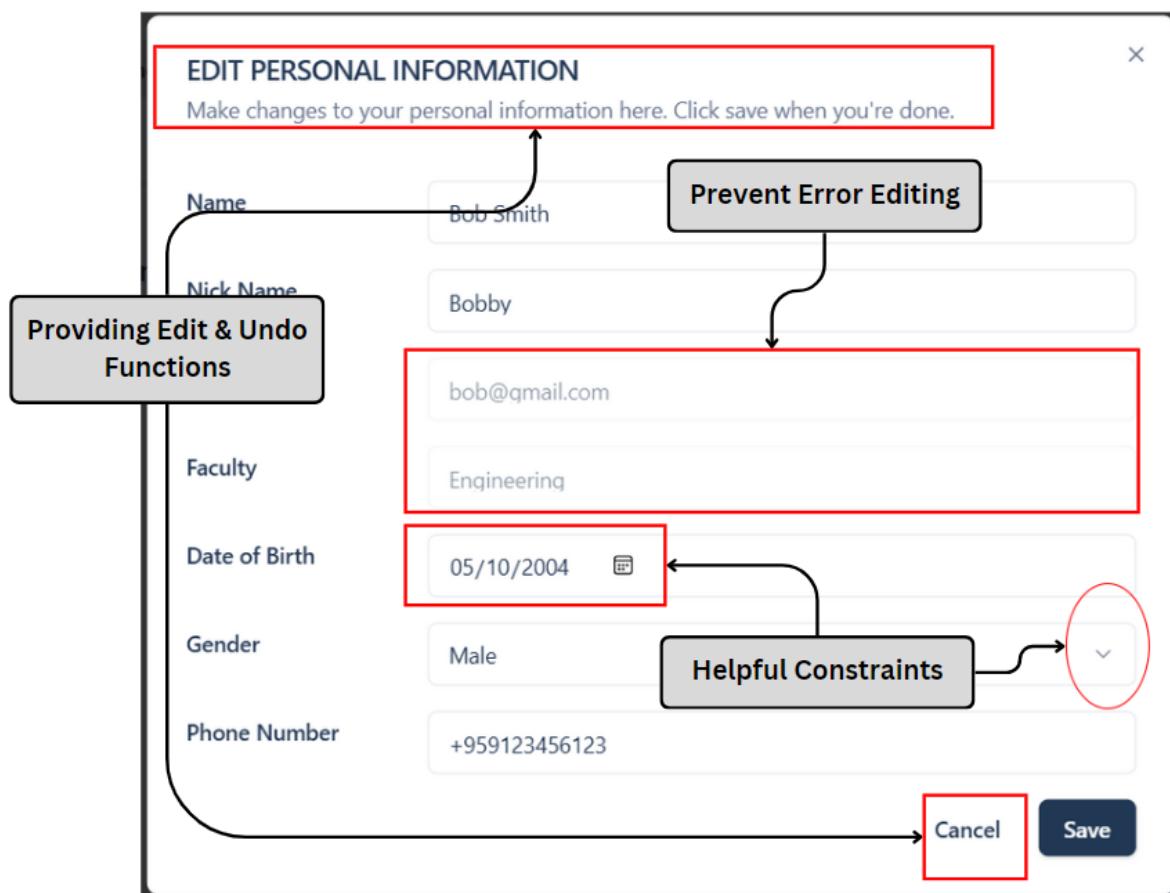
Title	Submission Date	Submission Deadline	Status	Categories	Submission By	Action
"Bill Gates on AI and Innovation"	08 Feb 2025	28 Feb 2025	Pending Review	Arts & Science	Zar Li	<button>View</button>
"How photographs promote social justice"	15 Jan 2025	15 Jan 2025	Approved	Art		<button>View</button>
"A Game of Inches"	24 Feb 2025	24 Feb 2025	Rejected Reason: Duplicated	Art		<button>Rejected</button>
"How photographs promote social justice"	15 Jan 2025	15 Jan 2025	Approved	Arts & Science	Swe Thu	<button>View</button>
"A Game of Inches"	24 Feb 2025	24 Feb 2025	Rejected Reason: Duplicated	Arts & Science	Htet Wai Yan	<button>Rejected</button>
"How photographs promote social justice"	15 Jan 2025	15 Jan 2025	Approved	Arts & Science	Swe Thu	<button>View</button>

Fig_ 4.4: Articles Page

4.2.5. Error prevention

It is important to provide appropriate error messages, but it is better to prevent errors in the first place through the design. Good design will help prevent errors in the first place. The system should provide an undo feature and provide helpful constraints and good defaults for users to mitigate errors. (Nielsen, 2024)

Aurora's design enforces edits and a undo and in this way, users can minimise errors when changing decisions. In addition, the design contains helpful constraints and good defaults, which reduce the potential for user slips.



Fig_ 4.5: Pop Up Window (information update)

4.2.6 Recognition instead of recall

The design of the interface should assist in relieving some of the user's memory load. The system should be well designed that the user will not have to remember information from one part of the interface to another. (Nielsen, 2024)

Aurora attempted to have the user recognize the information in the interface, rather than make them rely on memory so the navigation bar is specifically labeled and a logical grouping method is used for the whole website.

The screenshot shows the 'Articles' page of the Aurora University website. A red box highlights the 'Dashboard' menu on the left, which includes 'Articles' (with a red notification badge), 'Notifications' (with a red notification badge), and 'Settings'. Another red box highlights the 'MY ARTICLES' section, which contains 'UPLOAD ARTICLES' buttons ('UPLOAD' and 'VIEW DRAFT ARTICLES'), a 'Pre Upload Deadline' (8 FEB 2025), and an 'Actual Deadline' (28 FEB 2025). A callout box labeled 'Logical Grouping & Familiar Icons' points to these deadline sections. A grey box labeled 'Visible Navigation with labeled menus' points to the 'Dashboard' menu. The main content area shows a table of 'LATEST ACTIVITY' with columns for 'Title', 'Submission Date', 'Publication Date', and 'Actions'. Two rows are visible: one for 'Bill Gates on AI and Innovation' (Approved) and one for 'A Game of Inches' (Rejected). Below this is a 'My Articles' section displaying three articles: 'ARTICLES 1.1 - The Power of Picture by Zar Li' (Approved), 'ARTICLES 1.1 - The Power of Picture by Zar Li' (Pending), and 'ARTICLES 1.1 - The Power of Picture by Zar Li' (Rejected). A 'Logout' button is at the bottom left.

Fig_ 4.6: Articles Page

4.2.7 Flexibility and efficiency of use

Better user experience can be provided by flexibility processes. In addition, the design should be suitable for both experienced and inexperienced users. (Nielsen, 2024)

The Aurora website is designed not only for experienced users, but also for inexperienced users. The system also provides common user needs and maintain simplicity.

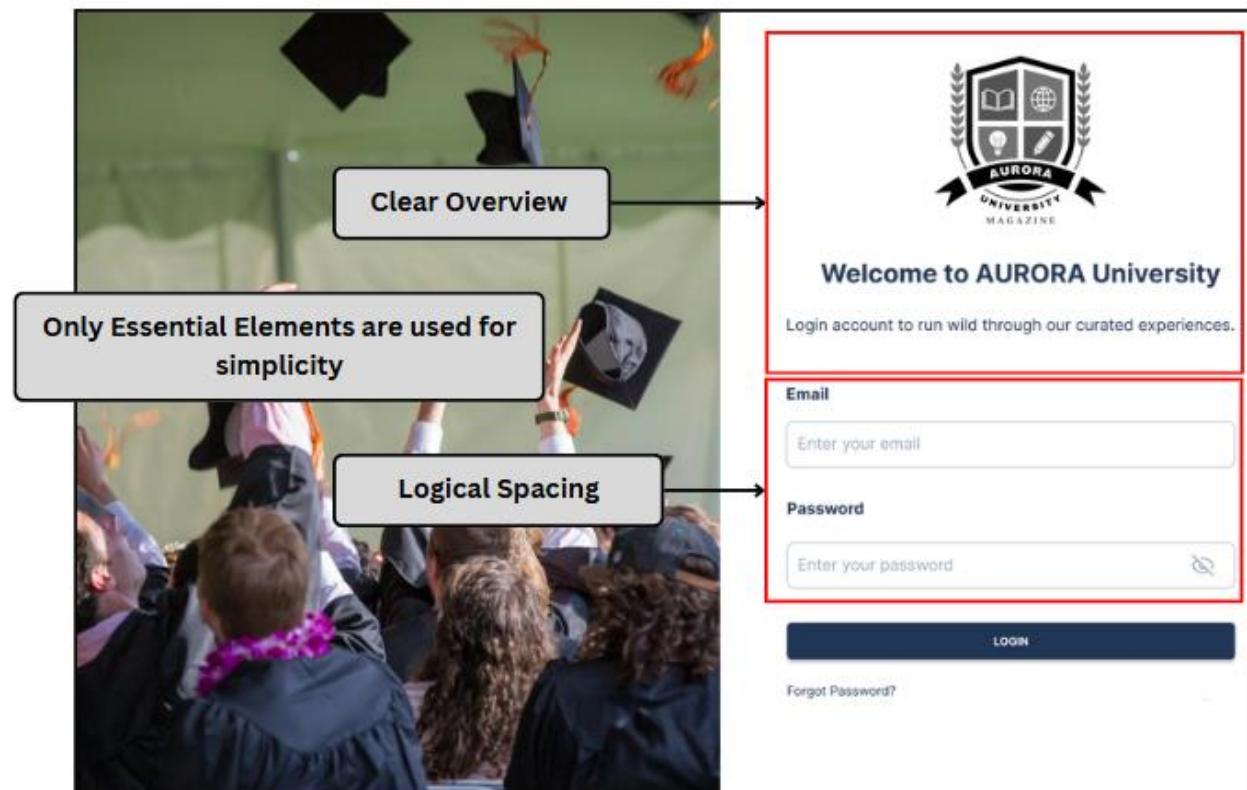


Fig_ 4.7: Login Page

4.2.8. Aesthetic and minimalist design

While there are many important aspects of successful webpage design, aesthetic and minimalist design are one of the more prominent factors. The webpage should contain only necessary information and lessen unnecessary information for the user. More simplistic designs will provide greater visibility and attention. (Nielsen, 2024)

Aurora's designs are eye-catching and minimalist/simple, along with clear and logical extensions from the designs. Only the necessary information is provided for minimalism, i.e. nothing unnecessary will be provided.

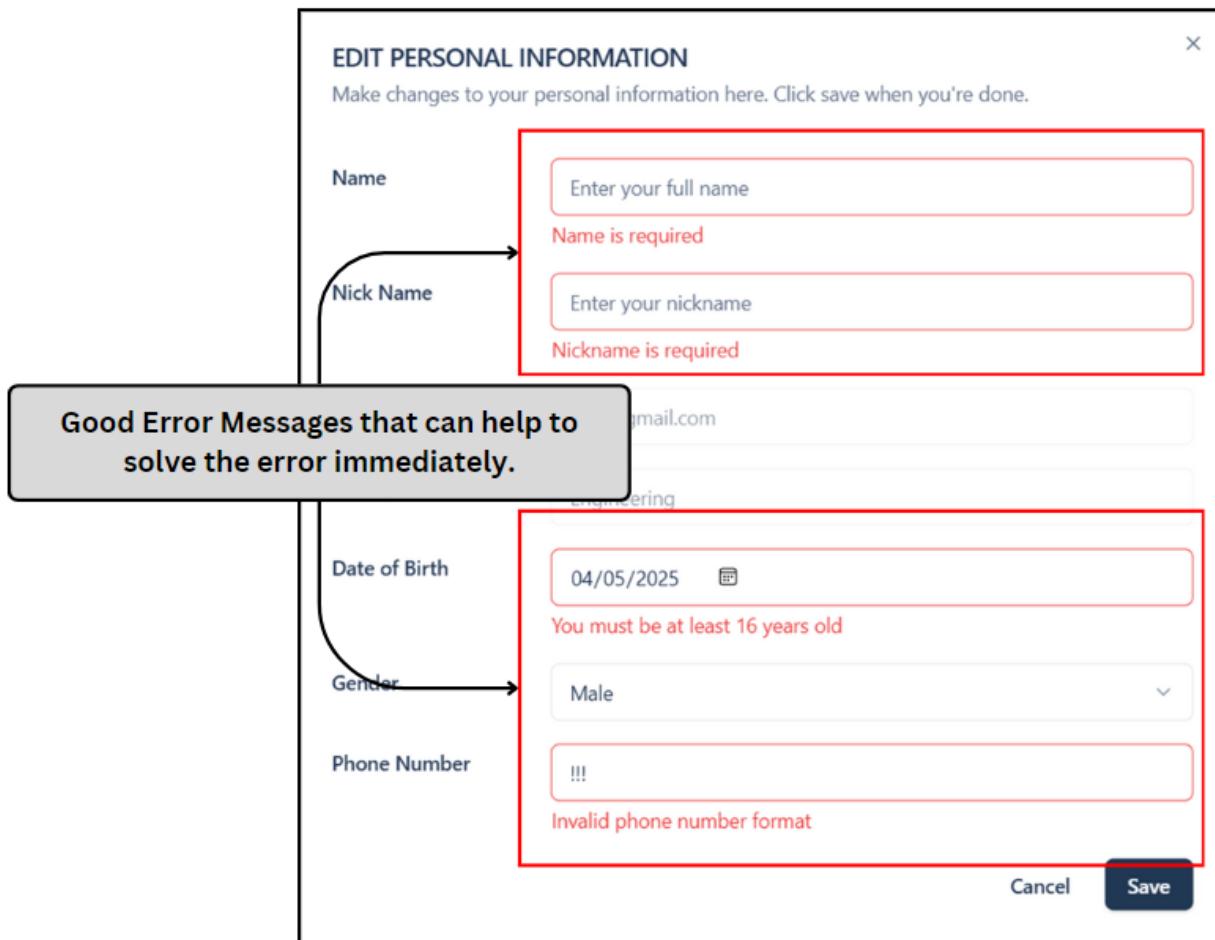


Fig_ 4.8: Login Page

4.2.9. Assist users in recognizing, diagnosing, and recovering from errors

It would be beneficial for the user if the error messages were presented in a simple manner, which clearly outlined what the problem was and provided some potential fixes. There are colors the website can use, that can highlight the messages and make them easier for users to understand. (Nielsen, 2024)

Aurora uses traditional error message visuals, for example bold, red text. Additionally, they present the user with the ability to resolve the error immediately.

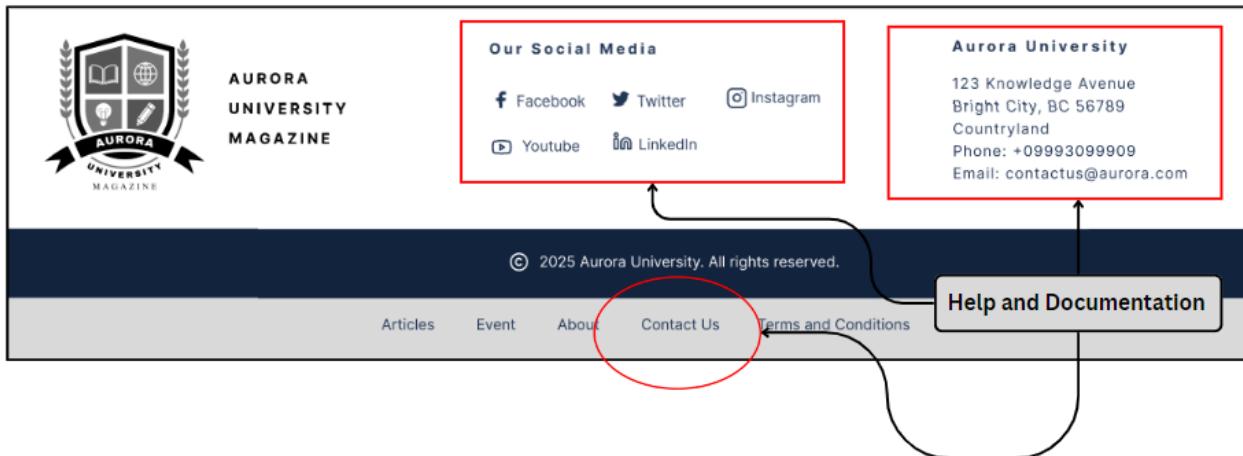


Fig_ 4.9: Pop Up Window (information update)

4.2.10 Assistance and documentation

The assistance and documentation should be easily searchable and applicable to their situation. The assistance session should be available, when possible, in context right at the moment when the user needs it. (Nielsen, 2024)

Aurora's website assistance and documentation section are included in the footer. When users have any problems, they can contact the university directly from the Contact Us page or call the hot line number or send mail to the provided email.



Fig_ 4.10: Footer

4.3 Site Map

This is the site map of our Aurora University Website:

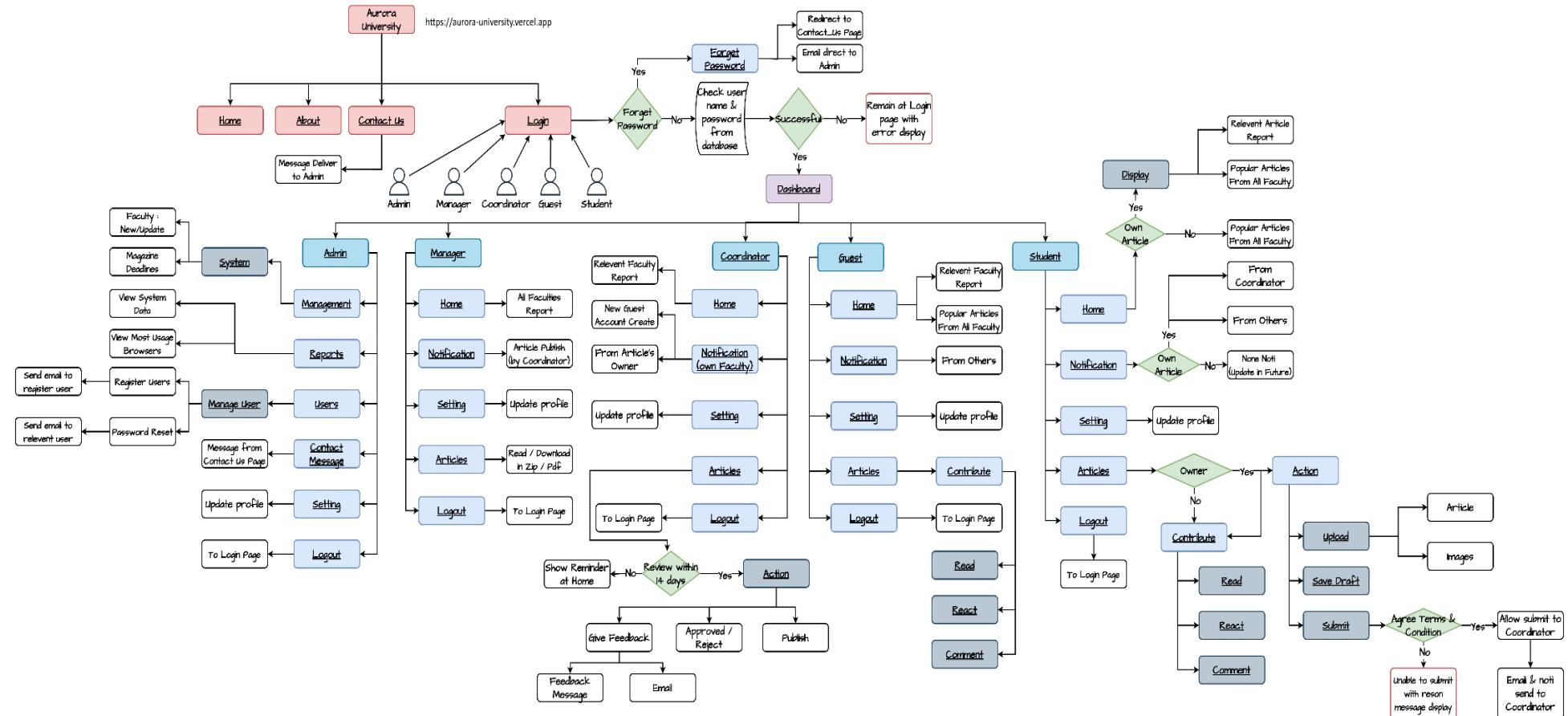
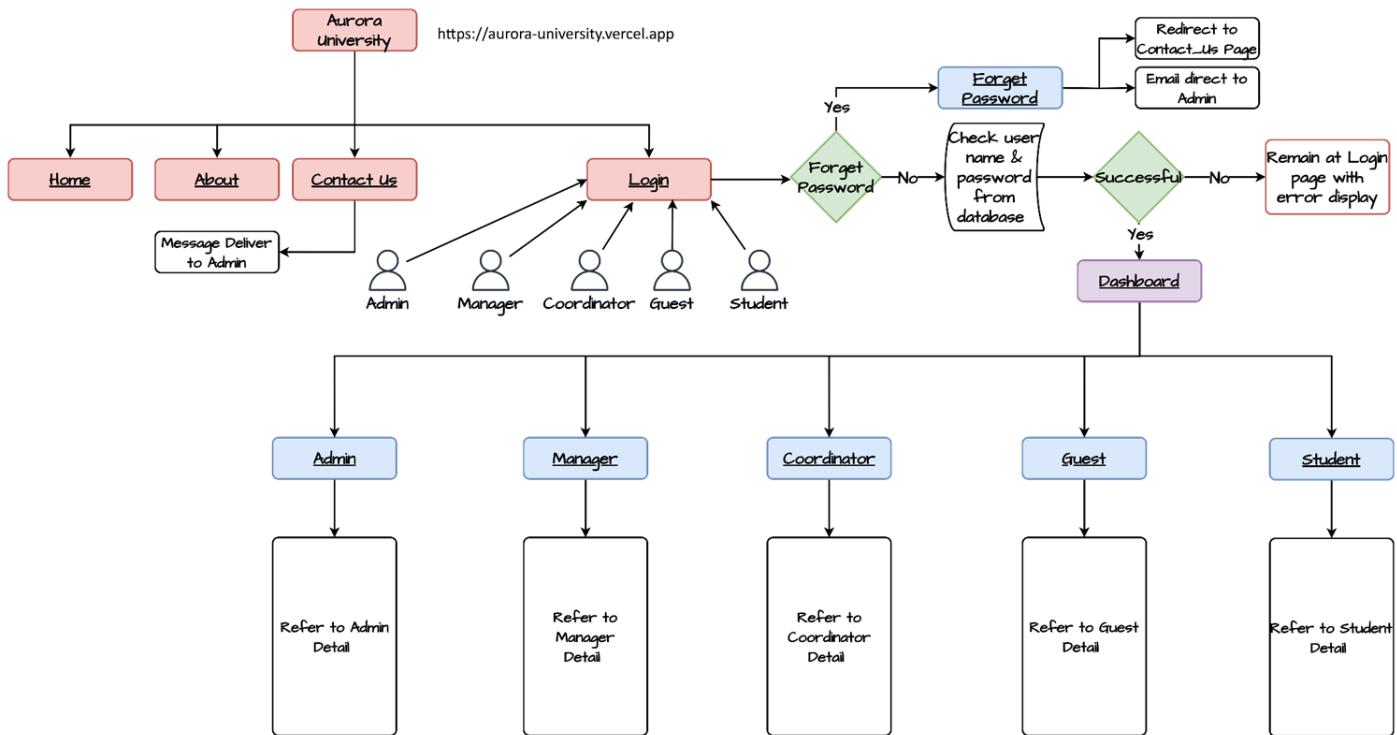
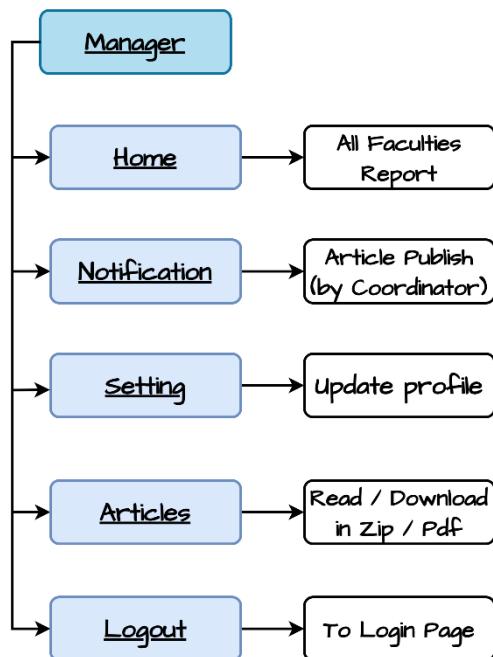


