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UniTask: Task Management System for UNIMAS Students

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Abstract

UniTask is a task management web application created for students at the University of Malaysia, Sarawak (UNIMAS). Unlike general task management tools, it is designed for a university setting. It includes features like group project management, schedule integration, and personalized reminders. The system focuses on multitasking and efficiency. It tracks deadlines and prioritizes tasks automatically. This gives students a simple way to handle coursework, assignments, and project deadlines. The development process involved engaging with UNIMAS students, including surveys and focus groups, to ensure the system meets their specific needs. Through employing Agile methodology, UniTask prototype was improved step by step using feedback from users, ensuring adaptability and ease of use. The system's customization options allow students to align UniTask with their personal study habits and preferences, enhancing individual productivity. As a result, UniTask empowers students to organize academic tasks more efficiently, supports collaboration on group projects, and ultimately aims to improve academic performance by allowing for automated deadline tracking and task prioritization, establishing itself as an essential tool for success at UNIMAS.

Keywords: *UNIMAS, Task management, Agile methodology, University productivity tool*

1. INTRODUCTION

The lack of specialized task management tools for managing multiple courses, frequent assignments, and group projects create challenges for students. Students face different challenges faced by working professionals. Many students feel stressed because they cannot meet tight deadlines, handle multiple projects, or manage the pressure to perform well. This can harm their academic performance and reduce the quality of their learning experience. For UNIMAS students, time and task management are important as they study in a vibrant academic setting. General task management tools exist, but they do not focus on unique problems students face such as balancing coursework workload, assessment and extracurricular activities. Projects and assessments tend to require a student to work with multiple individuals from different courses as well as faculties. Procrastination exacerbates these issues, leading to missed deadlines, rushed submissions, and less participation in academic and extracurricular activities. These challenges emphasize the need for a student focused task management tool.

The UniTask system was developed for this purpose. UniTask is a task management system that allows UNIMAS students to manage their academic and personal tasks. It helps students work together, improve productivity, and avoid procrastination. It provides a single platform where students can see their tasks and track project progress collaboratively in a group setting, while keeping the students motivated. The system includes project cards and real-time updates. These features promote

accountability and reward achievements. It uses the Octalysis gamification framework to motivate students. This makes managing tasks easier and enjoyable.

The existing task management systems, such as MagicTask (MagicTask, n.d.) and ClickUp (ClickUp, n.d.), provide various features like progress analytics chart dashboards, task relationships, task prioritization, filtering options, progress visualizations, collaborative tools, calendar views, and notification systems. However, these systems are only partially free, limiting access to advanced features. The proposed system, UniTask, integrates all these functionalities while ensuring ease of initial use and providing a completely free platform. This makes UniTask a more accessible and user-friendly solution tailored specifically for UNIMAS students.

2. PROBLEM STATEMENT

A task management system is important to solve the problems of procrastination, accountability, and progress tracking among university students at UNIMAS. Many students deal with procrastination. This often causes them to rush assignments and prepare poorly for exams. Time management among students is another problem. Based on data presented in Figure 1, out of the 60 responses, 45% said they had incomplete or wrong data on task completion. Another 25% had trouble with unclear task dependencies, making prioritizing tasks difficult. About 21.7% said they lacked visual progress indicators, and 8.3% found it hard to update task statuses. The most common problem, as shown in Figure 2, 91.7% of UNIMAS respondents reported feeling overwhelmed by tasks. Another 88.3% said unclear deadlines were a problem. Students struggle to prioritize tasks and stick to schedules. These issues affect a student's academic performance where it leads to lower grades and more stress for the student. Thus, there is a pressing need for a comprehensive, tailored solution that can help students manage their time effectively, minimize procrastination tendencies, and enhance their academic success (G. D. Furman, 2020). According to Araya-Castillo et al. (2023), many university students struggle with procrastination, which affects their academic performance and well-being. Research shows that psychological factors such as lack of motivation (22.24%) are the most common reasons for procrastination. Social factors (19.34%), such as family issues (28.83%), also play a role. Academic factors (13.15%), like the educational model (21.85%), further contribute to the problem. Physiological needs (12.28%), poor time management (9.58%), and leisure activities (9.28%) also lead to delays in completing tasks. Additionally, limited resources (5.31%), environmental issues (5.10%), and workload (70%) impact students' ability to stay productive. These challenges show the need for a task management system that helps students organize tasks, set priorities, and stay motivated to complete their work on time.

Right now, there is no centralized system for accountability. Student's handle their academic work and extracurricular activities separately. This makes it hard to track academic progress, project involvement, and overall commitment. It also creates problems for educators and administrators because they cannot get a clear picture of students' performance. The lack of automated reporting tools makes this worse. Without these tools, it is hard to see performance trends and find areas where students need more support. In Figure 2, the survey also revealed that 38.3% of students struggled with tracking progress, and 26.7% found prioritizing tasks and the lack of collaboration tools to be a major challenge. People have three basic psychological needs: autonomy, competence, and relatedness. These needs help build motivation. When people feel they can make their own decisions, believe in their abilities, and connect with others, they stay motivated. If these needs are not met, accountability becomes weak. Tasks are often ignored or forgotten. Young people, in particular, may find it hard to develop discipline and take responsibility for their work. (Akhriza, T. M., & Mumpuni, I. D., 2019).

Additionally, students often feel isolated when managing tasks. They struggle to track academic progress, project involvement, and commitment clearly and consistently in their university experience. This separation affects their university experience. It prevents them from building supportive communities. It also makes them feel disconnected from the university. The survey from Figure 2 highlighted that 83.3% of students reported poor team communication as a major challenge, which directly impacts their ability to collaborate effectively. Poor communication often results in misunderstandings and difficulty in coordinating group projects. Current task management tools do not solve these problems, as they are often too general and lack features for accountability and

teamwork among students. Cognitive Evaluation Theory (CET) says people need to feel competent to stay motivated. Things that help build competence include feedback, communication, rewards, challenges, and positive evaluations. These elements, often found in gamification, help students feel more confident and independent. Social sharing, which is common in gamified systems, also helps students feel connected to others. (Hammerschall, 2019).