Fig 1_ Site map of University Website

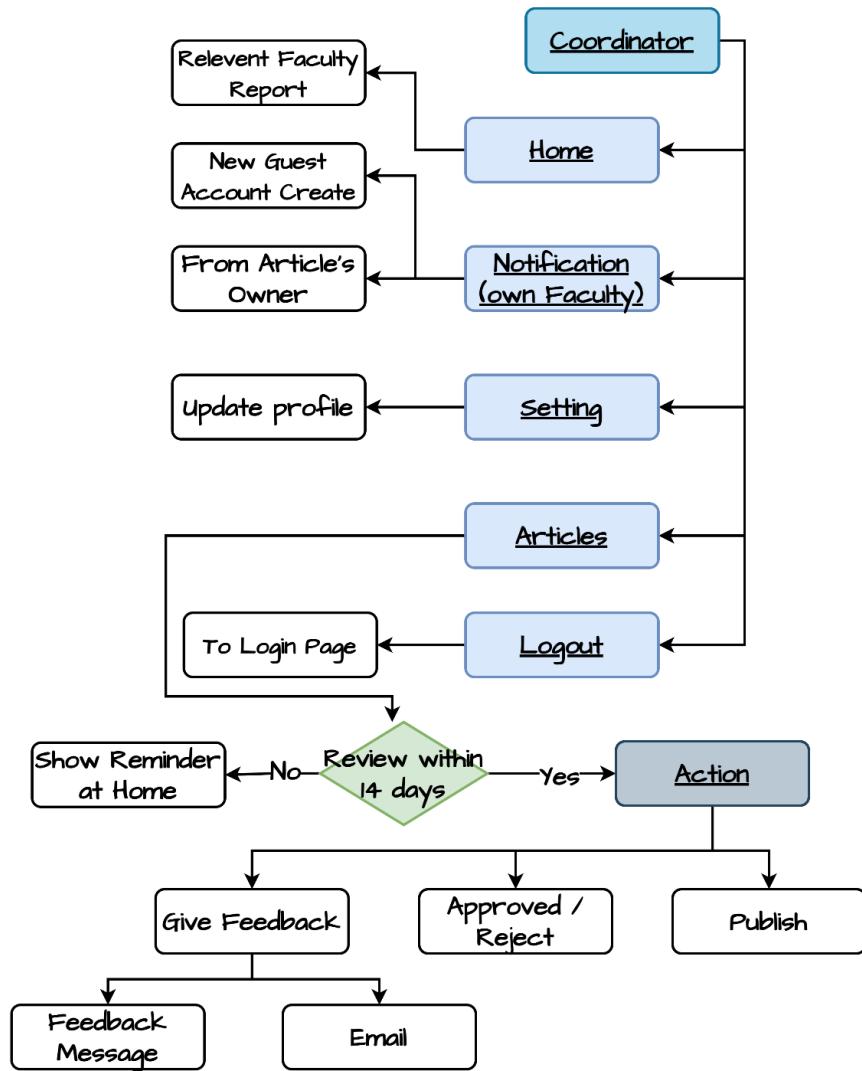
Every Site Visitor



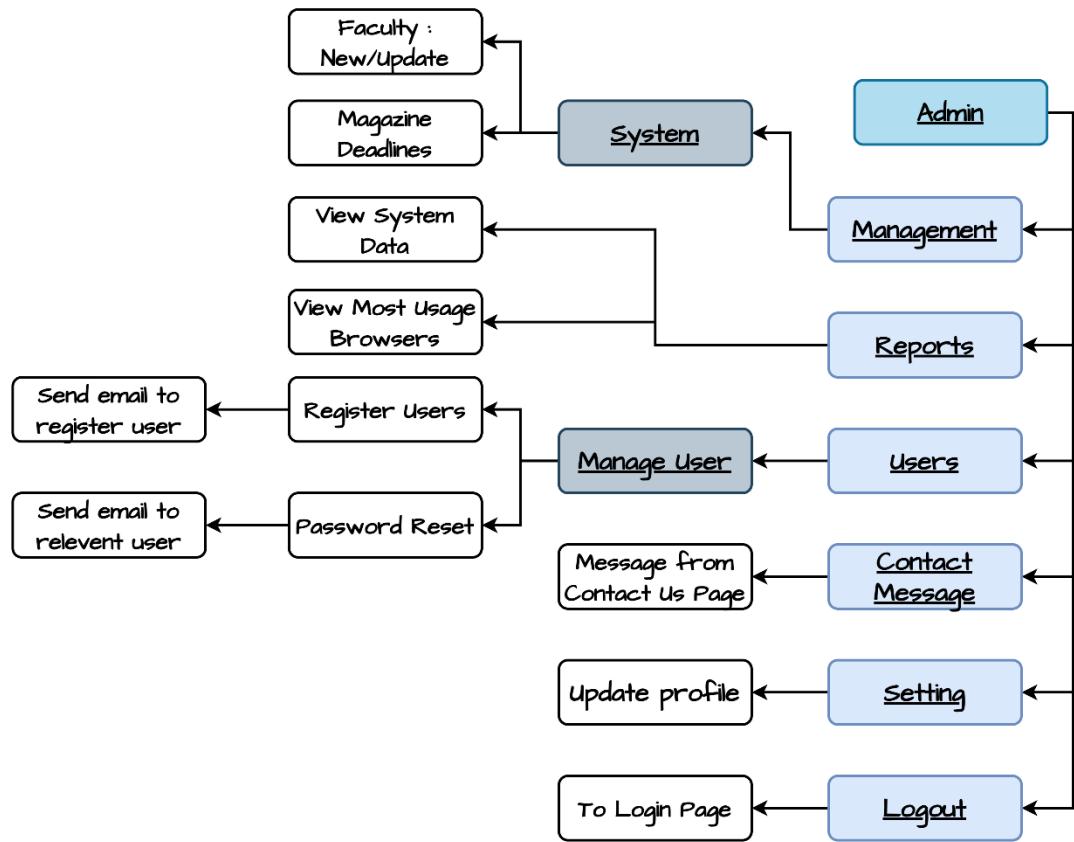
User Detail : Manager



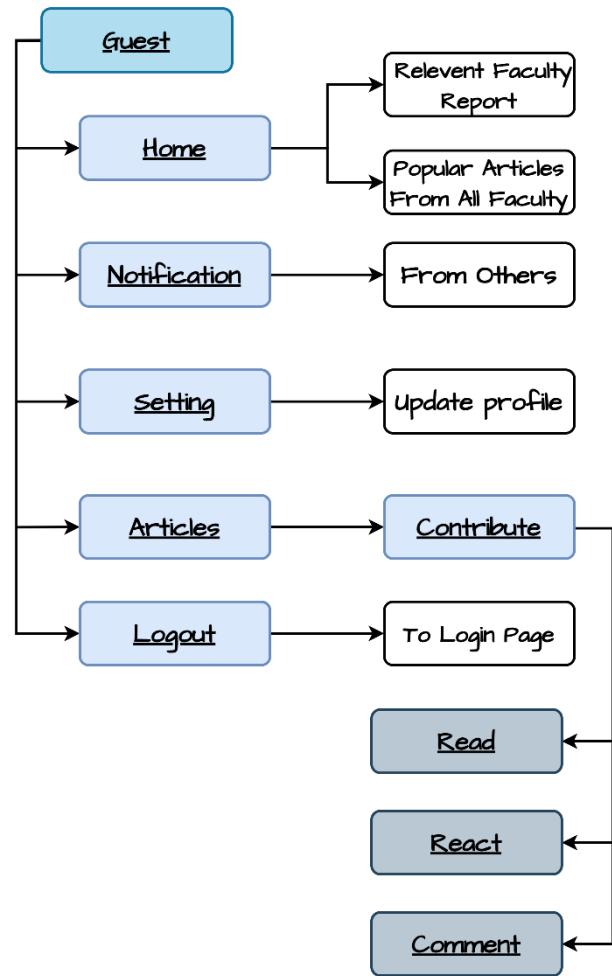
User Detail: Coordinator



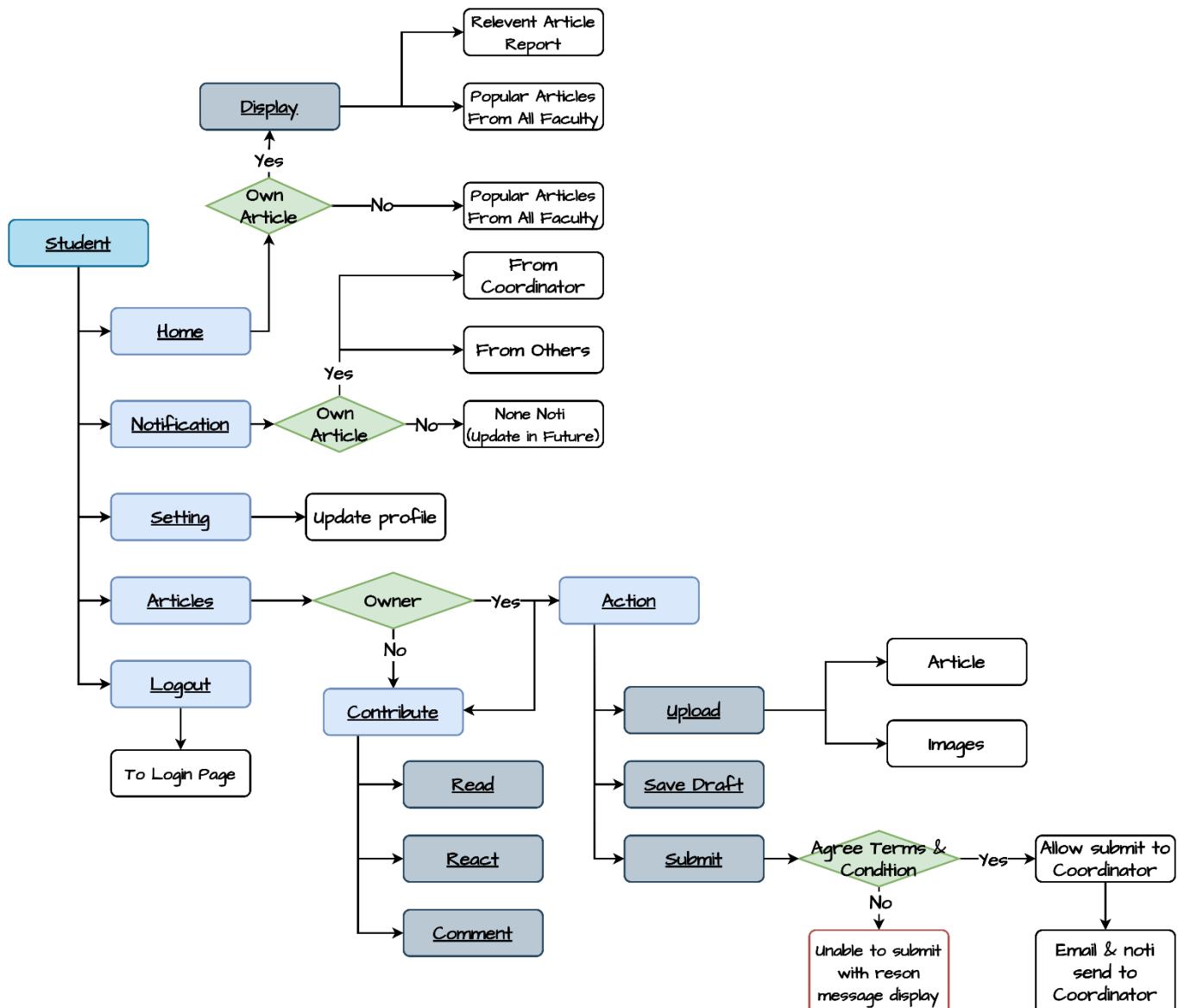
User Detail: Admin



User Detail: Guest



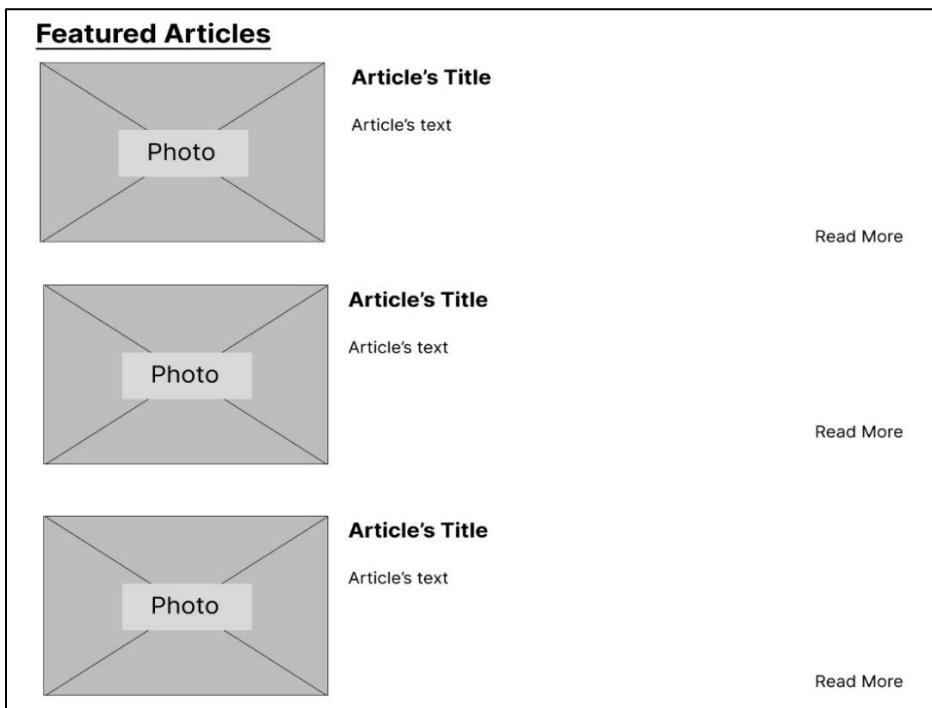
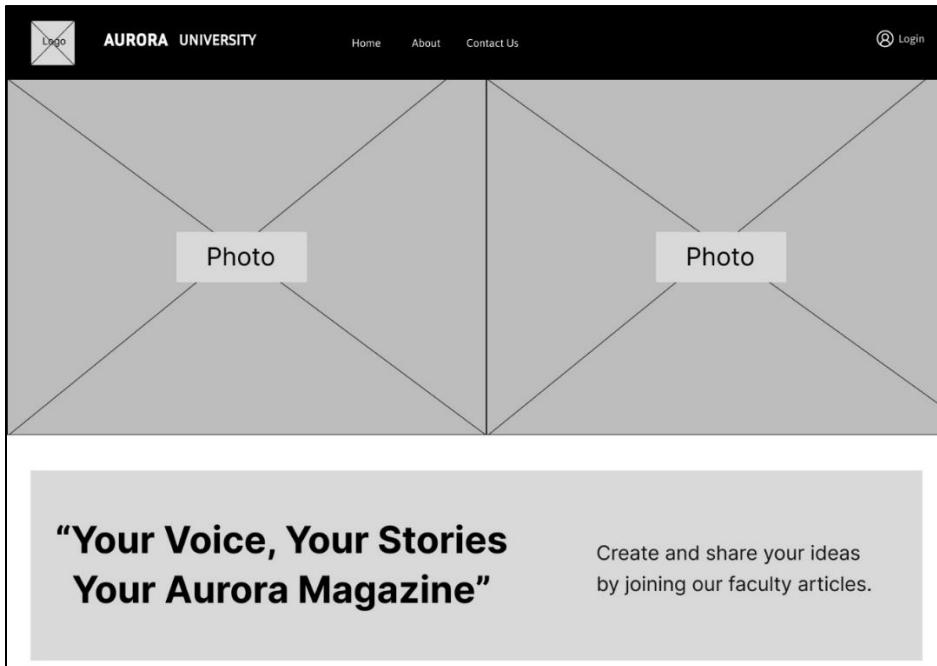
User Detail: Student



4.4 Product Sketches – Wireframes

Wireframes are created for some of the key pages of the system so that the actual design can be precise and reduce time for future revision.

4.4.1. Main Web Page



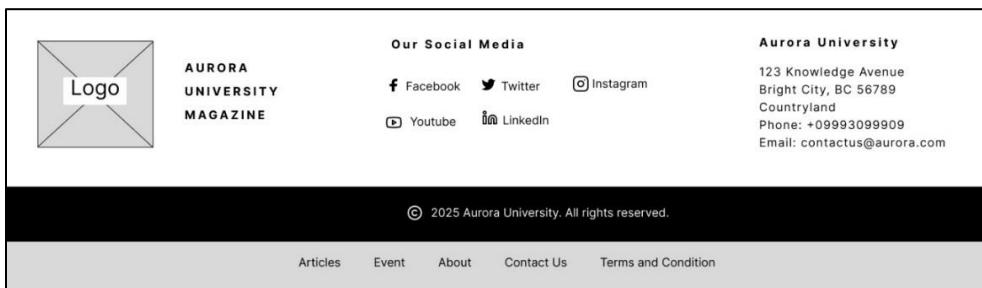
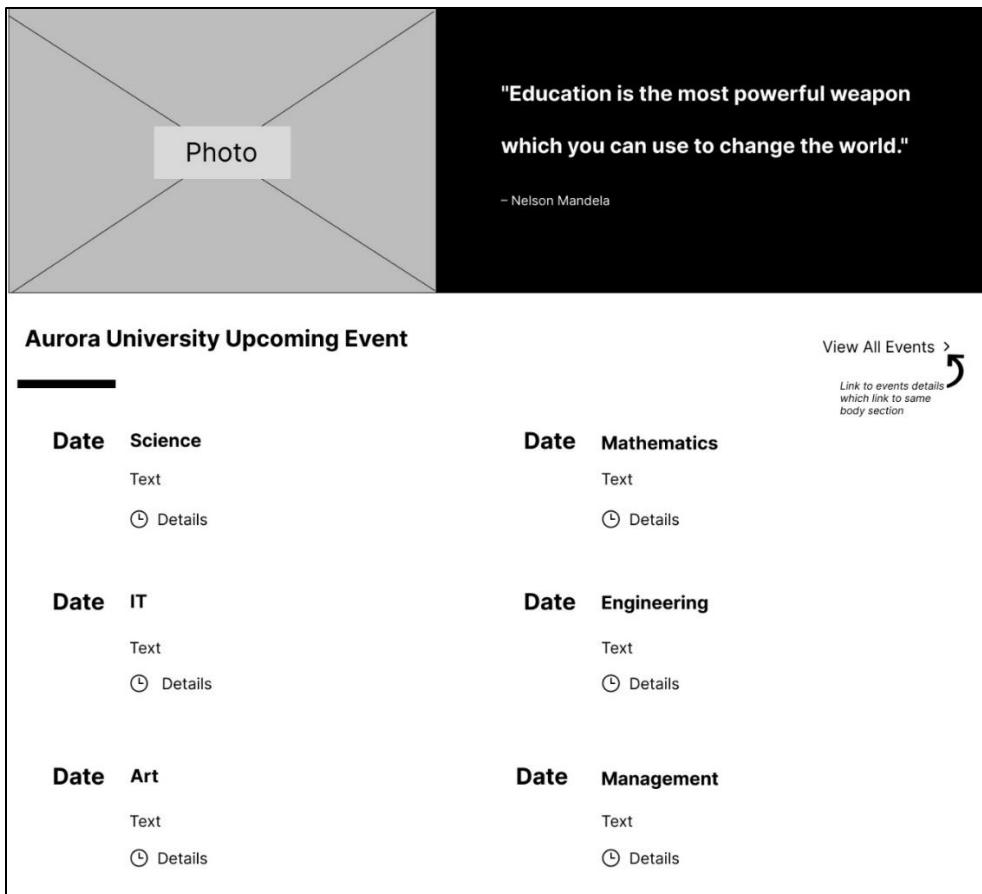


Figure (1) Home Page Wireframe

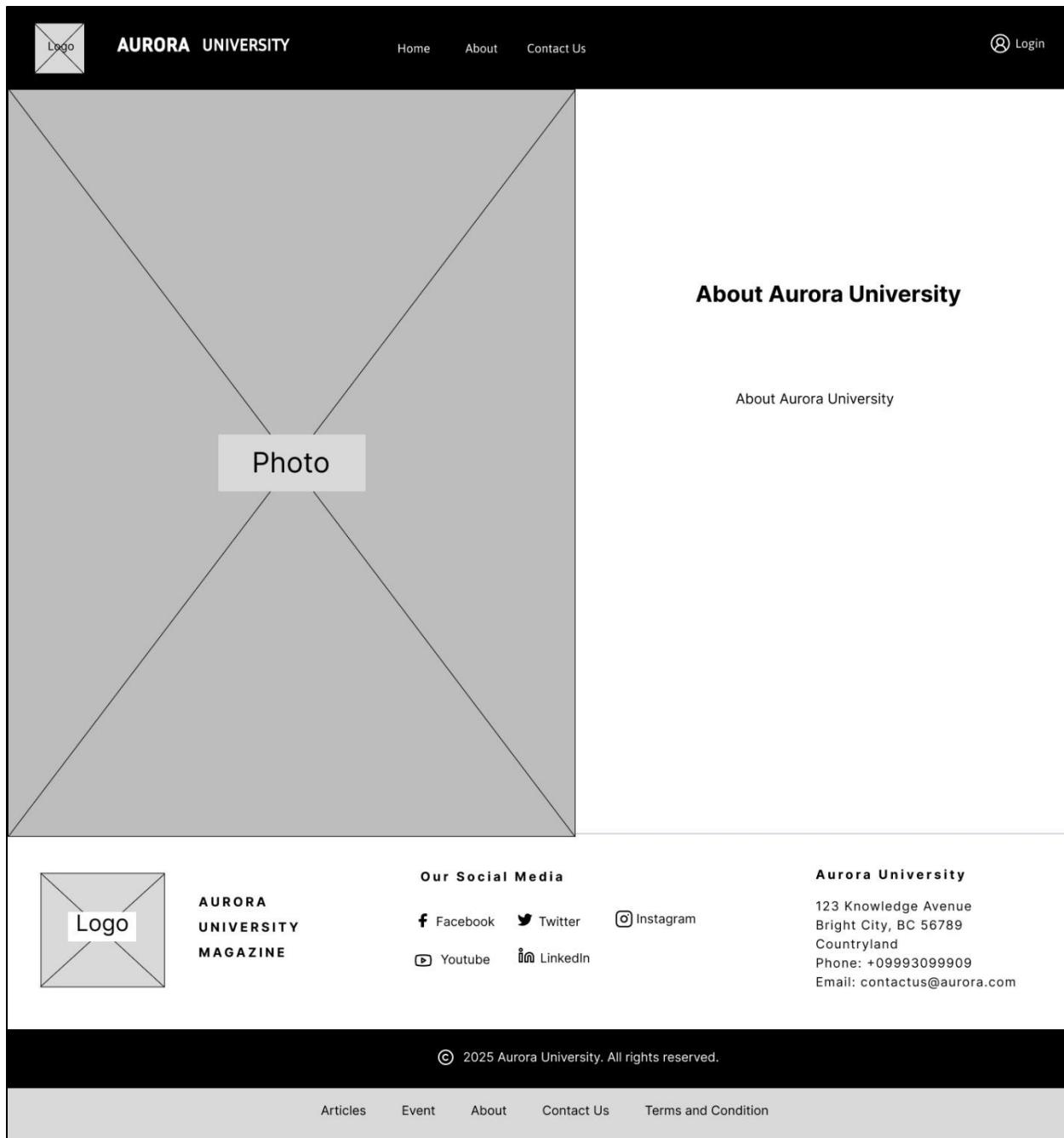


Figure (2) Home Page - About Wireframe

AURORA UNIVERSITY

Home About Contact Us Login

Contact Us

Name

Email

Title

Description

SUBMIT

To Create As Button.
Once submitted the details will
email to contactus@aurora.com
Can access by Admin only

AURORA UNIVERSITY MAGAZINE

Our Social Media

Facebook Twitter Instagram
 Youtube LinkedIn

Aurora University

123 Knowledge Avenue
Bright City, BC 56789
Countryland
Phone: +09993099909
Email: contactus@aurora.com

© 2025 Aurora University. All rights reserved.

Articles Event About Contact Us Terms and Condition

Figure (3) Home Page - Contact Us Wireframe

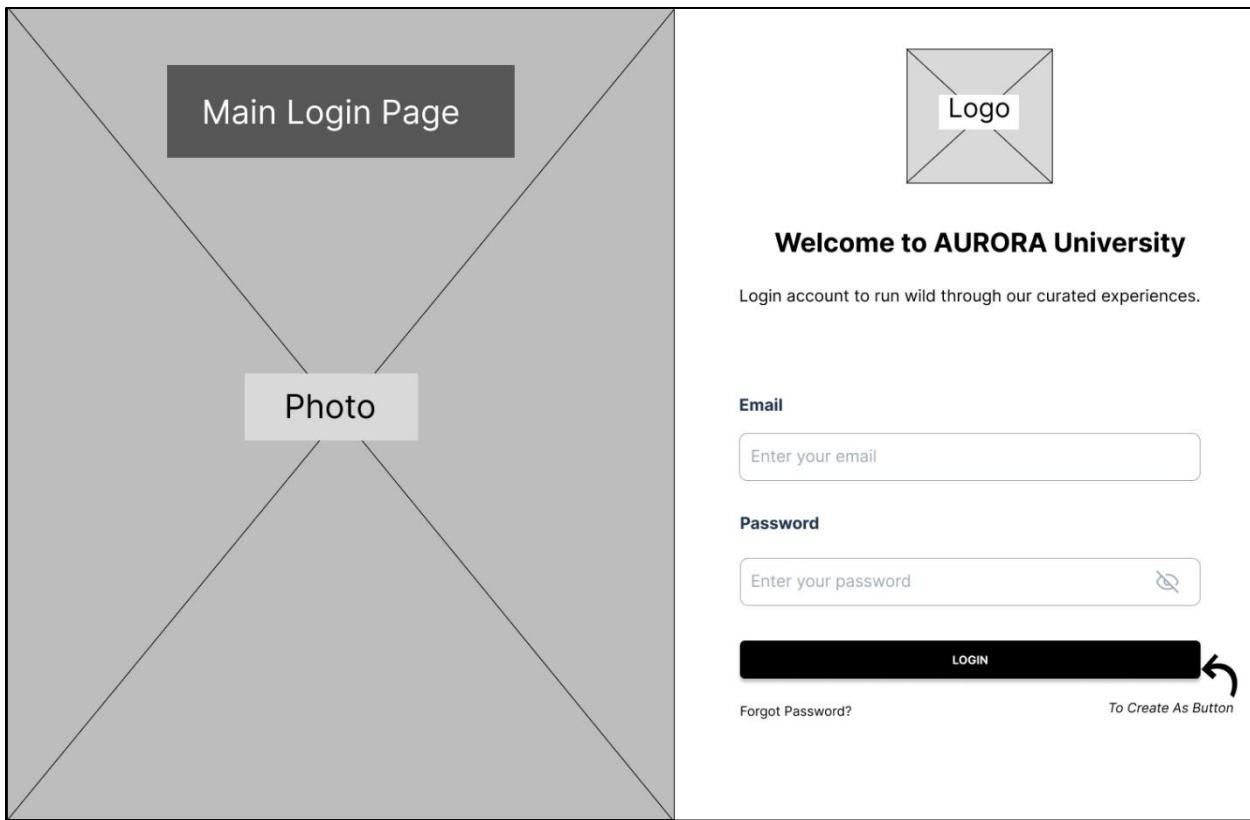


Figure (4) Main Login Page

4.4.2. Student Dashboard

The wireframe displays a student dashboard. On the left is a sidebar with icons for Dashboard, Articles, Notifications (with a count of 2), and Settings. The main content area has a header "Welcome to AURORA's Magazine Dashboard" and "Last Login (to display dd/mm/yyyy & time)". It features three dark cards: "Dashboard for Likes", "Dashboard for Uploaded Articles", and "Dashboard for Total Viewers". Below this is a section titled "AURORA'S MAGAZINE ARTICLES" showing a list of five articles with columns for title and date. At the bottom left is a "Logout" link.

Article Title	Date
Articles 1	Date
Articles 2	Date
Articles 3	Date
Articles 4	Date
Articles 5	Date

Figure (5) Student Dashboard Wireframe

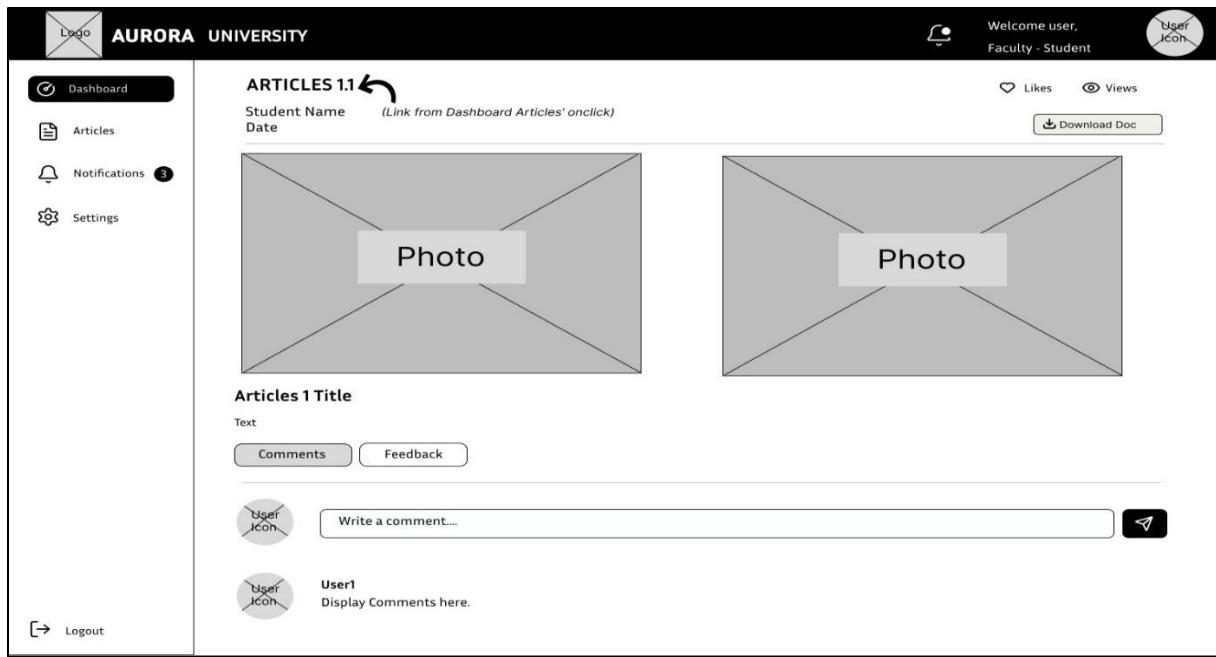


Figure (6) Student Dashboard Magazine Articles Page Wireframe

4.4.3 Student Dashboard – Upload Articles

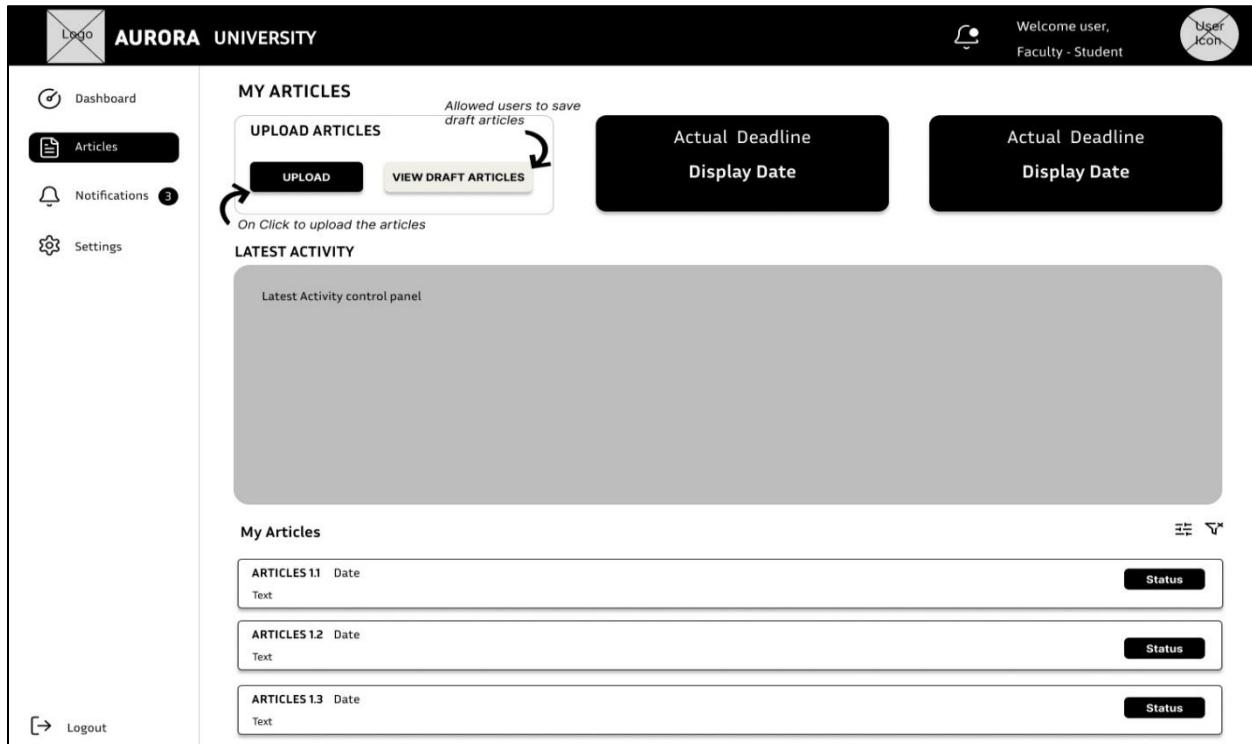


Figure (7) Student Articles Page Wireframe

UPLOAD YOUR ARTICLES HERE

Title	<input type="text" value="Add your title here"/>
Description	<input type="text" value="Add your description here"/>
Category	<input style="width: 100px; height: 20px; border: 1px solid #ccc; border-radius: 5px; padding: 5px; margin-bottom: 10px;" type="text" value="Poem"/>
Type	<input style="width: 100px; height: 20px; border: 1px solid #ccc; border-radius: 5px; padding: 5px; margin-bottom: 10px;" type="text" value="Docx"/>

Drag & Drop your content here or **browse**
Supports images and microsoft word documents

Click here to agree [terms and condition](#)

Figure (8) Student Articles Upload (Pop up window) Wireframe

4.4.4 Student Dashboard – Notifications

The wireframe shows the student dashboard interface. On the left is a sidebar with the Aurora University logo, navigation links (Dashboard, Articles, Notifications with a '3' badge, Settings), and a Logout button. The main area is titled 'NOTIFICATIONS' and lists six notifications, each with a user icon and a date. Notifications 1, 2, 3, and 4 are in a light gray box, while notifications 5 and 6 are in a darker gray box. Arrows point from the text 'Highlighted color for unread notifications' to notifications 5 and 6.

Figure (9) Student Dashboard Notifications Wireframe

4.4.5 Student Dashboard – Settings

Settings

Name: User Name

Nick Name: Nick Name

Email Address: Email

Faculty: Faculty

Password: *****

Date of Birth: dd.mm.yyyy

Gender: Gender

Phone Number: +Country Code (Phone numbers)

Edit

Logout

Figure (10) Student Dashboard Settings Wireframe

4.4.6. Marketing Coordinator Dashboard page

Welcome to AURORA's Dashboard

Last Login (to display dd/mm/yyyy & time)

DISPLAY STATUS

TOTAL DATE LEFT FOR PUBLISH : Display Date

Articles Status Page

Current Academic Year

Total Uploaded Articles as per Academic Year

Bar Chart Statics Display Featuring as per year

AURORA Magazine Articles of the Year

Guest List Newly Signed up guest status

Display Activities

Newly Signed up guest list

Logout

Figure (11) Marketing Coordinator's Dashboard Wireframe

4.4.7. Marketing Coordinator Articles page

The wireframe shows the Marketing Coordinator's Articles page. On the left is a sidebar with a logo, "AURORA UNIVERSITY", and navigation links: Dashboard, Articles (which is selected), Notifications (with 3 notifications), and Settings. The main content area has a header "ARTICLES". Below it are four buttons: "Total Submission", "Pending Review", "Approved Articles", and "Rejected Articles". A table titled "LIST OF ARTICLES" follows, displaying six rows of article data. Each row includes columns for Title, Submission Date, Submission Deadline, Status, Categories, Submission By, and Action (with "View" and "Rejected" buttons). The last two rows show status "Rejected" with reason "Reason: Duplicated". At the bottom left is a "Logout" link.

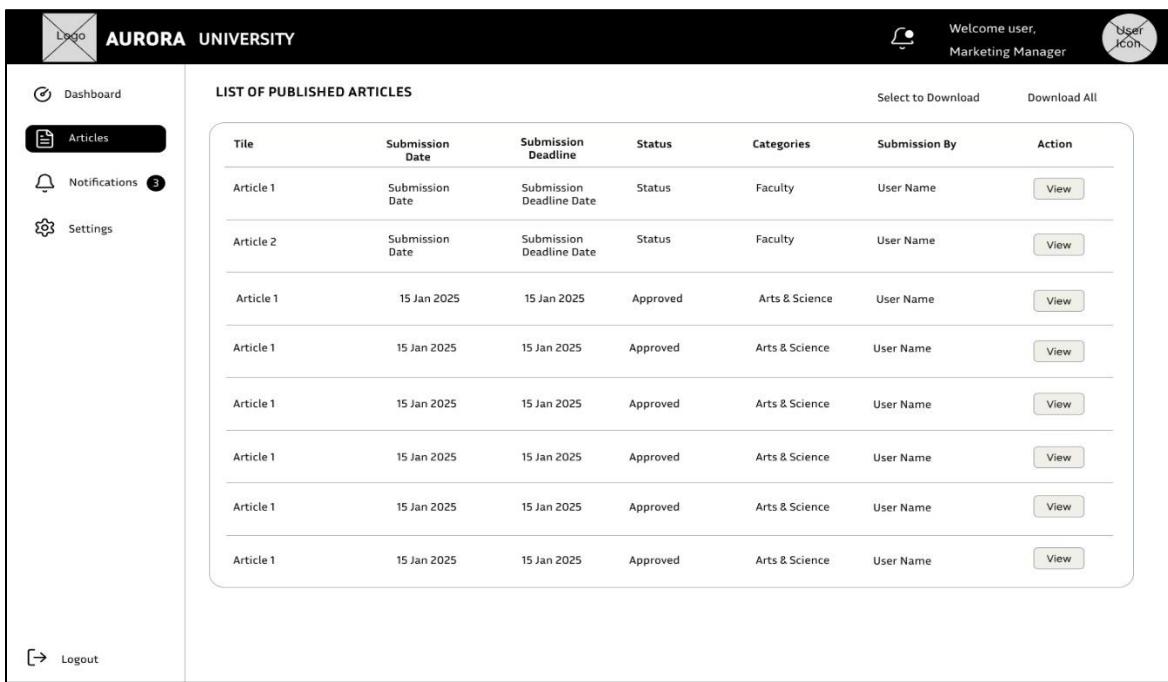
Figure (12) Marketing Coordinator's Articles Page Wireframe

4.4.8. Marketing Manager's Dashboard page

The wireframe shows the Marketing Manager's Dashboard page. On the left is a sidebar with a logo, "AURORA UNIVERSITY", and navigation links: Dashboard, Articles, Notifications (with 3 notifications), and Settings. The main content area starts with a "Welcome to AURORA's Dashboard" message and "Previous Login 09/03/2025 9:20 AM". It features two large cards: "Articles Status" and "Current Academic Year". Below these are two sections: "Total Uploaded Articles as per Academic Year" (represented by a placeholder bar chart) and "Guest List Status Display". The "Guest List Status Display" table lists four guests with columns for Guest Name, Email, Faculty, DOB, Gender, and Phone Number. The final section is "Aurora Members", showing eight member profiles with user icons and names.

Figure (13) Marketing Manager's Dashboard Page Wireframe

4.4.9. Marketing Manager's Articles page



The wireframe shows a user interface for a Marketing Manager. On the left is a sidebar with a logo, 'AURORA UNIVERSITY' text, and three menu items: 'Dashboard', 'Articles' (which is selected and highlighted in black), and 'Notifications' (with a count of 3). Below these are 'Settings' and a 'Logout' button. The main content area has a header 'LIST OF PUBLISHED ARTICLES' with buttons for 'Select to Download' and 'Download All'. A table lists eight articles, each with columns for Title, Submission Date, Submission Deadline, Status, Categories, Submission By, and an Action button labeled 'View'. The table rows are identical, showing 'Article 1' through 'Article 8' with various status and category details.

Title	Submission Date	Submission Deadline	Status	Categories	Submission By	Action
Article 1	Submission Date	Submission Deadline Date	Status	Faculty	User Name	<button>View</button>
Article 2	Submission Date	Submission Deadline Date	Status	Faculty	User Name	<button>View</button>
Article 1	15 Jan 2025	15 Jan 2025	Approved	Arts & Science	User Name	<button>View</button>
Article 1	15 Jan 2025	15 Jan 2025	Approved	Arts & Science	User Name	<button>View</button>
Article 1	15 Jan 2025	15 Jan 2025	Approved	Arts & Science	User Name	<button>View</button>
Article 1	15 Jan 2025	15 Jan 2025	Approved	Arts & Science	User Name	<button>View</button>
Article 1	15 Jan 2025	15 Jan 2025	Approved	Arts & Science	User Name	<button>View</button>

Figure (14) Marketing Manager's Article Page wireframe

4.4.10. Administrator's Dashboard Management page

The wireframe shows the layout of the administrator's dashboard. It includes a header with the university logo and name, a navigation sidebar with links for Management, Reports, Users, Contact us Email, and Settings, and three main content sections: Academic Management Dashboard, Academic Years, and Faculties, each with a table for managing data.

Academic Management Dashboard
Previous Login 09/03/2025 9:20 AM

Submission Dates
Manage pre-submission and actual submission dates for each academic year and faculty

Academic Year	Faculty	Pre-Submission Date	Actual Submission Date	Action
2024-2025	Science	Nov 15, 2024	Dec 01, 2024	<input type="checkbox"/> <input type="button" value="Delete"/>
2024-2025	Engineering	Nov 20, 2024	Engineering	<input type="checkbox"/> <input type="button" value="Delete"/>

Academic Years
Manage Academic years in the system

ID	Name	Action
1	2023-2024	<input type="checkbox"/> <input type="button" value="Delete"/>
2	2024-2025	<input type="checkbox"/> <input type="button" value="Delete"/>

Faculties
Manage Faculties in the system

ID	Name	Action
1	Science	<input type="checkbox"/> <input type="button" value="Delete"/>
2	Art	<input type="checkbox"/> <input type="button" value="Delete"/>

Figure (15) Admin's Dashboard Management Page Wireframe

4.4.11. Administrator's Reports page

The wireframe for the Admin's Reports page includes the following sections:

- Most View Pages**: A table showing the most viewed pages over the last 7 days. Data (approximate values):

Page	Path	Views
Home Page	/index	15,423
About	/About	12,423
Contact Us	/ContactUs	8,423
Login Page	/Login	6,423
Student Dashboard Page	/SudentDB	5,423
- Most Active Users**: A table showing the most active users over the last 7 days. Data (approximate values):

User	Last Active	Avg. Session
User 1 Email JF	12 minutes ago	15m 32s
User 2 Email JF	1 hr ago	25m 22s
User 3 Email JF	2 hr ago	10m 17s
User 4 Email JF	3 hr ago	9m 45s
- Browser Usage**: A table showing the distribution of browsers used to access the site over the last 7 days. Data (approximate values):

Browser	Users
Chrome	15,423 users
Safari	12,423 users
Firefox	8,423 users
Edge	6,423 users
Opera	5,423 users
Samsung Internet	800 users
Others	500 users

Figure (16) Admin's Reports Page Wireframe

4.4.12. Guest's Dashboard page

The wireframe for the Guest's Dashboard page includes the following sections:

- Welcome to AURORA's Dashboard**: Displays the previous login date and time (09/03/2025 9:20 AM).
- Bar Chart Statistics Display**: A placeholder for a bar chart showing statistics per year.
- View Reports**: Buttons for Report 1, Report 2, and Report 3 corresponding to the years 2021, 2022, and 2023.
- View Articles By Faculty**: Buttons for Science, Mathematics, IT, Art, Engineering, and Management articles.
- AURORA Magazine Articles of Latest Year 2023**: A list of magazine articles categorized by year:

ARTICLES	Text
ARTICLES 1.1	Text
ARTICLES 1.2	Text
ARTICLES 1.3	Text
ARTICLES 2.1	Text
ARTICLES 2.2	Text
ARTICLES 2.3	Text
ARTICLES 3.1	Text
ARTICLES 3.2	Text

Figure (17) Guest's Dashboard Page Wireframe

4.4.13. Guest's Articles page

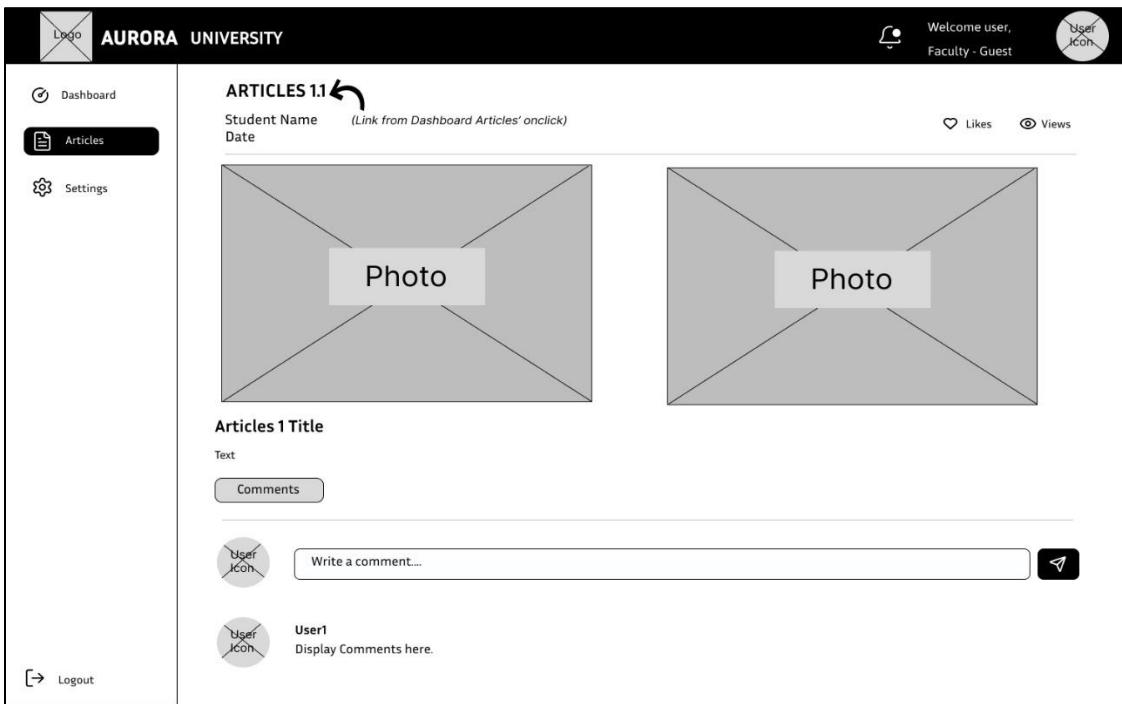


Figure (18) Guest's Articles Page Wireframe

4.4.14. First Time User Welcome page

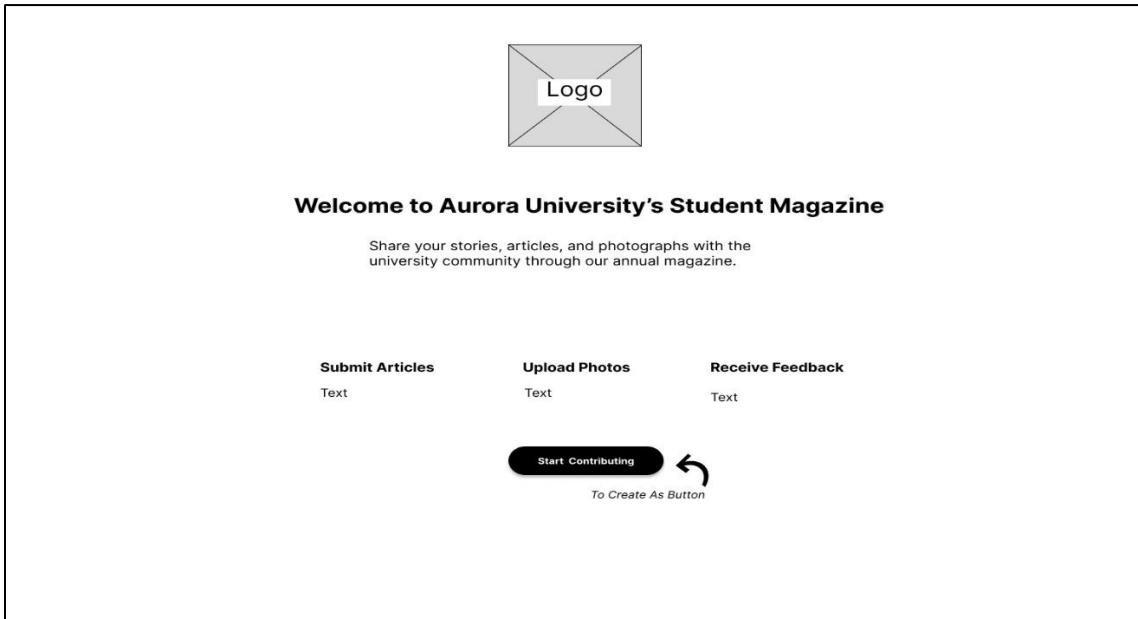
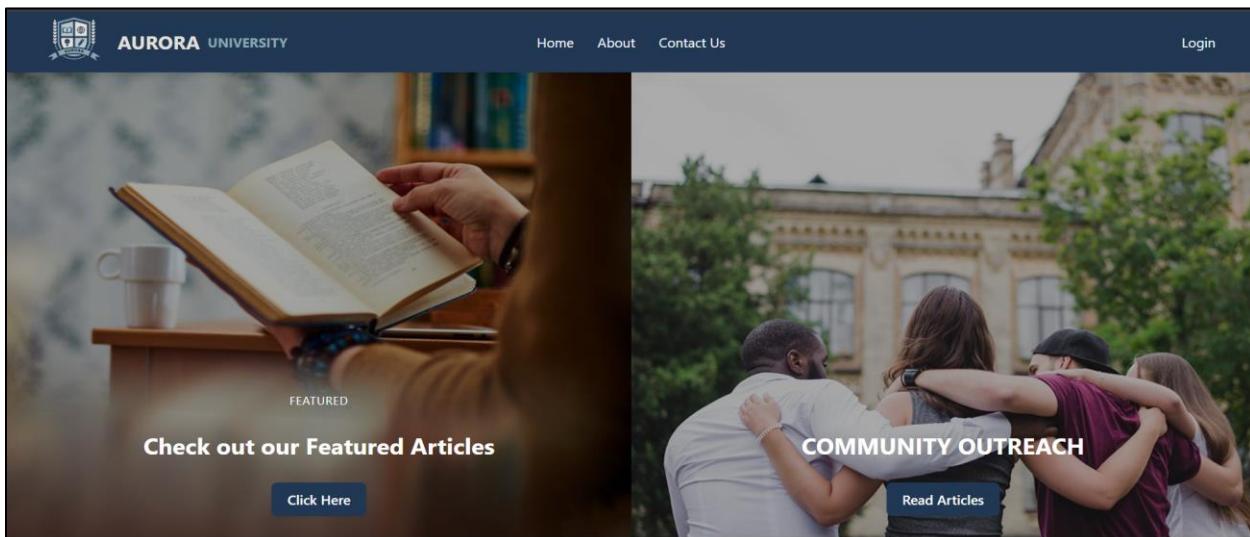


Figure (19) First Time User Welcome page

4.5 Confirm Site Design

4.5.1. Main Pages



**"Your Voice, Your Stories
Your Aurora Magazine"**

Create and share your ideas by joining our faculty articles.
Do not miss the chance to get featured at Aurora Magazine.

Featured Articles

A thumbnail image for an article about Windows OS, showing a silhouette of a person standing in front of a computer screen displaying the Windows logo.

Windows OS The Evolution of a Digital Giant
Windows OS, developed by Microsoft, revolutionized personal computing. From simple interfaces to powerful platforms, it remains one of the most widely used operating systems globally.

[Read More >](#)

A thumbnail image for an article about Chronobiology, showing a group of scientists in lab coats looking at a circular clock or graph.

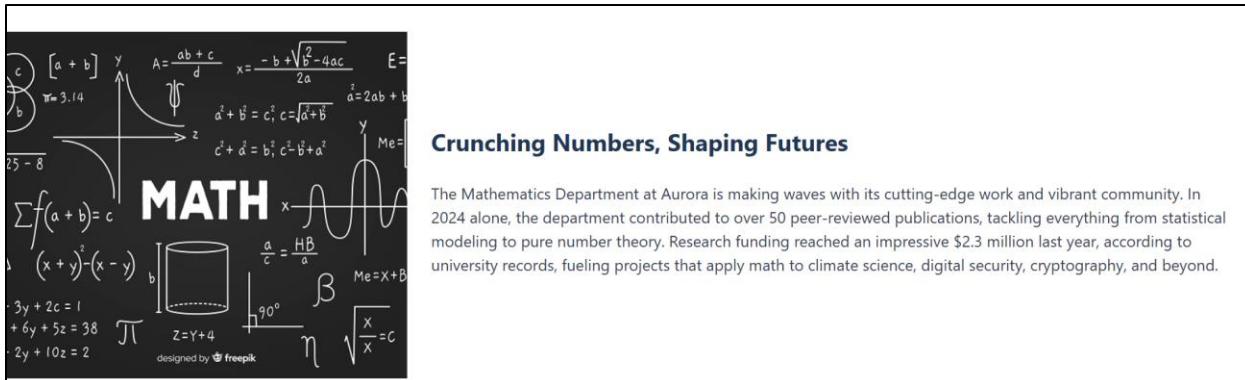
The Science of Chronobiology_ Decoding the Rhythms of Life
Studies biological clocks that regulate sleep, metabolism, and behavior, aligning organisms with day-night cycles.

[Read More >](#)

A thumbnail image for an article about Point Of Sale systems, showing a digital tablet displaying a POS interface in a retail environment.

Point Of Sale
Point of Sale systems handle sales transactions in retail or hospitality. They manage inventory, process payments, and generate reports, streamlining customer purchases and business operations.

[Read More >](#)



Crunching Numbers, Shaping Futures

The Mathematics Department at Aurora is making waves with its cutting-edge work and vibrant community. In 2024 alone, the department contributed to over 50 peer-reviewed publications, tackling everything from statistical modeling to pure number theory. Research funding reached an impressive \$2.3 million last year, according to university records, fueling projects that apply math to climate science, digital security, cryptography, and beyond.

Crunching Numbers, Shaping Futures

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The Mathematics Department at Aurora is making waves with its cutting-edge work and vibrant community.

Day



"Education is the most powerful weapon which you can use to change the world."

- Nelson Mandela

Aurora University Upcoming Events

APR
9 **Science Faculty Symposium**
Exploring the Frontiers of Quantum Biology
🕒 Mon, Apr 7 at 2:00 pm

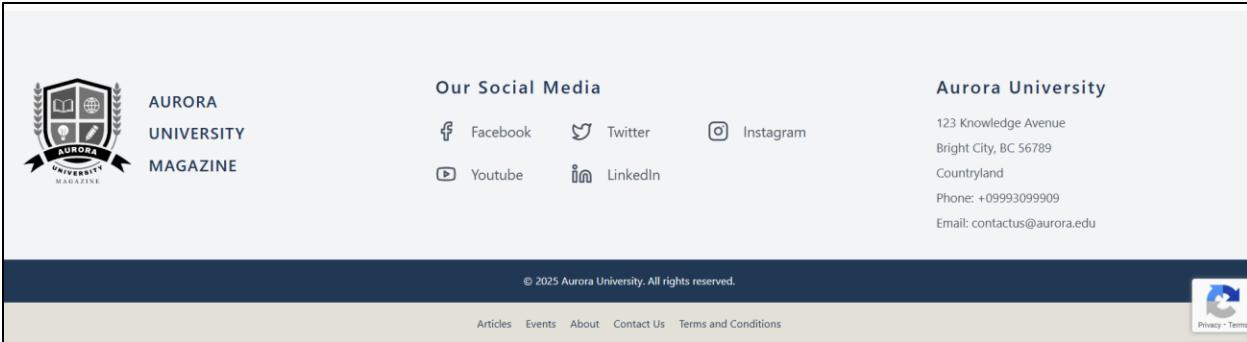
APR
10 **Mathematics Lecture Series**
The Beauty of Fractals in Nature and Technology
🕒 Thur, Apr 10 at 10:00 am

APR
15 **IT Panel Discussion**
The Future of AI Ethics and Innovation
🕒 Tue, Apr 15 at 3:00 pm

APR
18 **Engineering Workshop**
Sustainable Design: Building the Cities of Tomorrow
🕒 Fri, Apr 18 at 2:00 pm

APR
21 **Art Exhibition Opening**
Technology Meets Creativity
🕒 Mon, Apr 21 at 5:00 pm

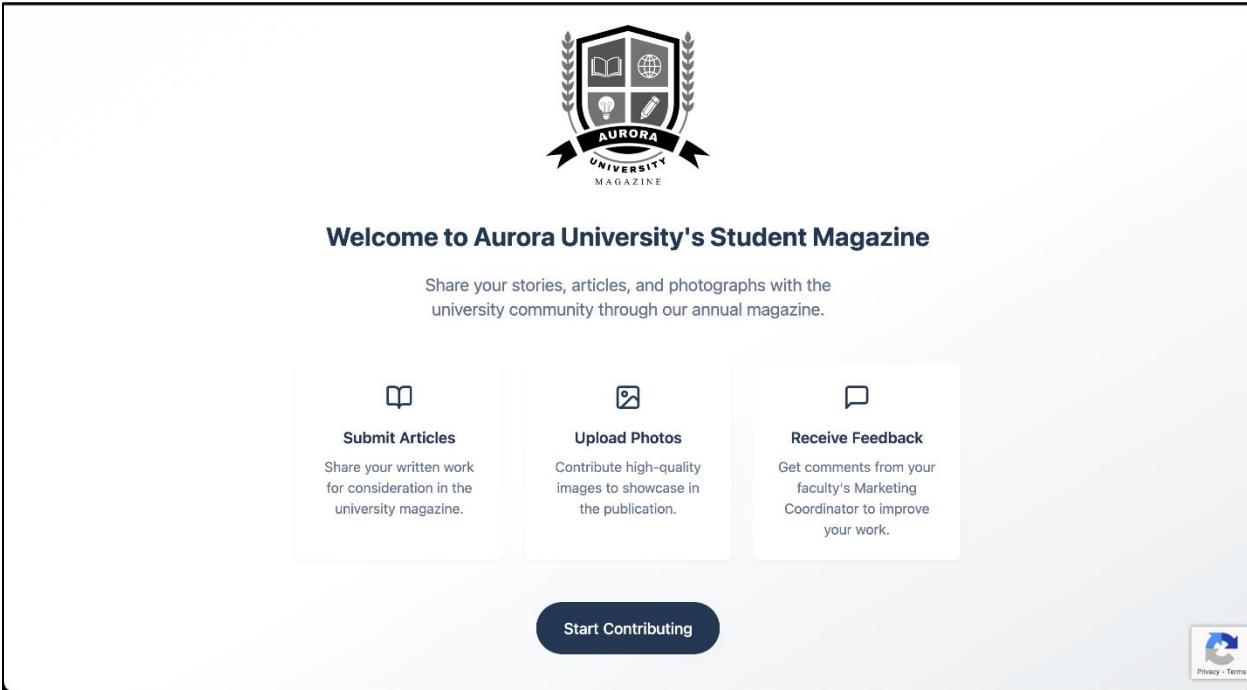
APR
25 **Management Seminar**
Leadership in the Age of Disruption
🕒 Fri, Apr 25 at 1:00 pm



The screenshot shows the homepage of the Aurora University Magazine. At the top left is the magazine's logo featuring a shield with a globe, books, and a quill, surrounded by laurel wreaths, with the text "AURORA UNIVERSITY MAGAZINE". To the right of the logo is the text "AURORA UNIVERSITY MAGAZINE". In the center, there is a section titled "Our Social Media" with links to Facebook, Twitter, Instagram, YouTube, and LinkedIn. On the far right, there is a "Aurora University" contact section with address, phone number, and email. Below these sections is a dark blue footer bar containing the copyright notice "© 2025 Aurora University. All rights reserved.", navigation links for "Articles", "Events", "About", "Contact Us", "Terms and Conditions", and a "Privacy • Terms" link.

Figure (1) Home Page

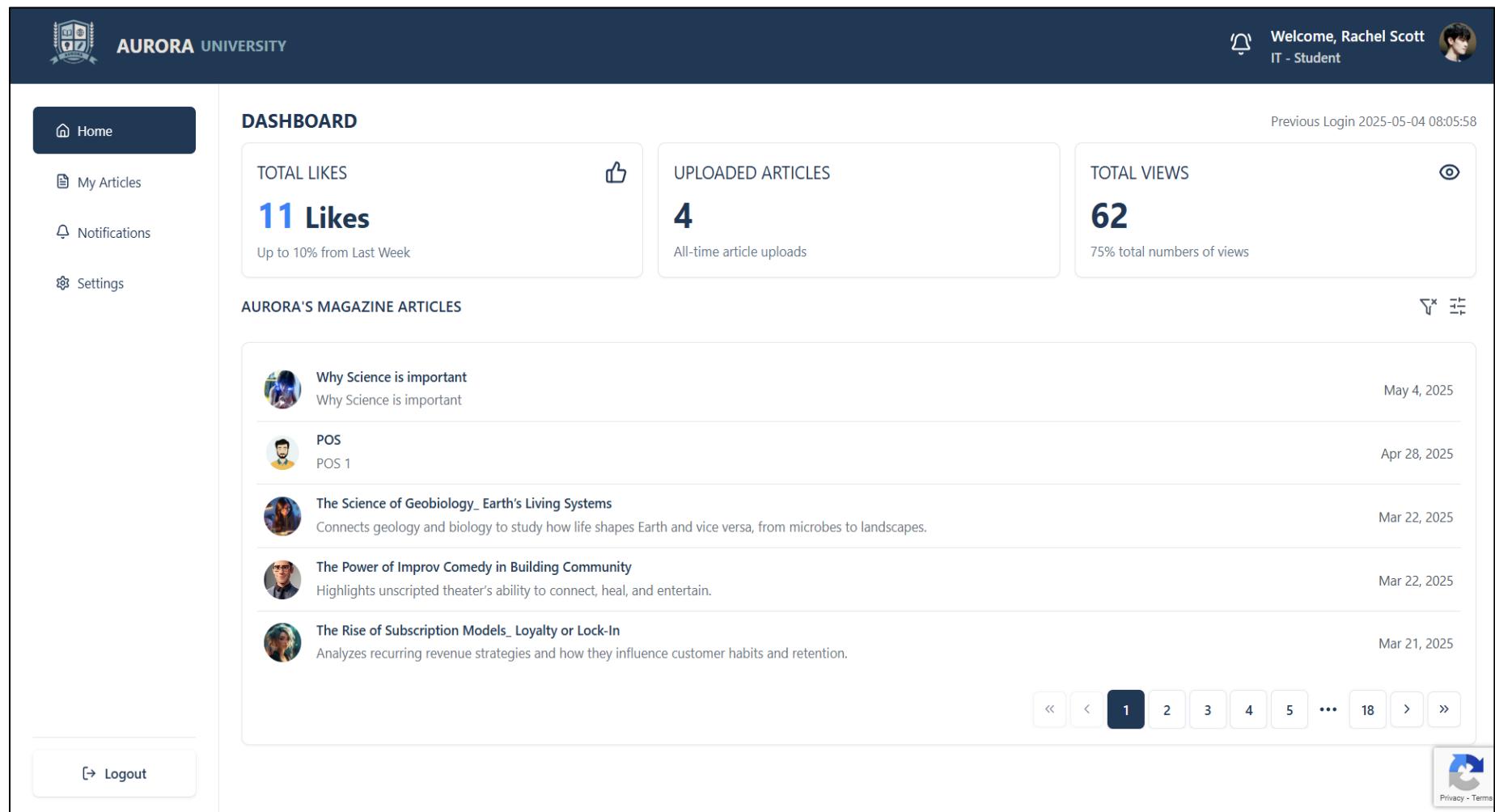
4.5.1.1. First Time User Welcome Page



The screenshot shows the "Welcome to Aurora University's Student Magazine" page. At the top is the magazine's logo. Below it is the heading "Welcome to Aurora University's Student Magazine". A subtext encourages users to "Share your stories, articles, and photographs with the university community through our annual magazine." Below this are three call-to-action boxes: "Submit Articles" (with a document icon), "Upload Photos" (with a camera icon), and "Receive Feedback" (with a speech bubble icon). Each box contains a brief description of the contribution type. At the bottom is a large blue button labeled "Start Contributing". In the bottom right corner is a "Privacy • Terms" link.

Figure (1-1) First time user welcome Page

4.5.2. Student Dashboard



The screenshot shows the Aurora University Student Dashboard. At the top, there's a dark header bar with the university logo, the text "AURORA UNIVERSITY", and a welcome message "Welcome, Rachel Scott IT - Student". A small profile picture of a student is also present. On the far right of the header, it says "Previous Login 2025-05-04 08:05:58". The main dashboard area has a light blue background. On the left, a sidebar contains links for "Home", "My Articles", "Notifications", and "Settings". The "Home" link is highlighted with a dark blue box. The main content area is titled "DASHBOARD". It features three summary boxes: "TOTAL LIKES" (11 Likes, up to 10% from last week), "UPLOADED ARTICLES" (4, all-time article uploads), and "TOTAL VIEWS" (62, 75% total numbers of views). Below these is a section titled "AURORA'S MAGAZINE ARTICLES" which lists five articles with their titles, descriptions, and publication dates. At the bottom, there's a navigation bar with page numbers (1, 2, 3, 4, 5, ..., 18, >, >>) and icons for "Logout" and "Privacy - Terms".

DASHBOARD

TOTAL LIKES  11 Likes
Up to 10% from Last Week

UPLOADED ARTICLES 4
All-time article uploads

TOTAL VIEWS 62
75% total numbers of views

AURORA'S MAGAZINE ARTICLES

Article Title	Description	Date
Why Science is important	Why Science is important	May 4, 2025
POS	POS 1	Apr 28, 2025
The Science of Geobiology_ Earth's Living Systems	Connects geology and biology to study how life shapes Earth and vice versa, from microbes to landscapes.	Mar 22, 2025
The Power of Improv Comedy in Building Community	Highlights unscripted theater's ability to connect, heal, and entertain.	Mar 22, 2025
The Rise of Subscription Models_ Loyalty or Lock-In	Analyzes recurring revenue strategies and how they influence customer habits and retention.	Mar 21, 2025

<< < 1 2 3 4 5 ... 18 > >>

[Logout](#)  [Privacy - Terms](#)

Figure (2) Student Dashboard Page

4.5.3 Student page – Upload Articles

The screenshot shows the 'MY ARTICLES' section of the student dashboard. On the left sidebar, 'My Articles' is selected. The main area displays 'UPLOAD ARTICLES' with 'UPLOAD' and 'VIEW DRAFT' buttons, and 'LATEST ARTICLES' with three entries: 'VPN' (Pending), 'Cloud Computing' (Published), and 'Internet' (Draft). Each article card includes a preview, a like button, a comment count, and a status badge.

MY ARTICLES

UPLOAD ARTICLES

LATEST ARTICLES

Title	Submission Date	Status	Category	Coordinator Feedback	Actions
VPN	May 3, 2025	Pending	IT		
Cloud Computing	Oct 20, 2024	Published	IT	You're making great progress!	
Internet	Dec 14, 2023	Draft	IT		

MY ARTICLES

VPN
May 3, 2025
Virtual Private Network

Cloud Computing
Oct 20, 2024
Cloud computing delivers computing services like storage, servers, and databases over the internet. It enables scalability, cost efficiency, and accessibility for businesses and individuals across the globe.

Internet
Dec 14, 2023
The internet connects billions globally, enabling instant communication, knowledge sharing, and digital services. It powers modern commerce, education, entertainment, and everyday life through interconnected networks.

Logout

Welcome, Rachel Scott
IT - Student

Pre Upload Deadline: Sep 23, 2025

Actual Deadline: Feb 9, 2026

Figure (3) Student Articles Page

The screenshot shows the Aurora University student portal interface. On the left sidebar, there are links for Home, My Articles (which is selected and highlighted with a blue box), Notifications, Settings, and Logout. The main content area displays "MY ARTICLES" with sections for "UPLOAD ARTICLES" (containing "UPLOAD" and "VIEW DRAFT" buttons) and "LATEST ARTICLES" (listing articles like "VPN" and "Cloud Computing"). A blue arrow points from the "UPLOAD" button on the main page to the "Upload Your Article" pop-up window. The pop-up window has a title "UPLOAD YOUR ARTICLE". It contains fields for "Title" (with placeholder "Enter article title"), "Description" (with placeholder "Enter article description"), and "Category" (a dropdown menu with placeholder "Select an option"). Below these is a file upload area with a dashed box for dragging files ("Drag & drop files here") or a "Browse" button ("Max size: 5.0 MB"). At the bottom, there is a checkbox for "I agree to the terms and conditions", a "Cancel" button, a "Save as draft" button, and a prominent "Submit" button.

Figure (4) Student Articles Upload (Pop up window)

AURORA UNIVERSITY

Welcome, Rachel Scott
IT - Student

Home My Articles Notifications Settings

DRAFT ARTICLES

Title	Description	Category	Last Edited Date	Actions
Internet	The internet connects billions globally, enabling instant communication, knowledge sharing, and digital services. It powers modern commerce, education, entertainment, and everyday life through interconnected networks.	IT	Dec 14, 2023	

[→ Logout]

Privacy - Terms

Figure (5) Student Draft Articles

4.5.5. Marketing Manager Dashboard

 AURORA UNIVERSITY

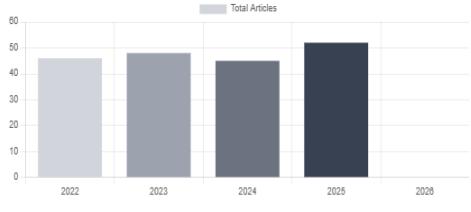
Welcome, Tyler Owens
Marketing Manager

- [Dashboard](#)
- [Articles](#)
- [Notifications](#)
- [Settings](#)

MANAGER DASHBOARD
Previous Login 2025-05-04 07:44:34

Articles		Current Academic Year	
Total Articles	46	Published Articles	36
Review Articles	42	Approved	0
Pending Review	4	Rejected	6

Total Uploaded Articles as per Academic Year



Academic Year	Total Articles
2022	45
2023	48
2024	44
2025	52

Guest List

Guest Name	Email	Faculty	Phone Number
Rebecca Griffin	rebecca.griffin@gmail.com	Science	+959122577549
Brooke Simmons	brooke.simmons@gmail.com	Mathematics	+959121413424
Connor Hayes	connor.hayes@gmail.com	IT	+959121275449
Elijah Russell	elijah.russell@gmail.com	Art	+959121232249
Gavin Bryant	gavin.bryant@gmail.com	Engineering	+959121236465
Victor Hamilton	victor.hamilton@gmail.com	Business	+959121253454
Htet Wai Yan	hwy@gmail.com	Mathematics	123234344111
Michael MPM	michaelmpm@gmail.com	Engineering	+9695322424242

Aurora Members



Emma Wilson
Marketing Coordinator



Quinn Rogers
Marketing Coordinator



Adam Michael
Marketing Coordinator



Daisy Powell
Marketing Coordinator



Fiona Barnes
Marketing Coordinator



Ursula Reynolds
Marketing Coordinator

Show Less

[Logout](#)



Figure (6) Marketing Manager Dashboard Page

4.5.4. Marketing Coordinator Dashboard

AURORA UNIVERSITY

COORDINATOR DASHBOARD
Previous Login 2025-05-04 08:45:43

IN PROGRESS TOTAL DAYS LEFT UNTIL PUBLICATIONS: 281 Days

Articles (Pre Submission)

Total Articles	13	Published Articles	7
Reviewed Articles	11	Approved	0
Pending Review	2	Rejected	4

Current Academic Year

Participate	162.50 ↑
Interest Rate	113.37 ↑
In Time Rate	100% ↑

Total Uploaded Articles as per Academic Year

Year	Total Articles
2022	8
2023	8
2024	9
2025	13

Guest List

Guest Name	Email	Faculty	Phone Number
Rebecca Griffin	rebecca.griffin@gmail.com	Science	+95912577549
Brooke Simmons	brooke.simmons@gmail.com	Mathematics	+959121413424
Connor Hayes	connor.hayes@gmail.com	IT	+959121275449
Elijah Russell	elijah.russell@gmail.com	Art	+959121232249
Gavin Bryant	gavin.bryant@gmail.com	Engineering	+959121236465
Victor Hamilton	victor.hamilton@gmail.com	Business	+959121253454
Htet Wai Yan	htwy@gmail.com	Mathematics	123234344111
Michael MPM	michael.mpaingmin@gmail.com	Engineering	+969532242424

AURORA Magazine Articles of the Year

- Cloud Computing by Rachel Scott**
Cloud computing delivers computing services like storage, servers, and databases over the internet. It enables scalability, cost efficiency, and accessibility for businesses and individuals across the globe.
- Odoe The All-in-One Open Source Business Management Solution by Ulysses Baker**
Odoe is an open-source suite of business applications covering CRM, accounting, inventory, and more. Its modular design allows businesses to streamline and customize operations effectively.
- Server by William Evans**
A server is a computer or system that provides data, resources, or services to other computers (clients). It supports hosting websites, managing networks, and processing applications.
- C by Quinn King**
C is a powerful, low-level programming language known for speed and efficiency. It forms the foundation of many operating systems and embedded systems due to its close hardware interaction.
- macOS A Legacy of Innovation and User-Centred Design by Tina Adams**
macOS is Apple's operating system for Macs, renowned for its sleek interface and performance. It emphasizes intuitive design, system integration, and creative tools for users.
- VPN by Yolanda Gonzalez**
A VPN secures internet connections by encrypting data and masking IP addresses. It protects privacy, bypasses restrictions, and ensures safe browsing on public networks.
- JavaScript by Samuel Green**
JavaScript is a scripting language for web development, enabling interactive websites. It

[Logout](#)

Figure (7) Marketing Coordinator Dashboard Page

4.5.6. Administrator Dashboard (Academic Year)

The screenshot shows the Aurora University Administrator Dashboard. The top navigation bar includes the university logo, "AURORA UNIVERSITY", a welcome message for "Avery Morgan Admin", and a notification bell icon. On the left, a sidebar menu lists "Management" (selected), "Reports", "Users", "Contact Messa...", and "Settings". At the bottom of the sidebar is a "Logout" button. The main content area is titled "Academic Management" and contains a "Submission Dates" section. This section allows managing pre-submission and actual submission dates for each academic year and faculty. It features a table with columns: Academic Year, Faculty, System Title, Pre-Submission Date, Actual Submission Date, and Actions. The table data is as follows:

Academic Year	Faculty	System Title	Pre-Submission Date	Actual Submission Date	Actions
2023-2024	IT	IT 2023	Sep 23, 2023	Feb 09, 2024	Edit
2023-2024	Art	Art 2023	Sep 23, 2023	Feb 09, 2024	Edit
2023-2024	Business	Business 2023	Sep 23, 2023	Feb 09, 2024	Edit
2023-2024	Engineering	Engineering 2023	Sep 23, 2023	Feb 09, 2024	Edit
2023-2024	Science	Science 2023	Sep 23, 2023	Feb 09, 2024	Edit
2023-2024	Mathematics	Maths 2023	Sep 24, 2023	Feb 10, 2024	Edit

Below this section are links for "Academic Years" (Manage academic years in the system) and "Faculties". The bottom right corner of the dashboard features a "Privacy - Terms" link.

Figure (8) Administrator Dashboard Page (Showing Academic Year)

4.5.6.1 Administrator Dashboard (Current Academic Years)

The screenshot shows the Aurora University Administrator Dashboard. At the top left is the university logo and name. On the right, a welcome message for 'Avery Morgan' (Admin) is displayed along with a user profile icon. A navigation sidebar on the left includes links for Management (which is selected), Reports, Users, Contact Message, and Settings. The main content area is titled 'Academic Management'. It contains two sections: 'Submission Dates' (Manage pre-submission and actual submission dates for each academic year and faculty) and 'Academic Years' (Manage academic years in the system). Below these is a table titled 'Current Academic Years' with columns for No., Name, and Actions (represented by edit icons). The table lists academic years from 2022-2023 to 2026-2027. At the bottom of the page, there is a 'Logout' button and a footer with privacy and terms links.

No.	Name	Actions
1	2022-2023	
2	2023-2024	
3	2024-2025	
4	2025-2026	
5	2026-2027	

Figure (8.1) Administrator Dashboard Page (Showing Current Academic Years)

 AURORA UNIVERSITY

Welcome, Avery Morgan
Admin 

Management

- Reports
- Users
- Contact Messa...
- Settings

Submission Dates
Manage pre-submission and actual submission dates for each academic year and faculty

Academic Years
Manage academic years in the system

Faculties
Manage faculties in the system

Current Faculties

No.	Name	Remark	Actions
1	Mathematics		
2	IT		
3	Art		
4	Business		
5	Engineering		
6	Science		

 Logout

 Privacy - Terms

Figure (8.2) Administrator Dashboard Page (Current Faculties)

4.5.7. Guest Dashboard

 AURORA UNIVERSITY

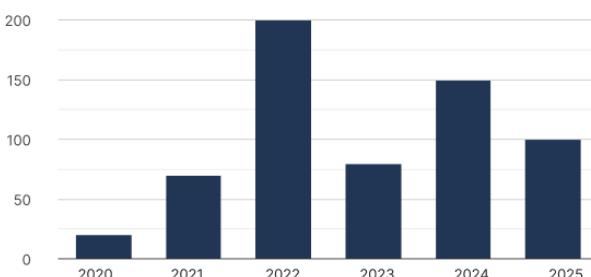
Welcome, Diana
Guest 

[Dashboard](#) [Settings](#) [Logout](#)

Welcome to AURORA's Dashboard

Previous Login 09/03/2025 9:20 AM

Participants



Year	Participants
2020	20
2021	75
2022	200
2023	80
2024	150
2025	100

View Reports



Year 2021 Year 2022 Year 2023

View Articles By Faculty

Science 120 Articles	Mathematics 120 Articles	IT 120 Articles
Art 120 Articles	Engineering 120 Articles	Management 120 Articles

AURORA Magazine Articles of Latest Year 2021/2022/2023



[ARTICLES 1.1 - The Power of Picture by Zar Li](#)
Eight months after the Civil War began, in December 1861....



[ARTICLES 2.1 - Will AI can replace the Arts? by Swe](#)
The rise of artificial intelligence (AI) has sparked numerous....



[ARTICLES 2.3 - The Power of Picture by Zar Li](#)
Eight months after the Civil War began, in December 1861....



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[ARTICLES 2.2 - Will AI can replace the Arts? by Swe](#)
The rise of artificial intelligence (AI) has sparked numerous....

Figure (8) Guest Dashboard Page

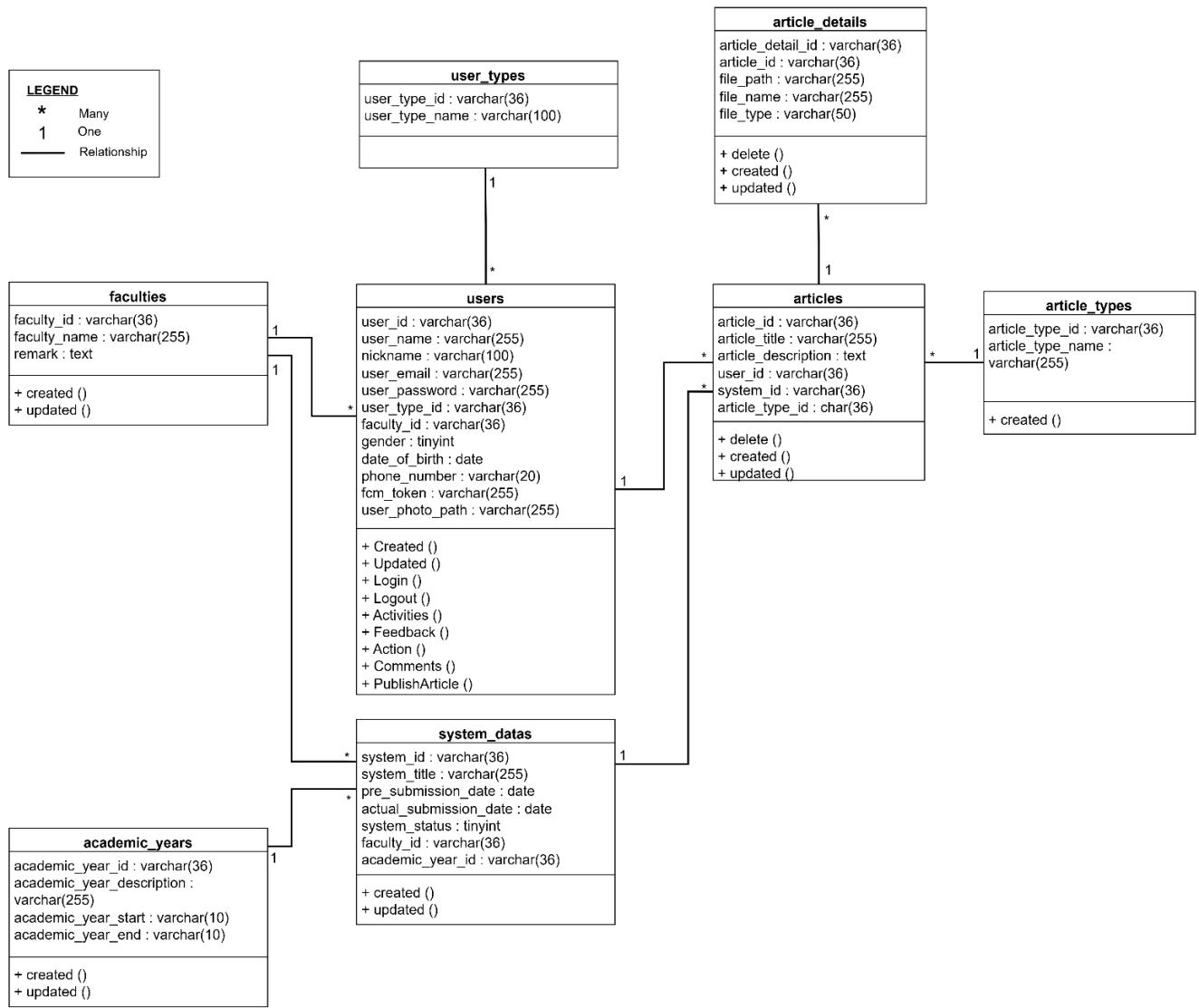
102

5. Functionality

5.1 UML Diagrams

5.1.1. Class Diagram

Class diagram is showing how objects interact with each other as per principle of object orientation. Also known as structure diagram in the Unified Modeling Language (UML). It's the best way to show the system structure in detail with attributes, their operation and inter-relationship for software modelling. (microTool, 2025)



Figure_5.1: The Class Diagram

5.1.2. Use Case Diagram

The summarize user detail in the system with their interaction with the system is the use case diagram. Such as the diagram of user and their roles of function in the system. (IBM, 2021)



Figure_5.2: Overall Use Case Diagram

5.2 Website Analytics Report Data

5.2.1. Total Uploaded Articles as Per Academic Year

The bar graph below shows the 'Total Uploaded Articles as Per Academic Year' and this report is accessible by guest, marketing coordinator and marketing manager user types of the system.

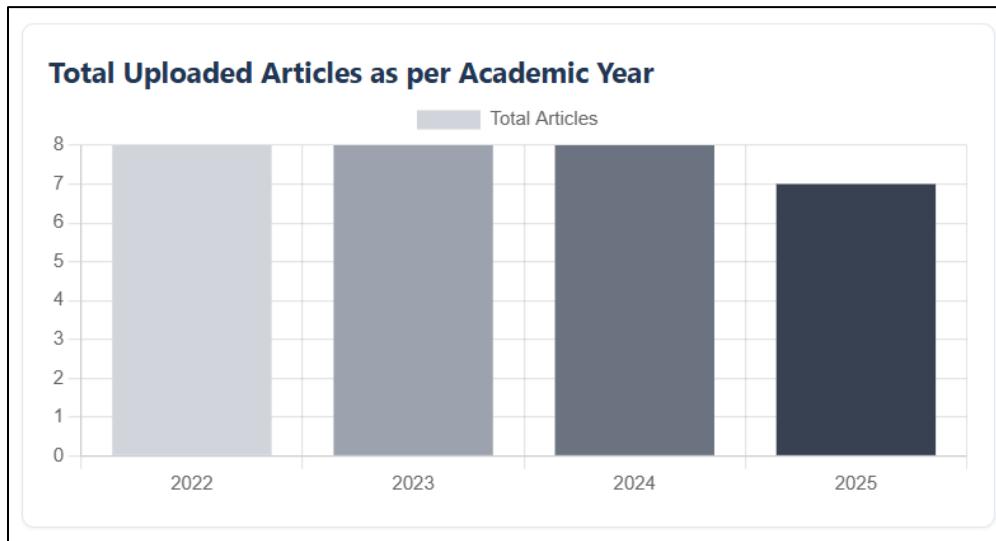


Figure (1) Total Uploaded Articles as Per Academic Year Report

5.2.2. Most View Pages

This Most View Page report shows website analytics for the most viewed pages of Aurora's Website over the last 7 days (or the administrator can choose the time period). This report is accessible by admin user type of the system.

Most Viewed Pages	
See which pages are attracting the most traffic	
Page	Views
Admin User Page	3
Admin Contact Us Page	3
Student Dashboard Page	59
Student Articles Page	57
Student Article Detail Page	57
Student My Articles Page	59
Student Draft Articles Page	57
Notification Page	61
Setting Page	64

Figure (2) Most View Pages Report

5.2.3. Browser Usage

The Browser Usage report displays the most commonly used browsers by visitors to Aurora's site and is accessible only to administrators.



Figure (3) Browser Usage Report

5.2.4. Aurora Magazine Articles of the Year

The Aurora Magazine Articles of the Year report displays the top articles from Aurora Magazine, including the short introduction and the article title. This report is only assessable to coordinator.

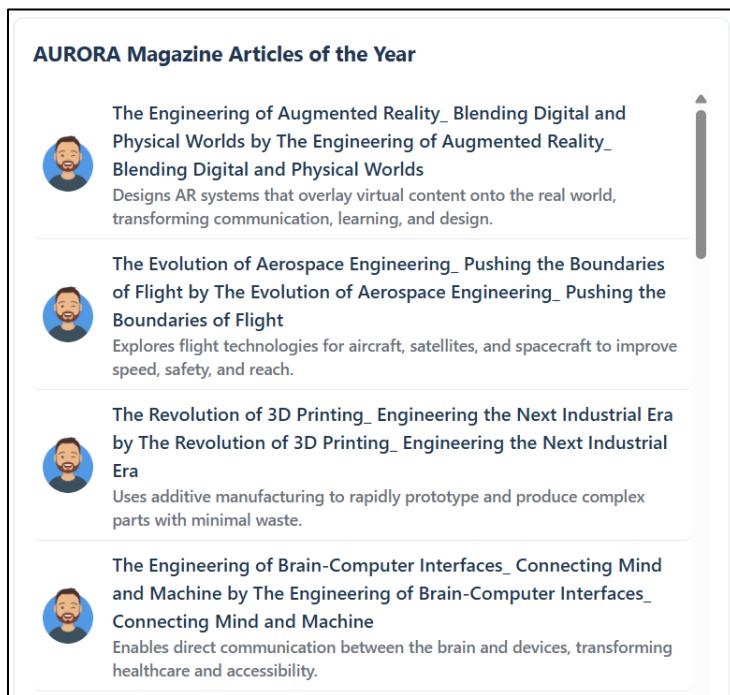


Figure (4) Browser Usage Report

5.2.5 Most Active Users

The Most Active User report displays the users with the highest engagement on Aurora's web. This report is also only assessable to the administrator.

User	Avg. Session
AM Alice Mira alice@example.com	0m 53s
BS Bob Smith bob@gmail.com	0m 48s
CD Charlie Davis charlie@gmail.com	0m 50s
DB David Brown yaza9036@gmail.com	0m 49s
EW Emma Wilson emma@gmail.com	0m 0s
FW Frank White frank@gmail.com	0m 52s
GA Grace Adams grace@gmail.com	0m 45s

Figure (5) Most Active Users Report

5.3 Role Based Security

Five different user types— Students, Marketing Coordinator, Marketing Manager, Administrator and Guest—will use the system, so the system has to be developed with that in perspective. The system consists of a navigation guard that will first determine if a user is logged in and then verify the user type. If a logged-in user tries to access the login or forgot password page, the user will be redirected to respective dashboard based on current user type. If a user does need to be authenticated and is not logged into the application, the application will redirect the user to the login page.

Also, if a user tries to open a page which is not allowed for his or her role, the system redirects him or her to an unauthorized page. By using these instants, the system makes sure that the users view pages suitable for their roles.

```
router.beforeEach((to, from, next) => {
  const token = getCookie("token");
  const userInfo = getCookie("user");

  const userStore = useUserStore();
  userStore.setUser(userInfo);
  const userType = userStore.user?.user_type_name?.trim() || "";

  if (
    token &&
    userInfo &&
    ["/auth/login", "/auth/register", "/auth/forgot-password"].includes(to.path)
  ) {
    // If user is already authenticated and tries to access login/register, redirect to home
    const redirectRoutes: Record<string, string> = {
      Student: "/student/home",
      "Marketing Coordinator": "/coordinator/dashboard",
      "Marketing Manager": "/manager/dashboard",
      Admin: "/admin/management",
      Guest: "/settings",
    };
  }

  return next({ path: redirectRoutes[userType] ?? "/", replace: true });
} else if (to.meta.requiresAuth && !token) {
  // If route requires auth and user is not authenticated, redirect to login
  next({ path: "/auth/login", replace: true });
} else if (
  Array.isArray(to.meta.roles) &&
  !to.meta.roles.includes(userType)
) {
  // If user does not have permission to access the route, redirect to unauthorized page
  next({ path: "/unauthorized", replace: true });
} else {
  // Otherwise, proceed as normal
  next();
});
});
```

#Snippet 1_Role Based Security

5.4 Submission of Contributions

The system allows students to submit their articles through a structured form. The form collects the article title, description, category, and attached files. When the form is submitted, the system sets the article status to “Pending,” and sends it to the server for storage. If the submission is an update rather than a new article, the system calls the update process instead of creating a new record. After successful submission or update, the system displays a success message and refreshes the article list. If there is a problem with submitting the article, the system will catch it and show the user an appropriate message.

```
const onSubmit = handleSubmit(async (formValues: UploadArticleSchema) => {
  if (isSubmitting.value) return
  try {
    isSubmitting.value = true
    // Map form values to API data structure
    const articleData = {
      article_id: props.article_id || '',
      article_title: formValues.title,
      article_description: formValues.description,
      article_type_id: formValues.category,
      status: ArticleStatus.PENDING,
      article_details: formValues.files || []
    }
    if (isEditMode.value) {
      const data = {
        ...articleData,
        article_remaining_files: [...existingFiles.value],
      } as UpdateArticleData
      await updateArticle(data)
    } else {
      await uploadArticle(articleData)
    }

    toast.success(
      isEditMode.value ? 'Article updated successfully' : 'Article submitted successfully',
    )
    const myArticlesStore = useMyArticlesStore()
    void myArticlesStore.fetchArticles(true)
    // Close the dialog after successful submission
    isOpen.value = false
    // Reset form
    resetForm()
  } catch (error) {
    console.error('Error submitting article:', error)
    toast.error(`Failed to ${isEditMode.value ? 'update' : 'submit'} article. Please try again.`)
  } finally {
    isSubmitting.value = false
  }
})
```

#Snippet 2 Submission Contributions

5.5 Email Notifications and Code Snippets

5.5.1. Article Submission Email

When an article is submitted successfully by a student, the relevant faculty's marketing coordinator receives an email that notifies the coordinator there is a new submission and have to response with feedback within 14 days. That email is created using the following code:

```
Article Create Email
*****
class ArticleCreatedMail extends Mailable
{
    public $user;
    public $articleId;
    public $articleTitle;
    public $userName;
    public $userNickname;
    public $userEmail;

    public function __construct($user, $articleId, $articleTitle, $userName, $userNickname, $userEmail)
    {
        $this->user = $user;
        $this->articleId = $articleId;
        $this->articleTitle = $articleTitle;
        $this->userName = $userName;
        $this->userNickname = $userNickname;
        $this->userEmail = $userEmail;
    }

    public function build()
    {
        return $this->from(config('mail.from.address'))
            ->subject('New Article Has been Created')
            ->view('emails.article_create_mail')
            ->with([
                'user' => $this->user,
                'article_id' => $this->articleId,
                'article_title' => $this->articleTitle,
                'user_name' => $this->userName,
                'user_nickname' => $this->userNickname,
                'user_email' => $this->userEmail
            ]);
    }
}

Email Contents
*****
<!DOCTYPE html>
<html>
<head>
    <title>New Article Submitted</title>
</head>
<body>
    <h1>Dear Marketing Coordinator</h1>
    <p>{{ $user_name }} {{ $user_nickname }}, {{ $user_email }} has uploaded an article titled "{{ $article_title }}".</p>
    <p>Please review it within 14 days.</p>
</body>
</html>
```

#Snippet 3_Article Creation

The email received by Marketing Coordinator:

New Article Has been Created Inbox X

group4.ewsd@gmail.com
to me ▾

Dear Marketing Coordinator

David Brown (Dave, yaza9036@gmail.com) has uploaded an article titled "The Interconnection of Biology and Chemistry".
Please review it within 14 days.

Reply Forward Smile

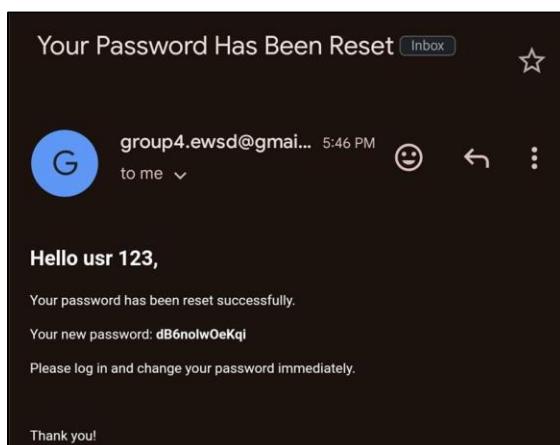
5.5.2. Password Reset Email

When a user contacts the admin using Contact Us or directly contacts the admin's email, that admin will use the password function through the user management page. That function will automatically send an email that contains a new generated password to the requested user's email which was used to create Aurora's account. That email is created using the following code:

```
Password Reset Email
*****  
  
class PasswordResetMail extends Mailable  
{  
    public $user;  
    public $newPassword;  
  
    public function __construct($user, $newPassword)  
    {  
        $this->user = $user;  
        $this->newPassword = $newPassword;  
    }  
  
    public function build()  
    {  
        return $this->from(config('mail.from.address'))  
            ->subject('Your Password Has Been Reset')  
            ->view('emails.password_reset')  
            ->with([  
                'user_name' => $this->user->user_name,  
                'new_password' => $this->newPassword  
            ]);  
    }  
}  
  
Email Contents
*****  
  
<!DOCTYPE html>
<html>
<head>
    <title>Password Reset Successful</title>
</head>
<body>
    <h2>Hello {{ $user_name }}</h2>
    <p>Your password has been reset successfully.</p>
    <p>Your new password: <strong>{{ $new_password }}</strong></p>
    <p>Please log in and change your password immediately.</p>
    <br>
    <p>Thank you!</p>
</body>
</html>
```

#Snippet 4_Password Reset Mail

The Email received by the user:



5.5.3. New Guest Account Creation Email

When a guest user account is created, an email that contain guest user account information will be sent to the relevant faculty marketing coordinator. That email is created using the following code:

```
Guest Account Create Email
*****



class GuestAccountCreateMail extends Mailable
{
    public $user_name;
    public $user_email;

    public function __construct($data)
    {
        $this->user_name = $data['user_name'];
        $this->user_email = $data['user_email'];
    }

    public function build()
    {
        return $this->from(config('mail.from.address'))
            ->subject('New Guest Account Created')
            ->view('emails.account_created_mail')
            ->with([
                'user_name' => $this->user_name,
                'user_email' => $this->user_email
            ]);
    }
}

Email Contents
*****



<!DOCTYPE html>
<html>
<head>
    <meta charset="UTF-8">
    <title>Guest Account Created</title>
</head>
<body>
    <h1>Dear Marketing Coordinator</h1>
    <p>A guest account to your faculty is created.</p>
    <p>Created guest user's detail:</p>
    <p><strong>Name:</strong> {{ $user_name }}</p>
    <p><strong>Email:</strong> {{ $user_email }}</p>
</body>
</html>
```

#Snippet 5_New Guest Account Creation

The email received by Marketing Coordinator:



5.5.4. User Account Creation Email

When a user account is created, an email that contain detailed instructions to login will be sent to the new user. That email is created using the following code:

```
User Account Create Email
*****
class UserCreatedMail extends Mailable
{
    public $user_name;
    public $user_email;
    public $password;

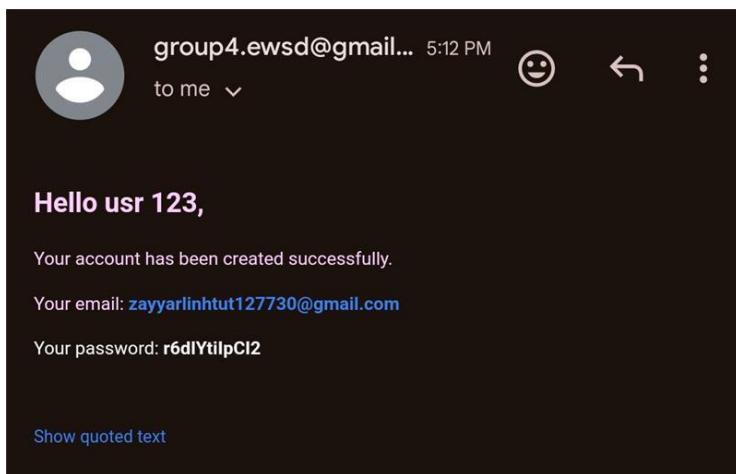
    public function __construct($data)
    {
        $this->user_name = $data['user_name'];
        $this->user_email = $data['user_email'];
        $this->password = $data['user_password'];
    }

    public function build()
    {
        return $this->from(config('mail.from.address'))
            ->subject('Your Account Has Been Created')
            ->view('emails.user_created_mail')
            ->with([
                'user_name' => $this->user_name,
                'user_email' => $this->user_email,
                'password' => $this->password
            ]);
    }
}

Email Contents
*****
|
<!DOCTYPE html>
<html>
<head>
    <title>Account Created Successful</title>
</head>
<body>
    <h2>Hello {{ $user_name }}</h2>
    <p>Your account has been created successfully.</p>
    <p>Your email: <strong>{{ $user_email }}</strong></p>
    <p>Your password: <strong>{{ $password }}</strong></p>
    <p>Please log in and change your password immediately.</p>
    <br>
    <p>Thank you!</p>
</body>
</html>
```

#Snippet 6 _User Account Creation Email

The email received by User:



5.6 Password Hashing

This is the code of registering a new user. This process can be done only by the admin and it will be informed to the coordinator via email if the admin created a new account to a relative faculty. It uses Controller, Service and Repository files and password is hashed so that it can increase security measure.

```
// User Controller
public function userRegister(Request $request){
    try {
        $validated = $request->validate([
            'user_name'      => 'required|string|max:255',
            'nickname'       => 'sometimes|string|max:100',
            'user_email'     => 'required|email|max:255|unique:users,user_email',
            'user_type_id'   => 'required|exists:user_types,user_type_id',
            'faculty_id'     => 'required|uuid|exists:faculties,faculty_id',
            'gender'         => 'required|in:1,2',
            'date_of_birth'  => 'sometimes|date|before:today',
            'phone_number'   => 'sometimes|string|max:20'
        ]);
        return response()->json(['new user id' => $this->userService->userRegister($validated)]);
    }catch (\Exception $e) {
        return response()->json([
            'message' => 'Error occurred',
            'error'   => $e->getMessage()
        ], 500);
    }
}
```

```
// User Service
public function userRegister($data)
{
    $data['user_id'] = $this->userRepository->generateUserId();
    $data['user_password'] = 'password123';

    if($data['user_type_id'] = '0')
    {
        $coordinatorEmail = DB::table('users')
            ->where('faculty_id', Auth::user()->faculty_id)
            ->where('user_type_id', 2)
            ->value('user_email');

        Mail::to($coordinatorEmail)->send(new AccountCreateMail($data));
    }

    return $this->userRepository->userRegister($data);
}

// User Repository
public function userRegister($data)
{
    DB::table('users')->insert([
        'id' => $data['user_id'],
        'user_name' => $data['user_name'],
        'nickname' => $data['nickname'],
        'user_email' => $data['user_email'],
        'user_password' => Hash::make($data['user_password']),
        'user_type_id' => $data['user_type_id'],
        'faculty_id' => $data['faculty_id'],
        'gender' => $data['gender'],
        'date_of_birth' => $data['date_of_birth'],
        'phone_number' => $data['phone_number'],
        'created_at' => now(),
        'updated_at' => now()
    ]);

    return $data['user_id'];
}
```

#Snippet 7_Password Hashing

5.7 Secure Login System with Verification and Password Hashing

It is the login source code and it contains additional functionalities. It has the process to check reCAPTCHA (robot testing) by comparing the result token and secret key combination at the google recaptcha service. Users are available to be logged in only if reCAPTCHA checking is successful. After that, it checks the email and password with the data from the user table. Here, user password is stored as Hashed value and the request incoming value is the actual value. Only if the request value matches with the hashed value through the hash function, users are allowed to pass through.

```
public function login(Request $request)
{
    // reCAPTCHA Secret Key
    $secretKey = '6LewtB4rAAAAABB_FzpDSJeglriK-ZVnFnhFUWOZ';

    // Validate reCAPTCHA token first
    $recaptchaToken = $request->input('recaptchaToken');

    if (!$recaptchaToken) {
        return response()->json(['message' => 'reCAPTCHA token is missing.'], 422);
    }

    // Verify token with Google
    $response = Http::asForm()->post('https://www.google.com/recaptcha/api/siteverify', [
        'secret' => $secretKey,
        'response' => $recaptchaToken,
        'remoteip' => $request->ip(),
    ]);

    $recaptchaResult = $response->json();

    if (!isset($recaptchaResult['success']) || $recaptchaResult['success'] !== true) {
        return response()->json(['message' => 'reCAPTCHA verification failed.'], 403);
    }

    // Continue with login validation
    $validatedData = $request->validate([
        'email' => 'required|email',
        'password' => 'required|string|min:6',
    ], [
        'email_required' => 'The email address is required.',
        'email_email' => 'Please enter a valid email address.',
        'password_required' => 'The password is required.',
        'password_min' => 'The password must be at least 6 characters.',
    ]);
}

$response = $this->userService->login($validatedData);

return response()->json($response, $response['status']);
}
```

#Snippet 8_Secure Login

5.8 Notification Fetch

The purpose of the code is to fetch and returns the list of notifications for the user logged in depending on the user's role. The code is made in the way to make it cleaner and easier to understand. It uses three different files. Controller, Service and Repository, each have their own role of the who process. It fetches the data from the notification table together with the user data of the person who made the action, either creating, reacting, commenting or changing the status of the article.

```
//Notification Controller
public function index()
{
    $user = Auth::user();
    $notificationData = $this->notificationService->getNotificationList($user);
    return response()->json($notificationData);
}

//Notification Service
public function getNotificationList($userId)
{
    $notifications = $this->notificationRepository->getNotificationList($userId);
    return $notifications;
}
```

```
// Notification Repository
public function getNotificationList($user)
{
    $notificationList = Notification::join('articles', 'notifications.article_id', '=', 'articles.article_id')
        ->join('system_datas', 'system_datas.system_id', '=', 'articles.system_id')
        ->join('faculties', 'faculties.faculty_id', '=', 'system_datas.faculty_id')
        ->join('users as notify_users', 'notify_users.id', '=', 'notifications.user_id')
        ->join('user_types as notify_user_types', 'notify_user_types.user_type_id', '=', 'notify_users.user_type_id')
        ->select([
            'notifications.notification_id',
            'notifications.article_id',
            'notify_users.id',
            'notify_users.user_name',
            'notify_user_types.user_type_name AS user_type',
            DB::raw('CONCAT("https://ewsdcloud.s3.ap-southeast-1.amazonaws.com/", notify_users.user_photo_path) AS user_photo_path'),
            'faculties.faculty_name',
            'notifications.notification_type',
            'notifications.status AS seen',
            'articles.article_title',
            'notifications.created_at'
        ]);
    if ($user->user_type_id == 1) {
        $notificationList->where('articles.user_id', $user->id)
            ->wherein('notifications.notification_type', [1, 2, 3]);
    } elseif ($user->user_type_id == 2) {
        $notificationList->where('system_datas.faculty_id', $user->faculty_id)
            ->wherein('notifications.notification_type', [4, 5]);
    } elseif ($user->user_type_id == 3) {
        $notificationList->where('notifications.notification_type', 6);
    }
    return $notificationList->get();
}
```

#Snippet 9_Notation Fetch

5.9 Further Developments

To create a more personalized and seamless user experience, features were planned to provide users with their polished PDFs on their "Article of the Year" selections to download and read while offline, a tracking history of reading history to allow the user to return to other articles, and better translations (omni-lingual content in the system for buttons, forms and articles feel naturally transitioned to a user's language). These updates aim to save time, reduce friction, and make the platform feel more intuitive, whether the users are catching up on favorites during a commute, retracing their reading journey, or exploring the site in their preferred language.

In addition, some features like charging premium access subscription fees for best-selling author articles, guest user feature for visiting special events, and research paper library having excellent students' paper accessible to users for research purposes would be scheduled for addition. Community functions will also be added so that students will also have the ability to follow authors whom they like for updates and post personal comments on their profiles for more community engagement.

Lastly, there will be a robust accessibility function so that everyone, even disabled people, can use the platform. For the sake of inclusiveness and universal access, it has keyboard navigation, screen reader support, and resizable text.

6. Presentation and Screencast

6.1 Presentation

At a professional standard our team presented the Aurora magazine system, showcasing the functional and aesthetic features of the final product. We decided to use Power point as our presentation tool because of its unique fluid transitions and can be more engaging and dynamic (Sutton, 2014) .The transitions and movements from slide to slide allowed us to tell the story of our system for understanding by the users and to engage the audience.

Each team member presented the components of the system, providing a well-rounded experience of the features and development of the system. The presentation was very general and at a non-technical level to make it approachable for all audiences. The presentation stressed the following aspects:

- Thu Za Myat - Scrum Master/ Database Designer/ Documentation
- Myat Paing Min –Backend Developer
- Zay Yar Lin Htut – Backend Developer
- Zar Li Maw – UI, UX Designer/ Information Architecture/ Documentation
- Swe Thu Htet – Frontend Developer
- Htet Wai Yan – Frontend Developer
- Kyaw Thu – Database Designer/ Data Entry
- Thi Han Naing – Tester
- Wut Yi Oo – Tester/Documentation

Link to presentation: <https://github.com/Group-4-EWSD/Documentation>

This approach helped demonstrate the collaborative effort that resulted in a secure, role-based magazine management system that meets stakeholder expectations.

6.2 Screencast

We also produced a detailed screencast to showcase the core features of the Aurora system, which took the form of an audio walkthrough that was connected to the site map of the system, to demonstrate logical user flows and how accessible Aurora is. The video showed each of the user roles - from student submissions to marketing coordinator approvals, and how we used the system as guest access to published articles.

This screencast was recorded and narrated by our Scrum Master, who had been involved at each phase of development, and had also completed progress updates by screen casting during the sprint review process so that we would have the final recording, reflected the evolution of the project, and was user friendly for future reference.

Screencast Link:

https://drive.google.com/drive/folders/1VOjRJ5CZxdPeNfszqsAqEob3n8dxx8Ce?usp=drive_link

In summary, the successful delivery of the Aurora project, in technical deliverables and team collaboration, was a victory for the project group. The project experience strengthened our collective understanding of factors affecting user-centered design, team-based development, and agile workflow processes, and provided a memorable experience which we can draw on in future academic and professional project experiences.

7. Testing

Testing

It is important to be able to give client the product at the highest quality possible. Testing is a fundamental part of web software development. In general, testing is recommended in software development because it ensures validation. The advantages of scrum testing are: Early Defect Detection, Continuous Feedback, Faster Delivery, Reduced Risks and so on. (Geeks, 2025)

In this project, testing was carried out alongside the development of the proposed application as scrum methods are followed. In the subsequent sections, details of the areas that were tested and their results will be provided.

Project Name: Aurora University's Magazine

Prepared By: Thi Han Naing & Wut Yi Oo

Testers: Thi Han Naing & Wut Yi Oo

Test Environment: originally tested on local computers and then test on vercel

7.1. Test plan

7.1.1. Student

Test Plan for Students				
Test Plan No	What is Being Tested	Process	Expected Result	Deadline
1.	Login Validation (Empty Fields)	Clicking the login button without any values in the empty fields.	The user should receive an error message.	18/3/2025

2.	Login Validation (Invalid Email, Valid Password)	Click on the login button after inserting an invalid email and a valid password.	An error message will appear to inform the user.	18/3/2025
3.	Login Validation (Valid Email, Invalid Password)	Click on the login button after inserting a valid email and an invalid password.	An error message will appear to inform the user.	18/3/2025
4.	Login Validation (Both Invalid Email & Password)	Click on the login button after inserting an invalid email and an invalid password.	An error message will appear to inform the user.	18/3/2025
5.	Successful Login	Click on the login button after inserting a valid email and a valid password.	The system will check the user entered information and allow to log in.	18/3/2025
6.	Password Visibility	Type something in the password inbox.	The password should be invisible.	18/3/2025
7.	Password Visibility Toggle button	Click on the eye icon in the password field.	The password should become visible.	18/3/2025
8.	Notification Content	Check if the name, role, and action done on an article are	The correct user details and interaction should be displayed.	18/3/2025

		displayed correctly for every notification		
9.	User Profile Information	Check if the profile picture, name, and role (e.g., "Engineering - Student") are displayed correctly for the logged-in user.	The logged-in user's profile details should match their information.	18/3/2025
10	Navigation to Article	Click on a notification to check if it redirects to the correct article.	The system should open the corresponding article page.	18/3/2025
11.	Log Out	Click on the "Logout" button.	The user should be logged out and get back to the login page.	18/3/2025
12.	Full Name Display	Check the "Name" field.	"User's full name" is shown under the Name field.	18/3/2025
13.	Nickname Display	Check the "Nick Name" field.	"User's nick name" is displayed.	18/3/2025
14.	Email Validation	Verify the "Email Address" field.	"User's email" is visible and formatted correctly.	18/3/2025
15.	Faculty Information	Confirm the "Faculty" field.	" Faculty Name" is displayed.	18/3/2025
16.	Date of Birth Format	Check the "Date of Birth" field.	Correct Date of Birth is shown as (DD.MMM.YYYY).	18/3/2025

17.	Gender Display	Check the "Gender" field.	"Correct Gender" is displayed.	18/3/2025
18.	Phone Number Format	Verify the "Phone Number" field.	"Correct Phone Number" is shown with proper spacing.	18/3/2025
19.	Edit Personal information	Click "Edit Button" and update some fields.	Updated information is saved and displayed correctly.	18/3/2025
20.	Remove Profile Picture	Click "Remove" button and remove profile picture.	Profile picture is removed, and a default placeholder is displayed.	18/3/2025
21.	Change Profile Picture	Clicking "Change" button in profile photo and upload the new profile photo.	The new profile photo is uploaded and displayed correctly.	18/3/2025
22.	Email and Faculty Field Restrictions	Ensure that Email and Faculty fields are not editable.	Both fields remain non-editable, preventing any changes.	18/3/2025
23.	Sorting	Click sorting button and choose sorting category	Data sorted in selected input	18/3/2025
24.	Filtering	Click filtering button and choose filtering category	Data filtered in selected input	18/3/2025
25.	Read Article	Click an article	Show clicked article's data	18/3/2025

26.	Upload Article	Click upload button, Enter data, and click upload	The article is uploaded with pending status	18/3/2025
28.	Upload article validations	Input sense title, description, choose category and type, upload file, click agreement and upload	No error show	18/3/2025
29.	View Draft Article	Click view draft article button	Show drafted article data	18/3/2025
30.	Edit Article	Click edit button and enter new data	Article's data changed	18/3/2025
31.	Comment article	Write inputs and click send button	Show comment on comment section	18/3/2025
32.	Check Feedback	Click feedback button	Show feedbacks if exist	18/3/2025

7.1.2. Marketing Coordinator

Test Plan for Marketing Coordinator				
Test Plan No	What is Being Tested	Process	Expected Result	Deadline
1.	Successful Login	Click on the login button after inserting a valid email and a valid password.	The system will check the entered information and allow the user to login.	2/4/2025
2.	Notification Content	Check if the name, role, and action done on an article are displayed correctly for every notification	The correct user details and interaction should be displayed.	2/4/2025
3.	User Profile Information	Check if the profile picture, name, and role (e.g., "Engineering - Coordinator") are displayed correctly for the logged-in user.	The logged-in user's profile details should match their information.	2/4/2025
4.	Navigation to Article	Click on a notification to check if it redirects to the correct article.	The system should open the corresponding article page.	2/4/2025
5.	Log Out	Click on the "Logout" button.	The user should be logged out and get back to the login page.	2/4/2025
6.	Full Name Display	Check the "Name" field.	"User's full name" is shown under the Name field.	2/4/2025
7.	Nickname Display	Check the "Nick Name" field.	"User's nick name" is displayed.	2/4/2025
8.	Email Validation	Verify the "Email Address" field.	"User's email" is visible and formatted correctly.	2/4/2025

9.	Faculty Information	Confirm the "Faculty" field.	" Faculty Name" is displayed.	2/4/2025
10.	Date of Birth Format	Check the "Date of Birth" field.	Correct Date of Birth is shown as (DD.MMM.YYYY).	2/4/2025
11.	Gender Display	Check the "Gender" field.	"Correct Gender" is displayed.	2/4/2025
12.	Phone Number Format	Verify the "Phone Number" field.	"Correct Phone Number" is shown with proper spacing.	2/4/2025
13.	Edit Personal information	Click "Edit Button" and update some fields.	Updated information is saved and displayed correctly.	2/4/2025
14.	Remove Profile Picture	Click "Remove" button and remove profile picture.	Profile picture is removed, and a default placeholder is displayed.	2/4/2025
15.	Change Profile Picture	Click "Change" button to upload new profile picture.	The new profile picture was uploaded and displayed correctly.	2/4/2025
16.	Email and Faculty Field Restrictions	Ensure that Email and Faculty fields are not editable.	Both fields remain non-editable, preventing any changes.	2/4/2025
17.	Check article status report	Check data with database	Show correct article status data	2/4/2025
18.	Check current academic year report	Check data with database	Show correct current academic year data	2/4/2025
19.	Check total uploaded magazine article as per year report	Check data with database	Show total uploaded magazine article as per academic year data	2/4/2025
20.	Check magazine of the year report	Check data with database	Show magazine articles of the year data	2/4/2025

21.	Check guest list	Check data with database	Show correct guest list data	2/4/2025
22.	View article	Click “view” button of an article	Showing related article after clicking “view” button	2/4/2025
23.	Reject article	Click “reject” button of an article	Article rejected with feedback	2/4/2025
24.	Check reports of articles	Check data of total submission, pending review, approved articles, and rejected articles	Show correct report data of articles	2/4/2025
25.	Approve article	Click “approve” button	Article approved is shown with feedback	2/4/2025
26.	Download article	Click “download” button	Article downloaded	2/4/2025
27.	Give Feedback	Write Feedback on an article and Click Send Button.	The feedback is sent	2/4/2025

7.1.3. Marketing Manager

Test Plan for Marketing Manager				
Test Plan No	What is Being Tested	Process	Expected Result	Deadline
1.	Successful Login	Click on the login button after inserting a valid email and a valid password.	The system should check the inserted information and allow the user to log in.	14/4/2025
2.	Notification Content	Check if the name, role, and action done on an article are displayed correctly for every notification	The correct user details and interaction should be displayed.	14/4/2025
3.	User Profile Information	Check if the profile picture, name, and role (e.g., "Engineering - Coordinator") are displayed correctly for the logged-in user.	The logged-in user's profile details should match their information.	14/4/2025
4.	Navigation to Article	Click on a notification to check if it redirects to the correct article.	The system should open the corresponding article page.	14/4/2025
5.	Log Out	Click on the "Logout" button.	The user should be logged out and get back to the login page.	14/4/2025
6.	Full Name Display	Check the "Name" field.	"User's full name" is shown under the Name field.	14/4/2025
7.	Nickname Display	Check the "Nick Name" field.	"User's nick name" is displayed.	14/4/2025
8.	Email Validation	Verify the "Email Address" field.	"User's email" is visible and formatted correctly.	14/4/2025

9.	Date of Birth Format	Check the "Date of Birth" field.	Correct Date of Birth is shown as (DD.MMM.YYYY).	14/4/2025
10.	Gender Display	Check the "Gender" field.	"Correct Gender" is displayed.	14/4/2025
11.	Phone Number Format	Verify the "Phone Number" field.	"Correct Phone Number" is shown with proper spacing.	14/4/2025
12.	Edit Personal information	Click "Edit Button" and update some fields.	Updated information is saved and displayed correctly.	14/4/2025
13.	Remove Profile Picture	Click "Remove" button and remove profile picture.	Profile picture is removed, and a default placeholder is displayed.	14/4/2025
14.	Change Profile Picture	Click "Change" button to upload new profile picture	The new picture was uploaded and displayed correctly.	14/4/2025
15.	Email and Faculty Field Restrictions	Ensure Email is not editable.	Email field remain non-editable, preventing any changes.	14/4/2025
16.	Check report data	Check article status, current academic year, total upload articles, members, guest list data with database	Show actual data on each report lists	14/4/2025
17.	View guest list	Check guest list with database	Show guest list	14/4/2025
18.	View members	Check member list with database	Show member list	14/4/2025
19.	Select download	Click "select to download" button, select articles and download	Downloaded all selected articles	14/4/2025
20.	View articles	Click "view" button	Show page that have articles	14/4/2025

7.1.4. Admin

Test Plan for Administrator				
Test Plan No	What is Being Tested	Process	Expected Result	Deadline
1	Successful Login	Click on the login button after inserting a valid email and a valid password.	At this point, the system needs to verify the inserted information and log the user in.	27/3/2025
2.	Log Out	Click on the "Logout" button.	The user should be logged out and get back to the login page.	27/3/2025
3.	Full Name Display	Check the "Name" field.	"User's full name" is shown under the Name field.	27/3/2025
4.	Nickname Display	Check the "Nick Name" field.	"User's nick name" is displayed.	27/3/2025
5.	Email Validation	Verify the "Email Address" field.	"User's email" is visible and formatted correctly.	27/3/2025
6.	Password Masking	Check the "Password" field.	Password is masked as "*****".	27/3/2025
7.	Date of Birth Format	Check the "Date of Birth" field.	Correct Date of Birth is shown as (DD.MMM.YYYY).	27/3/2025
8.	Gender Display	Check the "Gender" field.	"Correct Gender" is displayed.	27/3/2025
9.	Phone Number Format	Verify the "Phone Number" field.	"Correct Phone Number" is shown with proper spacing.	27/3/2025
10.	Edit Personal information	Click "Edit Button" and update some fields.	Updated information is saved and displayed correctly.	27/3/2025

11.	Remove Profile Picture	Click "Remove" button and remove profile picture.	Profile picture is removed, and a default placeholder is displayed.	27/3/2025
12.	Change Profile Picture	Click "Change" button to upload new profile picture	The new picture was uploaded and displayed correctly.	27/3/2025
13.	Email and Faculty Field Restrictions	Ensure that Email and Faculty fields are not editable.	Both fields remain non-editable, preventing any changes.	27/3/2025
14.	Chart Data Accuracy	Check the "Total Uploaded Articles" chart by comparing displayed values with database records.	The chart accurately reflects the number of uploaded articles per academic year.	27/3/2025
15.	Most Viewed Pages Data	Check the Most View Pages section to make sure that the data is updated and correct.	Page views match records in the database.	27/3/2025
16.	Most Active Users List	Check if the "Most Active Users" section updates correctly when a user interacts with the site.	The correct users and session times appear in real time.	27/3/2025
17.	Articles of the Year Display	Click on any article under "AURORA Magazine Articles of the Year" and check if it opens properly.	The selected article opens in a new page without errors.	27/3/2025
18.	Dropdown Filters (Time Range)	Change the time range filter in "Most Viewed Pages" and "Most Active Users."	Data updates correctly according to the selected time range.	27/3/2025

19.	Browser Usage Section	Check if browser statistics update based on actual user visits.	Correct number of users for each browser type is displayed.	27/3/2025
20.	Add academic year	Click “add academic year” and enter data then submit	New academic year created	27/3/2025
21.	Add faculty	Click “add faculty” and enter data then save	New faculty created	27/3/2025
22.	Create submission date	Fill related data and click save	New submission date created	27/3/2025
23.	Check most viewed pages	Match data with database	Show correct data	27/3/2025
24.	Check days filtering button	Click other options	Show correct data with selected options	27/3/2025
25.	Check most active users	Match data with database	Show correct data	27/3/2025
26.	Check daily filtering button	Click other options	Show correct data with chosen options	27/3/2025
27.	Check browser usage	Match data with database	Show correct data	27/3/2025
28.	Add new user	Click “add user” button, enter data, then click save	New user created	27/3/2025
29.	Forced password change	Click forced password change button and click confirm	New default password created for user	27/3/2025
30.	Edit user data	Click edit button and update new data and click save	User information changed	27/3/2025

7.1.5. Guest

Test Plan for Guest				
Test Plan No	What is Being Tested	Process	Expected Result	Deadline
1	Successful Login	Click on the login button after inserting a valid email and a valid password.	The system should validate the entered information and allow the user to log in.	8/4/2025
2.	Log Out	Click on the "Logout" button.	The user should be logged out and get back to the login page.	8/4/2025
3.	Full Name Display	Check the "Name" field.	"User's full name" is shown under the Name field.	8/4/2025
4.	Nickname Display	Check the "Nick Name" field.	"User's nick name" is displayed.	8/4/2025
5.	Email Validation	Verify the "Email Address" field.	"User's email" is visible and formatted correctly.	8/4/2025
6.	Date of Birth Format	Check the "Date of Birth" field.	Correct Date of Birth is shown as (DD.MMM.YYYY).	8/4/2025
7.	Gender Display	Check the "Gender" field.	"Correct Gender" is displayed.	8/4/2025
8.	Phone Number Format	Verify the "Phone Number" field.	"Correct Phone Number" is shown.	8/4/2025
9.	Edit Personal information	Click "Edit Button" and update some fields.	Updated information is saved and displayed correctly.	8/4/2025
10.	Remove Profile Picture	Click "Remove" button and remove profile picture.	Profile picture is removed, and a default placeholder is displayed.	8/4/2025

11.	Change Profile Picture	Click “Change” button to upload new profile picture	The new picture was uploaded and displayed correctly.	8/4/2025
12.	Email and Faculty Field Restrictions	Ensure that Email and Faculty fields are not editable.	Both fields remain non-editable, preventing any changes.	8/4/2025
13.	Check report data	Check View Article & Total Uploaded Article data with database	Show correct data on each report lists	8/4/2025
14.	Navigation to Article	Click on View Button to check if it redirects to the correct article.	The system should open the corresponding article page.	8/4/2025
15.	Filtering	Apply filtering options and view results	Data filtered in selected input	8/4/2025
16.	Reset Filtering	Click Reset Filter and view result	All filters are cleared, and the full list of articles is restored.	8/4/2025

7.1.6. Finalized Testing Overall Requirements

Test Plan for Requirements				
Test Plan No	What is Being Tested	Process	Expected Result	Deadline
1.	Secure Role Based Access	Login in all user roles.	Successful Login: All the user roles reached their relevant dashboard when login.	23/4/2025
2.	Article Submission System	Click upload button, Enter data, and click upload	Article Uploaded with Pending Status	23/4/2025
3.	Image Upload Support	Click Browse & upload some images.	Images uploaded together with articles.	23/4/2025
4.	Terms and Conditions Enforcement	Click Submit without checking Terms and conditions.	Alert message about Students must agree to T&Cs before submission	23/4/2025
5.	Contribution Closure Management	Make sure new submissions disabled after closure date; edits allowed until final closure	New submissions disabled after closure date; edits allowed until final closure	23/4/2025
6.	Automated Email Notifications	Check if system emails Coordinators when new contributions are submitted	System emails Coordinators when new contributions are submitted	23/4/2025

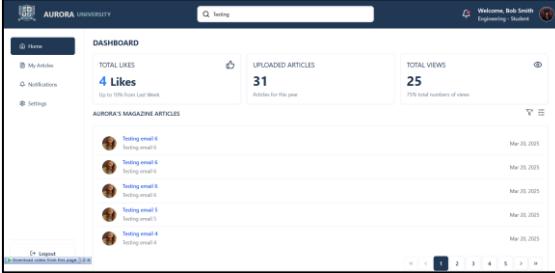
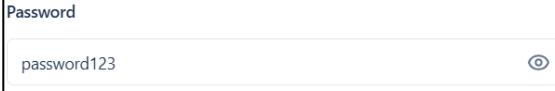
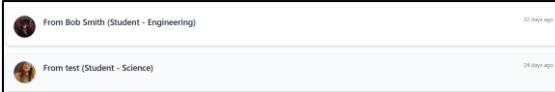
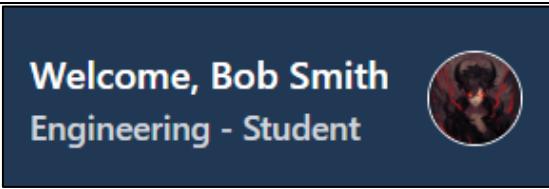
7.	Faculty-specific Contribution Access	Check to see that coordinators can access submissions only for their own Faculty.	Coordinators can access submissions only for their own Faculty	23/4/2025
8.	Contribution Commenting	Check coordinators can comment on and edit submissions within 14 days.	Coordinators can comment on and edit submissions within 14 days.	23/4/2025
9.	Contribution Selection for Publication	Check if coordinators can select articles for publication.	Coordinators can select articles for publication.	23/4/2025
10.	Centralized Viewing for Marketing Manager	Check to see that Manager can view all selected articles and not edit	Manager can view all selected articles and not edit	23/4/2025
11.	Bulk Download of Selected Articles	Check if manager can download all selected contributions as a ZIP after final closure	Manager can download all selected contributions as a ZIP after final closure	23/4/2025
12.	System Administration Tools	Make sure admin can manage system settings, closure dates, user accounts	Admin can manage system settings, closure dates, user accounts	23/4/2025
13.	Guest Viewing Access	Check if guests can view selected contributions by Faculty	Guest users can view selected contributions by Faculty	23/4/2025
14.	Statistical Reporting and Analysis	Check to see if reports such as the number of contributions by each Faculty can be viewed	information reports, such as the number of contributions per Faculty can be viewed and matched with data base.	23/4/2025

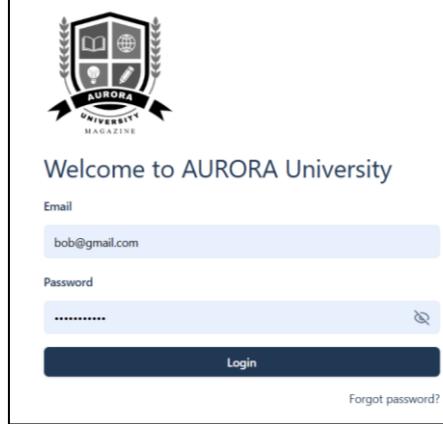
15.	Responsive User Interface	Make sure the website is responsive in all devices	The website is responsive in all devices	23/4/2025
16.	Last Login Reminder / First Login Welcome	Make sure the last login reminder or first login welcome is displayed	The information about login is displayed.	23/4/2025
17.	System Usage Monitoring Reports	Check if Admin can view report about: Most View page, Most active users and browser usage statistics	The admin can view all reports.	23/4/2025
18.	Guest Registration Notification	Create a guest acc and check if the coordinator got an email.	The coordinator got a reminder mail.	23/4/2025
19.	Guest List Viewing for Coordinators	Check if Marketing Coordinators can view a list of guests registered under their faculties	The coordinators can view their guest list.	23/4/2025

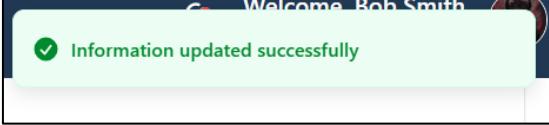
7.2. Test log

7.2.1 Student

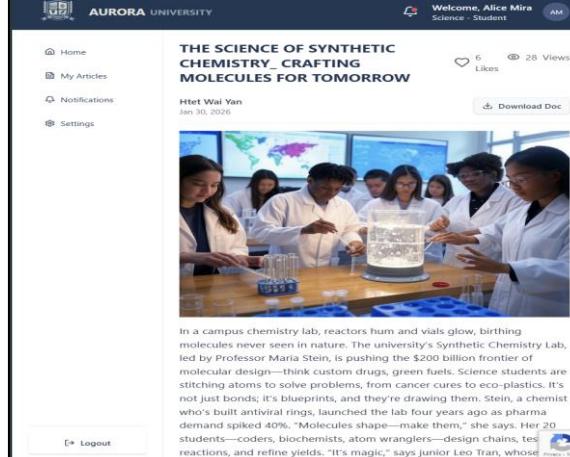
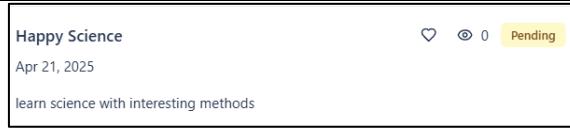
Test Log	Test Plan No	Tester	Date Executed	Expected Result	Actual Result	Pass/Fail	Action Taken
1.	1.	Wut Yi Oo	17/3/2025	An error message will appear to inform the user.	<p>Email</p> <input type="text"/> Enter your email <small>Please enter your email</small> <p>Password</p> <input type="password"/> <small>Please enter your password</small>	Pass	None
2.	2.	Wut Yi Oo	17/3/2025	An error message will appear to inform the user.	! Invalid email or password	Pass	None
3.	3.	Wut Yi Oo	17/3/2025	An error message will appear to inform the user.	! Invalid email or password	Pass	None
4.	4.	Wut Yi Oo	17/3/2025	An error message will appear to inform the user.	! Invalid email or password	Pass	None

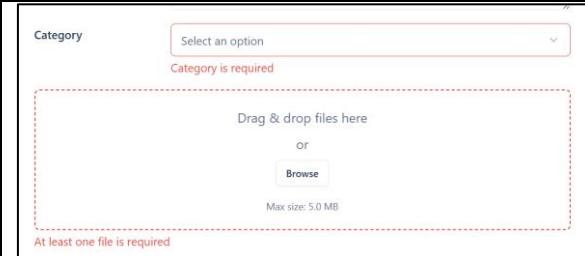
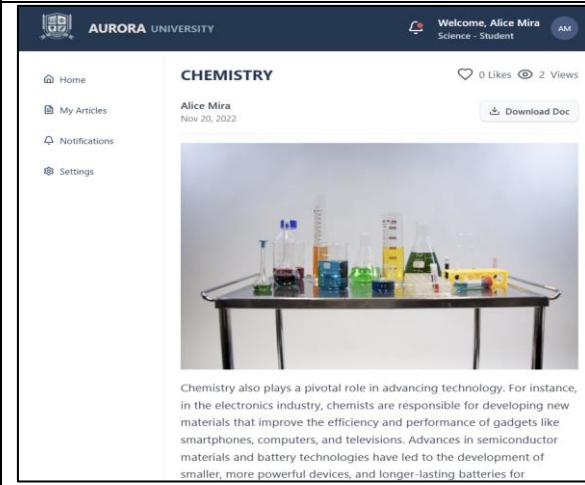
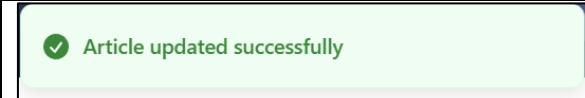
5.	5.	Wut Yi Oo	17/3/2025	The system must check the information input and allow the user to log in.		Pass	None
6.	6.	Wut Yi Oo	17/3/2025	The password should be invisible.		Pass	None
7.	7.	Wut Yi Oo	17/3/2025	The password should become visible.		Pass	None
8.	8.	Wut Yi Oo	17/3/2025	The correct user details and interaction should be displayed.		Pass	None
9.	9.	Wut Yi Oo	17/3/2025	The logged-in user's profile details should match their information.		Pass	None

10.	10.	Wut Yi Oo	17/3/2025	The system should open the corresponding article page.	There is no notification for U0002 ID while testing. Not working with the user U0002 as there is no data.	Fail	Retest with different user who already had data		
11.	10.	Wut Yi Oo	17/3/2025	The system should open the corresponding article page.	 <p>ALGEBRA: THE FOUNDATION OF PROBLEM-SOLVING AND REAL-WORLD APPLICATIONS Charlie Davis Mar 29, 2023</p>	Pass	None		
12.	11.	Wut Yi Oo	17/3/2025	The user should be logged out and get back to the login page.	 <p>Welcome to AURORA University</p> <p>Email bob@gmail.com</p> <p>Password *****</p> <p>Login</p> <p>Forgot password?</p>	Pass	None		
13.	12.	Wut Yi Oo	17/3/2025	User's full name is shown under the Name field.	<table border="1"> <tr> <td>Name</td> <td>Bob Smith</td> </tr> </table>	Name	Bob Smith	Pass	None
Name	Bob Smith								
14.	13.	Wut Yi Oo	17/3/2025	User's nick name is displayed.	<table border="1"> <tr> <td>Nick Name</td> <td>Bobby</td> </tr> </table>	Nick Name	Bobby	Pass	None
Nick Name	Bobby								

15.	14.	Wut Yi Oo	17/3/2025	User's email is visible and formatted correctly.	Email bob@gmail.com	Pass	None
16.	15.	Wut Yi Oo	17/3/2025	Faculty Name is displayed.	Email bob@gmail.com	Pass	None
17.	16.	Wut Yi Oo	17/3/2025	Correct Date of Birth is shown as (DD.MMM.YYYY).	Date of Birth 2004-05-07	Pass	None
18.	17.	Wut Yi Oo	17/3/2025	Correct Gender is displayed.	Gender Male	Pass	None
19.	18.	Wut Yi Oo	17/3/2025	Correct Phone Number is shown with proper spacing.	Phone Number +959123456123	Pass	None
20.	19.	Wut Yi Oo	17/3/2025	Updated information is saved and displayed correctly.	Welcome Bob Smith 	Pass	None
21.	20.	Wut Yi Oo	17/3/2025	Profile picture is removed, and a default placeholder is displayed.	Profile  Remove Change	Pass	None

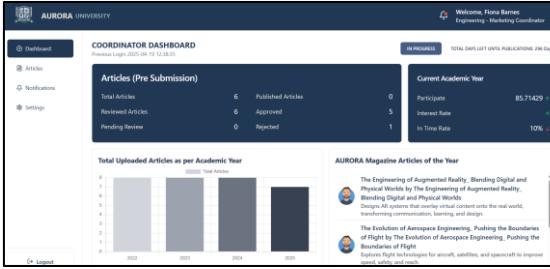
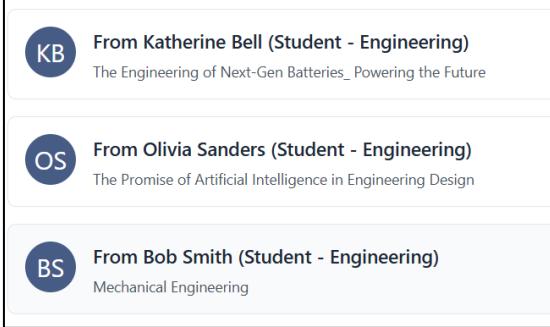
22.	21.	Wut Yi Oo	17/3/2025	The new profile picture is uploaded and displayed correctly.	<p>Profile</p>	Pass	None
23.	22.	Wut Yi Oo	17/3/2025	Both fields remain non-editable, preventing any changes.	<p>Email</p> <p>Faculty</p>	Pass	None
24.	23.	Thi Han Naing	17/3/2025	Data sorted in selected input	Information are not changed even after sorting.	Fail	Discuss with developers
25.	23.	Thi Han Naing	18/3/2025	Data sorted in selected input	<p>ARVR Bridging Reality and Imagination in the Digital Age Augmented and Virtual Reality technologies merge digital and real-world experiences, revolutionizing fields like gaming, education, and training. They open doors to immersive storytelling and interactive user engagement. Mar 6, 2025</p> <p>Automata Theory The Mathematical Foundation of Computation Automata theory explores abstract machines and computational problems, forming the core of computer science, enabling the understanding of language recognition, algorithms, and the limits of computation. Nov 27, 2022</p> <p>Biology The science of life and living organisms, including their structure, function, growth, evolution, and interaction with the environment. Feb 18, 2023</p>	Pass	None

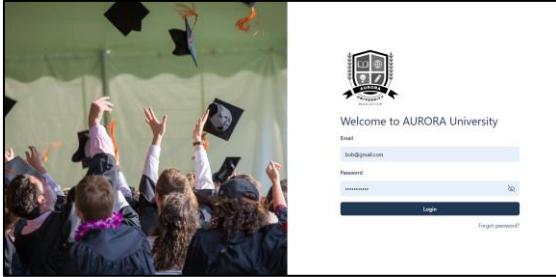
26.	24.	Thi Han Naing	17/3/2025	Data filtered in selected input	Flitering had no change. All data are just the same as before clicking flier button.	Fail	Discuss with developers
27.	24.	Thi Han Naing	17/3/2025	Show clicked article's data	 <p>System Administration The Backbone of IT Infrastructure System administrators manage IT systems, ensuring uptime, security, and performance. They configure servers, troubleshoot issues, and handle backups to keep organizational infrastructure running smoothly. Dec 16, 2024</p> <p>Windows OS The Evolution of a Digital Giant Windows OS, developed by Microsoft, revolutionized personal computing. From simple interfaces to powerful platforms, it remains one of the most widely used operating systems globally. Dec 9, 2024</p>	Pass	None
28.	25.	Thi Han Naing	17/3/2025	The article is uploaded with pending status	 <p>AURORA UNIVERSITY</p> <p>THE SCIENCE OF SYNTHETIC CHEMISTRY_ CRAFTING MOLECULES FOR TOMORROW</p> <p>Htet Wai Yan Jan 30, 2024</p> <p>In a campus chemistry lab, reactors hum and vials glow, birthing molecules never seen in nature. The university's Synthetic Chemistry Lab, led by Professor Maria Stein, is pushing the \$200 billion frontier of molecular design—think custom drugs, green fuels. Science students are stitching atoms to solve problems, from cancer cures to eco-plastics. It's not just bonds; it's blueprints, and they're drawing them. Stein, a chemist who's built antiviral rings, launched the lab four years ago as pharma demand spiked 40%. "Molecules shape—make them," she says. Her 20 students—coders, biochemists, atom wranglers—design chains, test reactions, and refine yields. "It's magic," says junior Leo Tran, whose</p>	Pass	None
29.	26.	Thi Han Naing	17/3/2025	No error show	 <p>Happy Science</p> <p>Apr 21, 2025</p> <p>learn science with interesting methods</p>	Pass	None

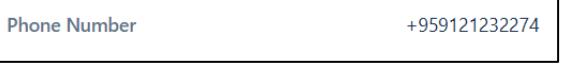
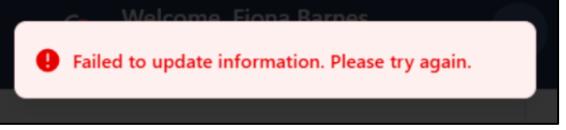
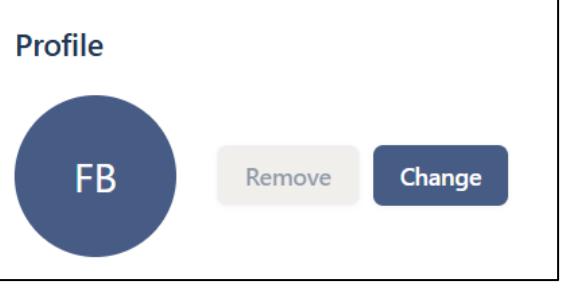
30.	28.	Thi Han Naing	17/3/2025	Show drafted article data		Pass	None
31.	29.	Thi Han Naing	17/3/2025	Article's data changed		Pass	None
32.	30.	Thi Han Naing	17/3/2025	Show comment on comment section		Pass	None
33.	31.	Thi Han Naing	17/3/2025	Show feedbacks if exist		Pass	None

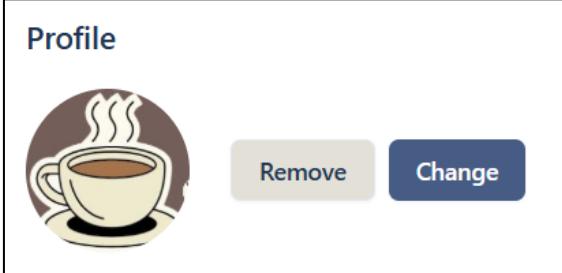
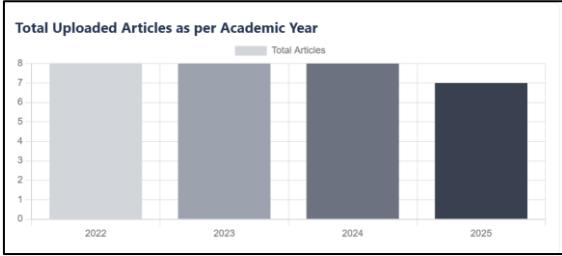
34.	32.	Thi Han Naing	17/3/2025	Show feedback if exist	 Quinn Rogers Stay confident—you're doing well! 6 months ago	Pass	None
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7.2.2. Marketing Coordinator

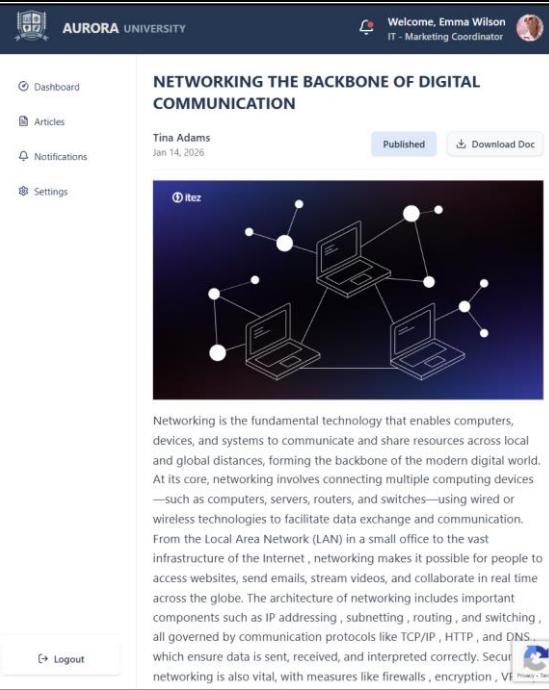
Test Log	Test Plan No	Tester	Date Executed	Expected Result	Actual Result	Pass/Fail	Action Taken
1.	1.	Wut Yi Oo	1/4/2025	The system will verify the inserted details and allow the user to log in.		Pass	None
2.	2.	Wut Yi Oo	1/4/2025	The correct user details and interaction should be displayed.		Pass	None
3.	3.	Wut Yi Oo	1/4/2025	The logged-in user's profile details should match their information.		Pass	None

4.	4.	Wut Yi Oo	1/4/2025	The system should open the corresponding article page.	 <p>THE ENGINEERING OF NEXT-GEN BATTERIES_ POWERING THE FUTURE Katherine Bell Jan 18, 2025  In a campus electrochem lab, cells hum and anodes glow, storing juice for tomorrow's world. The university's Battery Innovation Hub, led by Professor Amina Khalid, is charging the \$150 billion race for better batteries—think EVs that go 1,000 miles, grids that store sun. Engineering students are crafting</p>	Pass	None		
5.	5.	Wut Yi Oo	1/4/2025	The user should be logged out and get back to the login page.	 <p>Welcome to AURORA University Email: <input type="text" value="lrb@gmail.com"/> Password: <input type="password"/> Login <small>Forgot password?</small></p>	Pass	None		
6.	6.	Wut Yi Oo	1/4/2025	User's full name is shown under the Name field.	<table border="1"> <tr> <td>Name</td> <td>Fiona Barnes</td> </tr> </table>	Name	Fiona Barnes	Pass	None
Name	Fiona Barnes								
7.	7.	Wut Yi Oo	1/4/2025	User's nick name is displayed.	<table border="1"> <tr> <td>Nick Name</td> <td>Fiona</td> </tr> </table>	Nick Name	Fiona	Pass	None
Nick Name	Fiona								
8.	8.	Wut Yi Oo	1/4/2025	User's email is visible and formatted correctly.	<table border="1"> <tr> <td>Email</td> <td>fiona.barnes@gmail.com</td> </tr> </table>	Email	fiona.barnes@gmail.com	Pass	None
Email	fiona.barnes@gmail.com								
9.	9.	Wut Yi Oo	1/4/2025	Faculty Name is displayed.	<table border="1"> <tr> <td>Faculty</td> <td>Engineering</td> </tr> </table>	Faculty	Engineering	Pass	None
Faculty	Engineering								

10.	10.	Wut Yi Oo	1/4/2025	Correct Date of Birth is shown as (DD.MMM.YYYY).		Pass	None
11.	11.	Wut Yi Oo	1/4/2025	Correct Gender is displayed.		Pass	None
12.	12.	Wut Yi Oo	1/4/2025	Correct Phone Number is shown with proper spacing.		Pass	None
13.	13.	Wut Yi Oo	1/4/2025	Updated information is saved and displayed correctly.		Fail	Discuss with developers
14.	13.	Wut Yi Oo	2/4/2025	Updated information is saved and displayed correctly.		Pass	None
15.	14.	Wut Yi Oo	1/4/2025	Profile picture is removed, and a default placeholder is displayed.		Pass	None

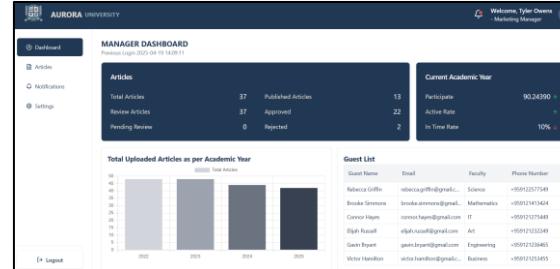
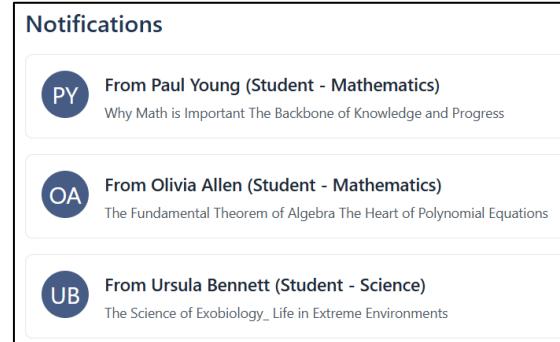
16.	15.	Wut Yi Oo	1/4/2025	The new profile picture is uploaded and displayed correctly.		Pass	None												
17.	16.	Wut Yi Oo	1/4/2025	Both fields remain non-editable, preventing any changes.	Email <input type="text" value="fiona.barnes@gmail.com"/> Faculty <input type="text" value="Engineering"/>	Pass	None												
18.	17.	Thi Han Naing	1/4/2025	Show correct article status data	Articles (Pre Submission) <table> <tr> <td>Total Articles</td> <td>6</td> <td>Published Articles</td> <td>4</td> </tr> <tr> <td>Reviewed Articles</td> <td>6</td> <td>Approved</td> <td>2</td> </tr> <tr> <td>Pending Review</td> <td>0</td> <td>Rejected</td> <td>0</td> </tr> </table>	Total Articles	6	Published Articles	4	Reviewed Articles	6	Approved	2	Pending Review	0	Rejected	0	Pass None	None
Total Articles	6	Published Articles	4																
Reviewed Articles	6	Approved	2																
Pending Review	0	Rejected	0																
19.	18.	Thi Han Naing	1/4/2025	Show correct current academic year data	Current Academic Year <table> <tr> <td>Participate</td> <td>75.00000 ↑</td> </tr> <tr> <td>Interest Rate</td> <td>↑</td> </tr> <tr> <td>In Time Rate</td> <td>10% ↓</td> </tr> </table>	Participate	75.00000 ↑	Interest Rate	↑	In Time Rate	10% ↓	Pass	None						
Participate	75.00000 ↑																		
Interest Rate	↑																		
In Time Rate	10% ↓																		
20.	19.	Thi Han Naing	1/4/2025	Show total uploaded magazine article as per academic year data	Total Uploaded Articles as per Academic Year 	Pass	None												

21.	20.	Thi Han Naing	1/4/2025	Show magazine articles of the year data	<p>AURORA Magazine Articles of the Year</p>  <p>JavaScript by Jack Martin JavaScript 1</p> <p>Linux by Jack Martin Linux</p> <p>Cloud Computing by Jack Martin Cloud Computing 1</p>	Pass	None																												
22.	21.	Thi Han Naing	1/4/2025	Show correct guest list data	<p>Guest List</p> <table border="1"> <thead> <tr> <th>Guest Name</th> <th>Email</th> <th>Faculty</th> <th>Phone Number</th> </tr> </thead> <tbody> <tr> <td>Rebecca Griffin</td> <td>rebecca.griffin@gmail.com</td> <td>Science</td> <td>+959122577549</td> </tr> <tr> <td>Brooke Simmons</td> <td>brooke.simmons@gmail.com</td> <td>Mathematics</td> <td>+959121413424</td> </tr> <tr> <td>Connor Hayes</td> <td>connor.hayes@gmail.com</td> <td>IT</td> <td>+959121275449</td> </tr> <tr> <td>Elijah Russell</td> <td>elijah.russell@gmail.com</td> <td>Art</td> <td>+959121232249</td> </tr> <tr> <td>Gavin Bryant</td> <td>gavin.bryant@gmail.com</td> <td>Engineering</td> <td>+959121236465</td> </tr> <tr> <td>Victor Hamilton</td> <td>victor.hamilton@gmail.com</td> <td>Business</td> <td>+959121253455</td> </tr> </tbody> </table>	Guest Name	Email	Faculty	Phone Number	Rebecca Griffin	rebecca.griffin@gmail.com	Science	+959122577549	Brooke Simmons	brooke.simmons@gmail.com	Mathematics	+959121413424	Connor Hayes	connor.hayes@gmail.com	IT	+959121275449	Elijah Russell	elijah.russell@gmail.com	Art	+959121232249	Gavin Bryant	gavin.bryant@gmail.com	Engineering	+959121236465	Victor Hamilton	victor.hamilton@gmail.com	Business	+959121253455	Pass	None
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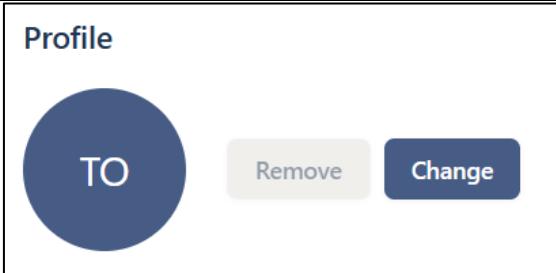
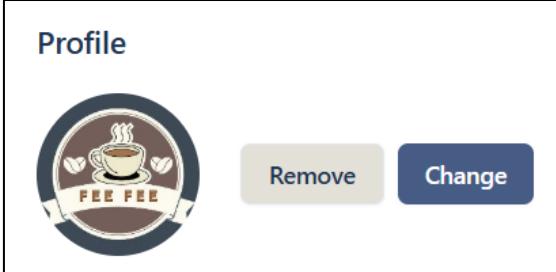
23.	22.	Thi Han Naing	1/4/2025	Showing related article after clicking “view” button		Pass	None
24.	23.	Thi Han Naing	1/4/2025	Article rejected with feedback		Pass	None

25.	24.	Thi Han Naing	1/4/2025	Show correct report data of articles		Pass	None
26.	25.	Thi Han Naing	1/4/2025	Article approved is shown with feedback		Pass	None
27.	26.	Thi Han Naing	1/4/2025	Article downloaded		Fail	Reported to developers
28.	26.	Thi Han Naing	2/4/2025	Article downloaded		Pass	None
29.	27.	Thi Han Naing	1/4/2025	The feedback is sent		Pass	None

7.2.3. Marketing Manager

Test Log	Test Plan No	Tester	Date Executed	Expected Result	Actual Result	Pass/Fail	Action Taken
1.	1.	Wut Yi Oo	14/4/2025	The system must validate the entered information and log it in.	 <p>The screenshot shows the Manager Dashboard for Aurora University. It displays various metrics such as Total Articles (37), Published Articles (13), Approved (22), Rejected (2), and In Time Rate (10%). There is also a bar chart titled 'Total Uploaded Articles as per Academic Year' showing data for 2022, 2023, 2024, and 2025. A 'Guest List' table provides details for several users, including their names, emails, faculty, and phone numbers.</p>	Pass	None
2.	2.	Wut Yi Oo	14/4/2025	The correct user details and interaction should be displayed.	 <p>The screenshot shows the Notifications section of the application. It lists three notifications from students: Paul Young (Mathematics), Olivia Allen (Mathematics), and Ursula Bennett (Science). Each notification includes a brief message and a link to view more details.</p>	Pass	None
3.	3.	Wut Yi Oo	14/4/2025	The logged-in user's profile details should match their information.	 <p>The screenshot shows the welcome screen for Tyler Owens, Marketing Manager. It features a bell icon, the user's name, and a circular profile picture placeholder labeled 'TO'.</p>	Pass	None

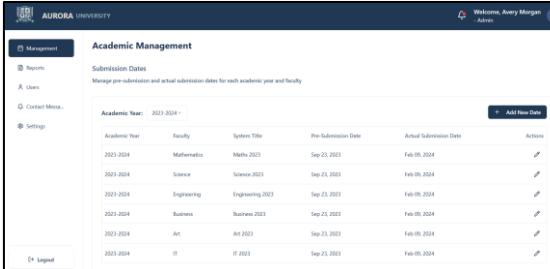
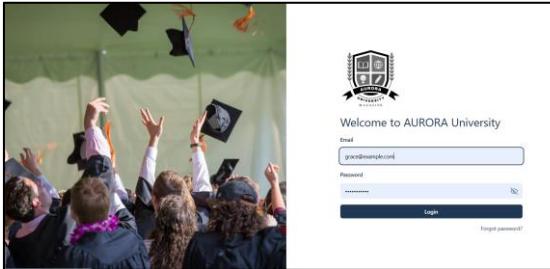
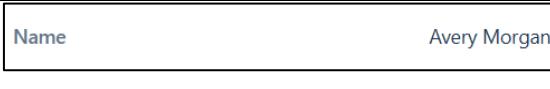
4.	4.	Wut Yi Oo	14/4/2025	The system should open the corresponding article page.		Pass	None		
5.	5.	Wut Yi Oo	14/4/2025	The user should be logged out and get back to the login page.		Pass	None		
6.	6.	Wut Yi Oo	14/4/2025	User's full name is shown under the Name field.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">Name</td> <td style="padding: 5px; text-align: right;">Tyler Owens</td> </tr> </table>	Name	Tyler Owens	Pass	None
Name	Tyler Owens								
7.	7.	Wut Yi Oo	14/4/2025	User's nick name is displayed.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">Nick Name</td> <td style="padding: 5px; text-align: right;">Tyler</td> </tr> </table>	Nick Name	Tyler	Pass	None
Nick Name	Tyler								
8.	8.	Wut Yi Oo	14/4/2025	User's email is visible and formatted correctly.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">Email</td> <td style="padding: 5px; text-align: right;">tyler.owens@gmail.com</td> </tr> </table>	Email	tyler.owens@gmail.com	Pass	None
Email	tyler.owens@gmail.com								
9.	9.	Wut Yi Oo	14/4/2025	Correct Date of Birth is shown as (DD.MMM.YYYY).	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">Date of Birth</td> <td style="padding: 5px; text-align: right;">1976-08-01</td> </tr> </table>	Date of Birth	1976-08-01	Pass	None
Date of Birth	1976-08-01								

10.	10.	Wut Yi Oo	14/4/2025	Correct Gender is displayed.		Pass	None
11.	11.	Wut Yi Oo	14/4/2025	Correct Phone Number" is shown.		Pass	None
12.	12.	Wut Yi Oo	14/4/2025	Updated information is saved and displayed correctly.		Pass	None
13.	13.	Wut Yi Oo	14/4/2025	Profile picture is removed, and a default placeholder is displayed.		Pass	None
14.	14.	Wut Yi Oo	14/4/2025	The new profile picture is uploaded and displayed correctly.		Pass	None
15.	15.	Wut Yi Oo	14/4/2025	Email field remain non-editable, preventing any changes.		Pass	None

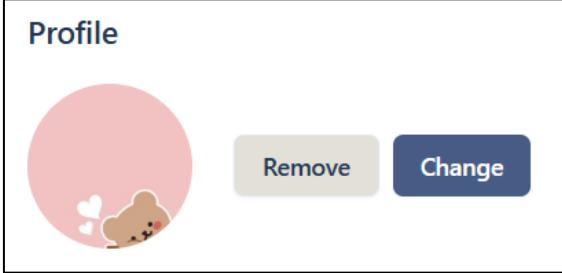
16.	16.	Thi Han Naing	14/4/2025	Show actual data on each report lists	<p>MANAGER DASHBOARD Version 1.0 Last Update: 14-04-2025 No. of Users: 10</p> <p>Articles</p> <table border="1"> <thead> <tr> <th>Total Articles</th> <th>Review Articles</th> <th>Published Articles</th> <th>Current Academic Year</th> </tr> </thead> <tbody> <tr> <td>37</td> <td>37</td> <td>13</td> <td>Participate 84,059,091 +</td> </tr> <tr> <td></td> <td>Approved</td> <td>22</td> <td>Active Rate +</td> </tr> <tr> <td></td> <td>Pending Review</td> <td>0</td> <td>In Time Rate 10%</td> </tr> </tbody> </table> <p>Total Uploaded Articles as per Academic Year</p> <table border="1"> <thead> <tr> <th>Year</th> <th>Total Articles</th> </tr> </thead> <tbody> <tr> <td>2020</td> <td>45</td> </tr> <tr> <td>2021</td> <td>40</td> </tr> <tr> <td>2022</td> <td>35</td> </tr> <tr> <td>2023</td> <td>30</td> </tr> <tr> <td>2024</td> <td>25</td> </tr> <tr> <td>2025</td> <td>20</td> </tr> </tbody> </table> <p>Guest List</p> <table border="1"> <thead> <tr> <th>Guest Name</th> <th>Email</th> <th>Faculty</th> <th>Phone Number</th> </tr> </thead> <tbody> <tr> <td>Rebecca Griffin</td> <td>rebecca.griffin@gmail.com</td> <td>Science</td> <td>+959122577549</td> </tr> <tr> <td>Brooke Simmons</td> <td>brooke.simmons@gmail.com</td> <td>Mathematics</td> <td>+95912143424</td> </tr> <tr> <td>Connor Hayes</td> <td>connor.hayes@gmail.com</td> <td>IT</td> <td>+959121275449</td> </tr> <tr> <td>Elijah Russell</td> <td>elijah.russell@gmail.com</td> <td>Art</td> <td>+959121232249</td> </tr> <tr> <td>Gavin Bryant</td> <td>gavin.bryant@gmail.com</td> <td>Engineering</td> <td>+959121236465</td> </tr> <tr> <td>Victor Hamilton</td> <td>victor.hamilton@gmail.com</td> <td>Business</td> <td>+959121253455</td> </tr> <tr> <td>Htet Wai Yan</td> <td>hw.y@gmail.com</td> <td>Mathematics</td> <td>123234344</td> </tr> </tbody> </table>	Total Articles	Review Articles	Published Articles	Current Academic Year	37	37	13	Participate 84,059,091 +		Approved	22	Active Rate +		Pending Review	0	In Time Rate 10%	Year	Total Articles	2020	45	2021	40	2022	35	2023	30	2024	25	2025	20	Guest Name	Email	Faculty	Phone Number	Rebecca Griffin	rebecca.griffin@gmail.com	Science	+959122577549	Brooke Simmons	brooke.simmons@gmail.com	Mathematics	+95912143424	Connor Hayes	connor.hayes@gmail.com	IT	+959121275449	Elijah Russell	elijah.russell@gmail.com	Art	+959121232249	Gavin Bryant	gavin.bryant@gmail.com	Engineering	+959121236465	Victor Hamilton	victor.hamilton@gmail.com	Business	+959121253455	Htet Wai Yan	hw.y@gmail.com	Mathematics	123234344	Pass	None
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20.	19.	Thi Han Naing	14/4/2025	Downloaded started. Check your folder.	<div style="border: 1px solid #ccc; padding: 5px; text-align: center;"> Download started. Check your downloads folder.</div>	Pass	None																																																							
21.	20.	Thi Han Naing	14/4/2025	Show page that have articles	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Title</th> <th style="text-align: left;">Submission Date</th> <th style="text-align: left;">Submitted By</th> <th style="text-align: left;">Status</th> <th style="text-align: left;">Category</th> </tr> </thead> <tbody> <tr><td><input type="checkbox"/> Navigating Ethical Dilemmas in Corporate Leadership</td><td>Feb 6, 2023</td><td>Laura Brooks</td><td>Approved</td><td>Business</td></tr> <tr><td><input type="checkbox"/> The Engineering of Clean Water Technologies, Solving Global Shortages</td><td>Jan 24, 2023</td><td>Jason Murphy</td><td>Approved</td><td>Engineering</td></tr> <tr><td><input type="checkbox"/> The Future of Retail: Adapting to E-commerce Trends</td><td>Jan 22, 2023</td><td>Oliver Richardson</td><td>Approved</td><td>Business</td></tr> <tr><td><input type="checkbox"/> Web Development: Building the Digital World One Line of Code at a Time</td><td>Jan 21, 2023</td><td>Valerie Gonzalez</td><td>Approved</td><td>IT</td></tr> <tr><td><input type="checkbox"/> Civil Engineering</td><td>Jan 18, 2023</td><td>Bob Smith</td><td>Approved</td><td>Engineering</td></tr> <tr><td><input type="checkbox"/> The Discovery of the Prime Number Theorem: A Mathematical Milestone</td><td>Jan 17, 2023</td><td>Nathan Hall</td><td>Approved</td><td>Mathematics</td></tr> <tr><td><input type="checkbox"/> The Engineering of Smart Cities: Building Connected Urban Futures</td><td>Jan 15, 2023</td><td>Lucy Parker</td><td>Approved</td><td>Engineering</td></tr> <tr><td><input type="checkbox"/> Crafting Sustainable Art with Recycled Materials</td><td>Jan 7, 2023</td><td>Isabel Thomas</td><td>Approved</td><td>Art</td></tr> <tr><td><input type="checkbox"/> Cohomology Theory: Unveiling the Hidden Structure of Space</td><td>Jan 1, 2023</td><td>Jack Harris</td><td>Approved</td><td>Mathematics</td></tr> <tr><td><input type="checkbox"/> Blockchain's Impact on Supply Chain Transparency</td><td>Dec 27, 2022</td><td>Julian Carter</td><td>Approved</td><td>Business</td></tr> </tbody> </table>	Title	Submission Date	Submitted By	Status	Category	<input type="checkbox"/> Navigating Ethical Dilemmas in Corporate Leadership	Feb 6, 2023	Laura Brooks	Approved	Business	<input type="checkbox"/> The Engineering of Clean Water Technologies, Solving Global Shortages	Jan 24, 2023	Jason Murphy	Approved	Engineering	<input type="checkbox"/> The Future of Retail: Adapting to E-commerce Trends	Jan 22, 2023	Oliver Richardson	Approved	Business	<input type="checkbox"/> Web Development: Building the Digital World One Line of Code at a Time	Jan 21, 2023	Valerie Gonzalez	Approved	IT	<input type="checkbox"/> Civil Engineering	Jan 18, 2023	Bob Smith	Approved	Engineering	<input type="checkbox"/> The Discovery of the Prime Number Theorem: A Mathematical Milestone	Jan 17, 2023	Nathan Hall	Approved	Mathematics	<input type="checkbox"/> The Engineering of Smart Cities: Building Connected Urban Futures	Jan 15, 2023	Lucy Parker	Approved	Engineering	<input type="checkbox"/> Crafting Sustainable Art with Recycled Materials	Jan 7, 2023	Isabel Thomas	Approved	Art	<input type="checkbox"/> Cohomology Theory: Unveiling the Hidden Structure of Space	Jan 1, 2023	Jack Harris	Approved	Mathematics	<input type="checkbox"/> Blockchain's Impact on Supply Chain Transparency	Dec 27, 2022	Julian Carter	Approved	Business	Pass	None
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7.2.4. Administrator

Test Log	Test Plan No	Tester	Date Executed	Expected Result	Actual Result	Pass/Fail	Action Taken
1.	1.	Wut Yi Oo	26/3/2025	The system will verify inserted information and allow authorizing the user to log in.		Pass	None
2.	2.	Wut Yi Oo	26/3/2025	The user should be logged out and get back to the login page.		Pass	None
3.	3.	Wut Yi Oo	26/3/2025	User's full name" is shown under the Name field.		Pass	None
4.	4.	Wut Yi Oo	26/3/2025	User's nick name is displayed.		Pass	None

5.	5.	Wut Yi Oo	26/3/2025	User's email is visible and formatted correctly.	<div style="border: 1px solid #ccc; padding: 5px; display: inline-block;"> Email <input type="text" value="avery.morgan@yourdomain.com"/> </div>	Pass	None
6.	6.	Wut Yi Oo	26/3/2025	Correct Date of Birth is shown as (DD.MMM.YYYY).	<div style="border: 1px solid #ccc; padding: 5px; display: inline-block;"> Date of Birth <input type="text" value="1976-07-01"/> </div>	Pass	None
7.	7.	Wut Yi Oo	26/3/2025	Correct Gender is displayed.	<div style="border: 1px solid #ccc; padding: 5px; display: inline-block;"> Gender <input type="text" value="Female"/> </div>	Pass	None
8.	8.	Wut Yi Oo	26/3/2025	Correct Phone Number" is shown.	<div style="border: 1px solid #ccc; padding: 5px; display: inline-block;"> Phone Number <input type="text" value="+959313332044"/> </div>	Pass	None
9.	9.	Wut Yi Oo	26/3/2025	Updated information is saved and displayed correctly.	✓ Information updated successfully	Pass	None
10.	10.	Wut Yi Oo	26/3/2025	Profile picture is removed, and a default placeholder is displayed.	<div style="border: 1px solid #ccc; padding: 10px; text-align: center;"> Profile  <div style="display: flex; justify-content: space-around; width: fit-content; margin: auto;"> Remove Change </div> </div>	Pass	None

11.	11.	Wut Yi Oo	26/3/2025	The new profile picture is uploaded and displayed correctly.		Pass	None
12.	12.	Wut Yi Oo	26/3/2025	Email field remain non-editable, preventing any changes.	<input type="text" value="avery.morgan@yourdomain.com"/> Email	Pass	None
13.	13.	Thi Han Naing	26/3/2025	Submission date added successfully	✓ Submission date added successfully	Pass	None
14.	14.	Thi Han Naing	26/3/2025	Academic year added successfully	✓ Academic year added successfully	Pass	None
15.	15.	Thi Han Naing	26/3/2025	Faculty created successfully	✓ Faculty created successfully	Pass	None
16.	16.	Thi Han Naing	26/3/2025	Submission date updated successfully	✓ Submission date updated successfully	Pass	None

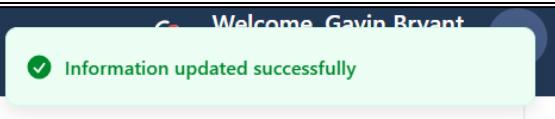
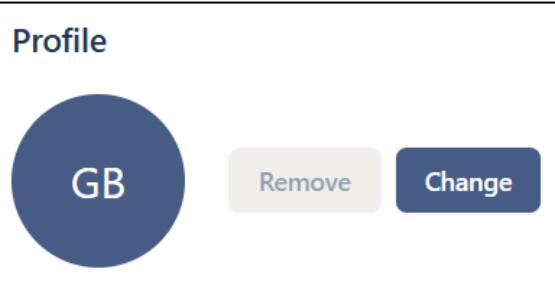
17.	17.	Thi Han Naing	26/3/2025	Academic year updated successfully	Academic year updated successfully	Pass	None																																										
18.	18.	Thi Han Naing	26/3/2025	Faculty updated successfully	Faculty updated successfully	Pass	None																																										
19.	19.	Thi Han Naing	26/3/2025	Most viewed pages. Match data with database	<p>Most Viewed Pages</p> <p>See which pages are attracting the most traffic</p> <table> <thead> <tr> <th>Page</th> <th>Views</th> </tr> </thead> <tbody> <tr> <td>Admin User Page</td> <td>50</td> </tr> <tr> <td>Admin Contact Us Page</td> <td>25</td> </tr> <tr> <td>Student Dashboard Page</td> <td>359</td> </tr> </tbody> </table>	Page	Views	Admin User Page	50	Admin Contact Us Page	25	Student Dashboard Page	359	Pass	None																																		
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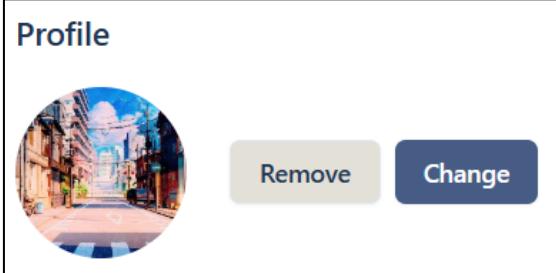
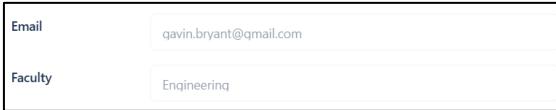
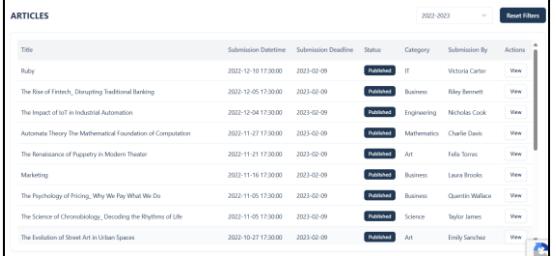
22.	22.	Thi Han Naing	26/3/2025	Bowser usage. Data matched with database	<p>Browser Usage Distribution of browsers used to access your site</p> <table border="1"> <thead> <tr> <th>Browser</th><th>Users</th></tr> </thead> <tbody> <tr><td>Others</td><td>231 users</td></tr> <tr><td>Safari</td><td>322 users</td></tr> <tr><td>Microsoft Edge</td><td>63 users</td></tr> </tbody> </table>	Browser	Users	Others	231 users	Safari	322 users	Microsoft Edge	63 users	Pass	None																																																																
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24.	24.	Thi Han Naing	26/3/2025	User data updated	<p>Rebecca Griffin rebecca.griffin@gmail.com</p> <p>User Type: Guest Faculty: Science</p> <p>Date of Birth: Aug 12, 2004 Last Login: Apr 27, 2025</p>	Pass	None																																																																								
25.	25.	Thi Han Naing	26/3/2025	Password reset successfully	<p>✓ Password reset successfully</p>	Pass	None																																																																								
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28.	28.	Thi Han Naing	26/3/2025	Show all IT faculty users after filtering with IT only	<p>A screenshot of a user management interface. The table has columns for ID, Name, Email, User Type, Faculty, Date of Birth, Last Login, and Actions. The data includes:</p> <table border="1"> <thead> <tr> <th>ID</th><th>Name</th><th>Email</th><th>User Type</th><th>Faculty</th><th>Date of Birth</th><th>Last Login</th><th>Actions</th></tr> </thead> <tbody> <tr><td>U0001</td><td>Cameron Hayes</td><td>cameron.hayes@example.com</td><td>Guest</td><td>-</td><td>-</td><td>Apr 21, 2025</td><td> </td></tr> <tr><td>U0005</td><td>Emma Wilson</td><td>emma.admissionsCoordinator@gmail.com</td><td>Marketing Coordinator</td><td>IT</td><td>Jun 20, 2003</td><td>Apr 27, 2025</td><td> </td></tr> <tr><td>U0010</td><td>Jack Martin</td><td>jack@gmail.com</td><td>Student</td><td>IT</td><td>Jul 4, 1993</td><td>Apr 27, 2025</td><td> </td></tr> <tr><td>U0019</td><td>Quinn King</td><td>quinn.king@gmail.com</td><td>Student</td><td>IT</td><td>Dec 20, 2002</td><td>Apr 26, 2025</td><td> </td></tr> <tr><td>U0020</td><td>Rachel Scott</td><td>rachel.academystudent@gmail.com</td><td>Student</td><td>IT</td><td>Feb 22, 2003</td><td>Apr 27, 2025</td><td> </td></tr> <tr><td>U0021</td><td>Samuel Green</td><td>samuel.green@gmail.com</td><td>Student</td><td>IT</td><td>Jul 2, 2003</td><td>Apr 16, 2025</td><td> </td></tr> </tbody> </table>	ID	Name	Email	User Type	Faculty	Date of Birth	Last Login	Actions	U0001	Cameron Hayes	cameron.hayes@example.com	Guest	-	-	Apr 21, 2025		U0005	Emma Wilson	emma.admissionsCoordinator@gmail.com	Marketing Coordinator	IT	Jun 20, 2003	Apr 27, 2025		U0010	Jack Martin	jack@gmail.com	Student	IT	Jul 4, 1993	Apr 27, 2025		U0019	Quinn King	quinn.king@gmail.com	Student	IT	Dec 20, 2002	Apr 26, 2025		U0020	Rachel Scott	rachel.academystudent@gmail.com	Student	IT	Feb 22, 2003	Apr 27, 2025		U0021	Samuel Green	samuel.green@gmail.com	Student	IT	Jul 2, 2003	Apr 16, 2025		Pass	None
ID	Name	Email	User Type	Faculty	Date of Birth	Last Login	Actions																																																								
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29.	29.	Thi Han Naing	26/3/2025	Show contact message with texted input	<p>A screenshot of a contact message interface. The form has fields for Name, Email, Title, Description, and Date. A note says "Can you send me a PDF version of the latest magaz..."</p> <table border="1"> <thead> <tr> <th colspan="5">Contact Us Messages</th> </tr> <tr> <th>Name</th><th>Email</th><th>Title</th><th>Description</th><th>Date</th></tr> </thead> <tbody> <tr> <td>User Mitchell</td><td>liam.mitchell@example.com</td><td>Request for PDF Version</td><td>Can you send me a PDF version of the latest magaz...</td><td>Mar 20, 2025 12:42 PM</td></tr> </tbody> </table>	Contact Us Messages					Name	Email	Title	Description	Date	User Mitchell	liam.mitchell@example.com	Request for PDF Version	Can you send me a PDF version of the latest magaz...	Mar 20, 2025 12:42 PM	Pass	None																																									
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30.	30.	Thi Han Naing	26/3/2025	Show information of clicked contact message	<p>A screenshot of a message details modal. It shows the recipient's information (Name: Benjamin Miller, Email: benjamin.miller@example.com, Title: Cover Story Suggestion) and the message content: "I have a suggestion for a future cover story about a groundbreaking student startup." A "Close" button is at the bottom right.</p> <p>Message Details</p> <p>Received on Mar 30, 2025 12:40 PM</p> <p>Name: Benjamin Miller Email: benjamin.miller@example.com Title: Cover Story Suggestion</p> <p>Message:</p> <p>I have a suggestion for a future cover story about a groundbreaking student startup.</p> <p>Close</p>	Pass	None																																																								

7.2.5. Guest

Test Log	Test Plan No	Tester	Date Executed	Expected Result	Actual Result	Pass/Fail	Action Taken
1.	1.	Wut Yi Oo	7/4/2025	The system will validate the information entered and allow the user to log in.		Pass	None
2.	2.	Wut Yi Oo	7/4/2025	The user should be logged out and get back to the login page.		Pass	None
3.	3.	Wut Yi Oo	7/4/2025	User's full name is shown under the Name field.		Pass	None
4.	4.	Wut Yi Oo	7/4/2025	User's nick name is displayed.		Pass	None

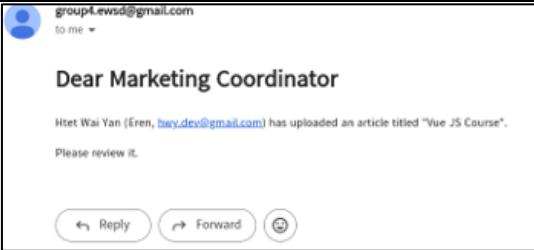
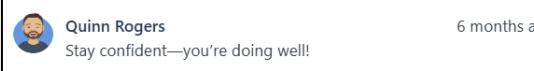
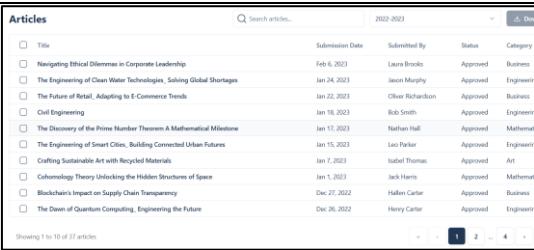
5.	5.	Wut Yi Oo	7/4/2025	User's email is visible and formatted correctly.		Pass	None
6.	6.	Wut Yi Oo	7/4/2025	Correct Date of Birth is shown as (DD.MMM.YYYY).		Pass	None
7.	7.	Wut Yi Oo	7/4/2025	Correct Gender is displayed.		Pass	None
8.	8.	Wut Yi Oo	7/4/2025	Correct Phone Number is shown.		Pass	None
9.	9.	Wut Yi Oo	7/4/2025	Updated information is saved and displayed correctly.		Pass	None
10.	10.	Wut Yi Oo	7/4/2025	Profile picture is removed, and a default placeholder is displayed.		Pass	None

11.	11.	Wut Yi Oo	7/4/2025	The new profile picture is uploaded and displayed correctly.		Pass	None
12.	12.	Wut Yi Oo	7/4/2025	Both fields remain non-editable, preventing any changes.		Pass	None
13.	13.	Wut Yi Oo	7/4/2025	Show correct data on each report lists	All the report data matches with database.	Pass	None
14.	14.	Wut Yi Oo	7/4/2025	The system should open the corresponding article page.		Pass	None
15.	15.	Wut Yi Oo	7/4/2025	Data filtered in selected input		Pass	None

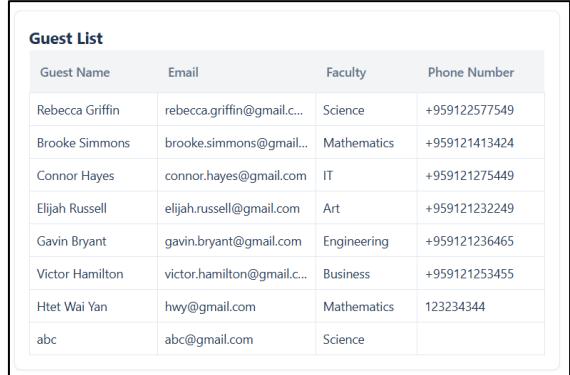
16.	16.	Wut Yi Oo	7/4/2025	All filters are cleared, and the full list of articles is restored.	<table border="1"> <thead> <tr> <th>Title</th><th>Submission Date/Time</th><th>Submission Deadline</th><th>Status</th><th>Category</th><th>Submission By</th><th>Actions</th></tr> </thead> <tbody> <tr> <td>POS</td><td>2025-04-28 14:29:31</td><td>2026-02-09</td><td>Published</td><td>IT</td><td>Jack Martin</td><td>View</td></tr> <tr> <td>The Science of Geobiology, Earth's Living Systems</td><td>2025-05-22 00:00:00</td><td>2026-02-09</td><td>Published</td><td>Science</td><td>Vincent Ward</td><td>View</td></tr> <tr> <td>The Power of Inprobable Events in Building Community</td><td>2025-03-22 00:00:00</td><td>2026-02-09</td><td>Published</td><td>Art</td><td>Felix Torres</td><td>View</td></tr> <tr> <td>The Rise of Subscription Models, Loyalty or Lock-In</td><td>2025-03-21 00:00:00</td><td>2026-02-09</td><td>Published</td><td>Business</td><td>Riley Bennett</td><td>View</td></tr> <tr> <td>The Rise of AI</td><td>2025-03-16 00:00:00</td><td>2026-02-09</td><td>Published</td><td>IT</td><td>Yolanda Gonzalez</td><td>View</td></tr> <tr> <td>The Science of Synthetic Chemistry, Crafting Molecules for Tomorrow</td><td>2025-03-10 00:00:00</td><td>2026-02-09</td><td>Published</td><td>Science</td><td>Htet Wai Yan</td><td>View</td></tr> <tr> <td>The Science of Astrobiology, Searching for Life Beyond Earth</td><td>2025-03-15 00:00:00</td><td>2026-02-09</td><td>Published</td><td>Science</td><td>Frank White</td><td>View</td></tr> <tr> <td>The Evolution of Corporate Social Responsibility</td><td>2025-03-13 00:00:00</td><td>2026-02-09</td><td>Published</td><td>Business</td><td>Matthew Foster</td><td>View</td></tr> <tr> <td>Reviving Renaissance Murals, A Digital Restoration Project</td><td>2025-03-11 00:00:00</td><td>2026-02-09</td><td>Published</td><td>Art</td><td>Daniel Rivera</td><td>View</td></tr> </tbody> </table>	Title	Submission Date/Time	Submission Deadline	Status	Category	Submission By	Actions	POS	2025-04-28 14:29:31	2026-02-09	Published	IT	Jack Martin	View	The Science of Geobiology, Earth's Living Systems	2025-05-22 00:00:00	2026-02-09	Published	Science	Vincent Ward	View	The Power of Inprobable Events in Building Community	2025-03-22 00:00:00	2026-02-09	Published	Art	Felix Torres	View	The Rise of Subscription Models, Loyalty or Lock-In	2025-03-21 00:00:00	2026-02-09	Published	Business	Riley Bennett	View	The Rise of AI	2025-03-16 00:00:00	2026-02-09	Published	IT	Yolanda Gonzalez	View	The Science of Synthetic Chemistry, Crafting Molecules for Tomorrow	2025-03-10 00:00:00	2026-02-09	Published	Science	Htet Wai Yan	View	The Science of Astrobiology, Searching for Life Beyond Earth	2025-03-15 00:00:00	2026-02-09	Published	Science	Frank White	View	The Evolution of Corporate Social Responsibility	2025-03-13 00:00:00	2026-02-09	Published	Business	Matthew Foster	View	Reviving Renaissance Murals, A Digital Restoration Project	2025-03-11 00:00:00	2026-02-09	Published	Art	Daniel Rivera	View	Pass	None
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The Science of Synthetic Chemistry, Crafting Molecules for Tomorrow	2025-03-10 00:00:00	2026-02-09	Published	Science	Htet Wai Yan	View																																																																							
The Science of Astrobiology, Searching for Life Beyond Earth	2025-03-15 00:00:00	2026-02-09	Published	Science	Frank White	View																																																																							
The Evolution of Corporate Social Responsibility	2025-03-13 00:00:00	2026-02-09	Published	Business	Matthew Foster	View																																																																							
Reviving Renaissance Murals, A Digital Restoration Project	2025-03-11 00:00:00	2026-02-09	Published	Art	Daniel Rivera	View																																																																							

7.2.6. Finalized Testing Overall Requirements

Test Log	Test Plan No	Tester	Date Executed	Expected Result	Actual Result	Pass/Fail	Action Taken				
1	1	WYO	22/4/2025	Successfully Login: All the user roles reached their relevant dashboard when login.	After logging in, each user role was redirected to its relevant dashboard	Pass	None				
2	2	WYO	22/4/2025	Article Uploaded with Pending Status	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">Final Testing</td> <td style="padding: 2px;">Apr 27, 2025</td> <td style="padding: 2px; background-color: #FFD700;">Pending</td> <td style="padding: 2px;">IT</td> </tr> </table>	Final Testing	Apr 27, 2025	Pending	IT	Pass	None
Final Testing	Apr 27, 2025	Pending	IT								
3	3	WYO	22/4/2025	Images uploaded together with articles.	The attached images uploaded along with articles.	Pass	None				
4	4	WYO	22/4/2025	Alert message about Students must agree to T&Cs before submission	<input type="checkbox"/> I agree to the terms and conditions Please agree to the terms and conditions	Pass	None				
5	5	WYO	22/4/2025	New submissions disabled after closure date; edits allowed until final closure	Change the submissin dates for a while for final testing and new submissions disabled after closure date and edits are allowed until final closure	Pass	None				

6	6	WYO	22/4/2025	System emails Coordinators when new contributions are submitted		Pass	None
7	7	WYO	22/4/2025	Coordinators have access to submit from their own Faculty	Coordinators have only got access to submit/articles from their own Faculty	Pass	None
8	8	WYO	22/4/2025	Coordinators can comment on and edit submissions within 14 days.		Pass	None
9	9	WYO	22/4/2025	Coordinators can select articles for publication.	The marketing coordinators can select articles of the faculties for publication	Pass	None
10	10	WYO	22/4/2025	Manager has access to all selected articles but cannot edit		Pass	None
11	11	WYO	22/4/2025	Manager will be able to download selected		Pass	None

				contributions as a ZIP after the final closure.																																																																									
12	12	WYO	22/4/2025	Admin can manage system settings, closure dates, user accounts	<p>Academic Management</p> <p>Submission Dates Manage pre-submission and actual submission dates for each academic year and faculty</p> <p>Academic Years Manage academic years in the system</p> <p>Faculties Manage faculties in the system</p>	Pass	None																																																																						
13	13	WYO	22/4/2025	Guest user can view selected contributions by Faculty	<table border="1"> <thead> <tr> <th>Title</th> <th>Submission Date</th> <th>Submission Deadline</th> <th>Status</th> <th>Category</th> <th>Submission By</th> <th>Actions</th> </tr> </thead> <tbody> <tr> <td>Decoding Consumer Behavior in the Digital Age</td> <td>2024-11-30 17:30:00</td> <td>2025-02-09</td> <td>Pending</td> <td>Business</td> <td>Kevin Carter</td> <td>View</td> </tr> <tr> <td>The Sharing Economy: Collaboration or Competition</td> <td>2024-10-14 17:30:00</td> <td>2025-02-09</td> <td>Pending</td> <td>Business</td> <td>Sophia Jenkins</td> <td>View</td> </tr> <tr> <td>The Future of Business</td> <td>2023-12-22 17:30:00</td> <td>2024-02-09</td> <td>Pending</td> <td>Business</td> <td>Natalie Henderson</td> <td>View</td> </tr> <tr> <td>The Impact of Diversity on Corporate Innovation</td> <td>2023-12-04 17:30:00</td> <td>2024-02-09</td> <td>Pending</td> <td>Business</td> <td>Penelope Sanders</td> <td>View</td> </tr> <tr> <td>The Influence of Social Media Influencers on Brand Loyalty</td> <td>2023-11-05 17:30:00</td> <td>2024-02-09</td> <td>Pending</td> <td>Business</td> <td>Quentin Wallace</td> <td>View</td> </tr> <tr> <td>The Rise of Fintech: Disrupting Traditional Banking</td> <td>2023-12-05 17:30:00</td> <td>2023-02-09</td> <td>Pending</td> <td>Business</td> <td>Riley Bennett</td> <td>View</td> </tr> <tr> <td>Marketing</td> <td>2022-11-16 17:30:00</td> <td>2023-02-09</td> <td>Pending</td> <td>Business</td> <td>Laura Brooks</td> <td>View</td> </tr> <tr> <td>The Psychology of Pricing: Why We Pay What We Do</td> <td>2022-11-05 17:30:00</td> <td>2023-02-09</td> <td>Pending</td> <td>Business</td> <td>Quentin Wallace</td> <td>View</td> </tr> <tr> <td>The Gig Economy: Freedom or Fragility</td> <td>2022-10-11 17:30:00</td> <td>2023-02-09</td> <td>Pending</td> <td>Business</td> <td>Oliver Richardson</td> <td>View</td> </tr> </tbody> </table>	Title	Submission Date	Submission Deadline	Status	Category	Submission By	Actions	Decoding Consumer Behavior in the Digital Age	2024-11-30 17:30:00	2025-02-09	Pending	Business	Kevin Carter	View	The Sharing Economy: Collaboration or Competition	2024-10-14 17:30:00	2025-02-09	Pending	Business	Sophia Jenkins	View	The Future of Business	2023-12-22 17:30:00	2024-02-09	Pending	Business	Natalie Henderson	View	The Impact of Diversity on Corporate Innovation	2023-12-04 17:30:00	2024-02-09	Pending	Business	Penelope Sanders	View	The Influence of Social Media Influencers on Brand Loyalty	2023-11-05 17:30:00	2024-02-09	Pending	Business	Quentin Wallace	View	The Rise of Fintech: Disrupting Traditional Banking	2023-12-05 17:30:00	2023-02-09	Pending	Business	Riley Bennett	View	Marketing	2022-11-16 17:30:00	2023-02-09	Pending	Business	Laura Brooks	View	The Psychology of Pricing: Why We Pay What We Do	2022-11-05 17:30:00	2023-02-09	Pending	Business	Quentin Wallace	View	The Gig Economy: Freedom or Fragility	2022-10-11 17:30:00	2023-02-09	Pending	Business	Oliver Richardson	View	Pass	None
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14	14	WYO	22/4/2025	the reports like number of contributions per Faculty can be viewed and match with database	The admin can view all reports and they are match with database.	Pass	None																																																																						
15	15	WYO	22/4/2025	The website is responsive in all devices	The website is responsive in all devices	Pass	None																																																																						

16	16	WYO	22/4/2025	The information about login is displayed.		Pass	None
17	17	WYO	22/4/2025	The admin can view all reports.	The admin can view all the required reports.	Pass	None
18	18	WYO	22/4/2025	The coordinator got a reminder mail.		Pass	None
19	19	WYO	22/4/2025	The coordinators can view their guest list.		Pass	None

8. Conclusion

Conclusion

Working in a scrum team offers a lot of benefits. We learned from each other's mistakes, creativity and skills. Teamwork improves our productivity, collaboration, sense of responsibility, and problem-solving abilities. All the team members actively participated in weekly meetings, bringing creative ideas and collaborative solutions for our product. Due to our efforts and strong teamwork, the final product was successfully developed as shown in our presentation. The assignments were distributed fairly among our members and this allowed everyone to concentrate on fulfilling their allocations. Because we all adhered to the agile methods, we dealt with problems quickly, and we didn't encounter any major problems during the project. Creating a role-based web system for managing and collecting students' annual contributions towards a university magazine was complicated and took considerable amount of time. However, we also found the subject interesting and meaningful, because not only we are also university students ourselves but also the project is for an enjoyable activity that every university should encourage students.

This project allowed us to apply our technical knowledge to a real-world scenario while promoting creativity and collaboration. Overall, the experience was both educational and rewarding, and we are proud of the outcome which was achieved by the team effort.

9. Appendix

9.1. Appendix A:

Meeting Minute Detail

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