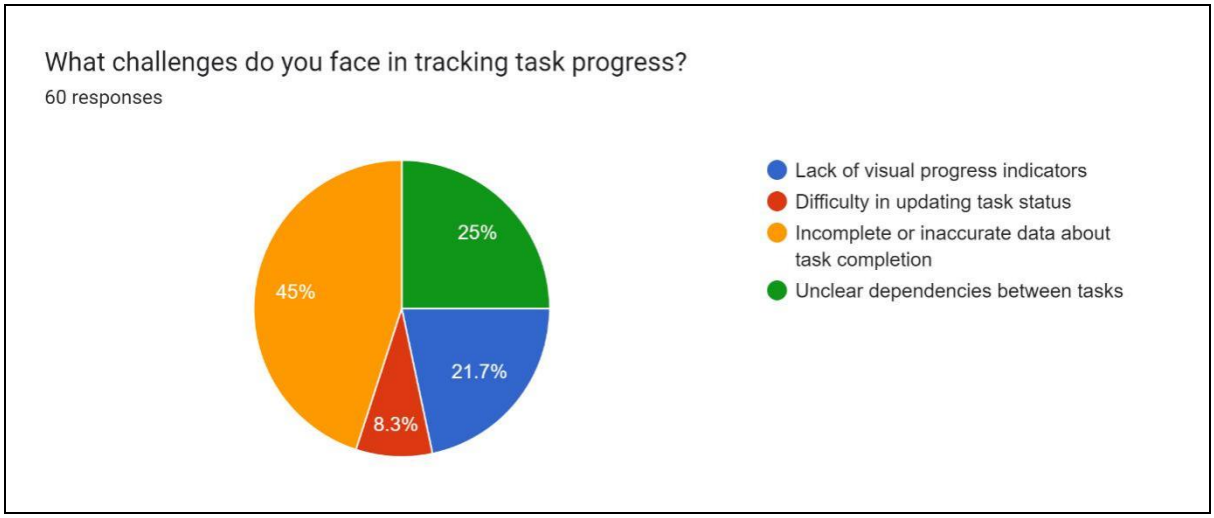

Figure 1. Challenges in tracking task progress among students

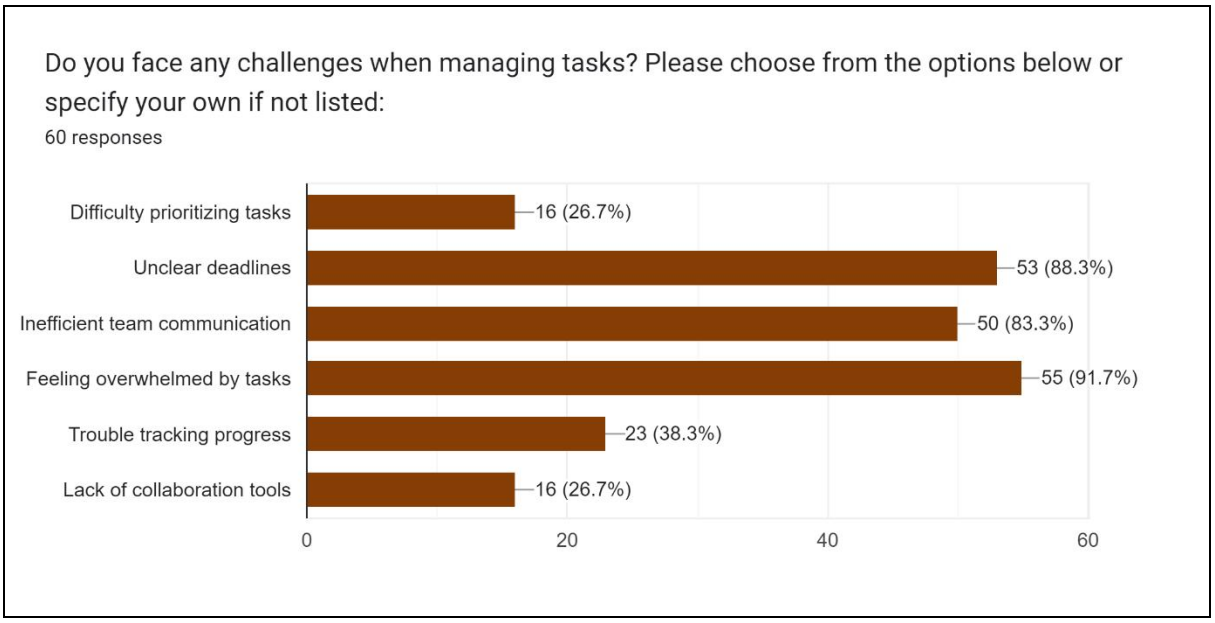

Figure 2. Task management challenges identified by students

3. OBJECTIVES

In this paper, we present the design, development, and implementation of a Web-based Task Management System tailored specifically for UNIMAS students. Our system allows project progress tracking, efficient task management, and promotes collaboration among students. Our projects begins

with gathering detailed requirements from students to ensure the system effectively addresses their unique needs and challenges. We then proceed to the development phase that focuses on features for task creation, assignment, real-time progress tracking, and deadline management. The system will also provide tools for communication and teamwork, helping students work together on projects. The main goal is to improve productivity, academic performance, and the management of academic tasks at UNIMAS.

4. MATERIALS AND METHODS

The system was developed using the software development life cycle (SDLC) with the Rapid Application Development (RAD) methodology. According to Gananjaya et al. (2022), this approach to software development emphasizes prototyping and integrating user feedback obtained during prototype testing. The insights gathered are instrumental in evaluating, rectifying, refining, and enhancing the application throughout the prototyping phase. Table 1 shows the six main phases, the activities in each phase, and the tasks completed using this method. RAD was chosen instead of Agile or Waterfall as it allows rapid iteration, focuses on user feedback and continuous improvements. It helps create a system that fits user needs better (Pricillia & Zulfachmi, 2021). The project needed a fast and flexible method, hence RAD methodology was employed.

Table 1. The six phases and activities of RAD

Phases	Activities
Analysis and Quick Design	a) Interview and Question & Answer session with UNIMAS students. b) Define functional requirement c) Logical Design ▪ Use Case Diagram ▪ Sequence Diagram ▪ Activity Diagram d) Physical Design ▪ Graphical User Interface Design
Development	a) Front-end website development b) Back-end website development
Demonstrate	a) Demonstrate the prototype to a randomly selected group of UNIMAS students. b) Gather feedback and suggestions from the UNIMAS students based on their interaction with the prototype c) Record and analyze any changes or updates in requirements based on the feedback received.
Refine	a) Refine the prototype based on the feedback and suggestions b) Rebuild the prototype c) Repeat phases two and three until all requirements are fulfilled
Testing	a) Perform overall testing on the final prototype to assess functionality, performance, and usability. b) Record the results from testing
Implementation	Implement the proposed system

4.1. Requirement Analysis

Requirement analysis will focus on the analysis and design phases of the RAD methodology. To collect data for this project, Google Forms was used to distribute online questionnaire to UNIMAS students from different years of study, genders, and ethnic backgrounds. The purpose was to understand their experiences with task management, identify issues with the current system, and gather feedback on our proposed application, UNITASK. A total of 60 students from Year 1 to Year 4 at UNIMAS successfully completed the survey. The questionnaire covered areas such as task management challenges, accountability issues, and system usability, and while taking into account both logical and physical designs. In addition to the survey, two interviews were conducted as shown in Table 2 to gain deeper insights into students' experiences and expectations regarding task management. The interviewees were Miss Wong and Mr. Chia. They are FCSIT Final Year Project students and First-Class Computer Science Degree students at UNIMAS. These interviews provided qualitative data, complementing the survey findings, to better understand student needs and preferences for an improved task management system. The questionnaire is available on Google Form at https://forms.gle/7wUUVgnyd8eb6Cyw7, as shown in Figure 3. The logical design will include use case diagrams, sequence diagrams, activity diagrams, and class diagrams. The physical design will focus on creating the system's graphical user interface.

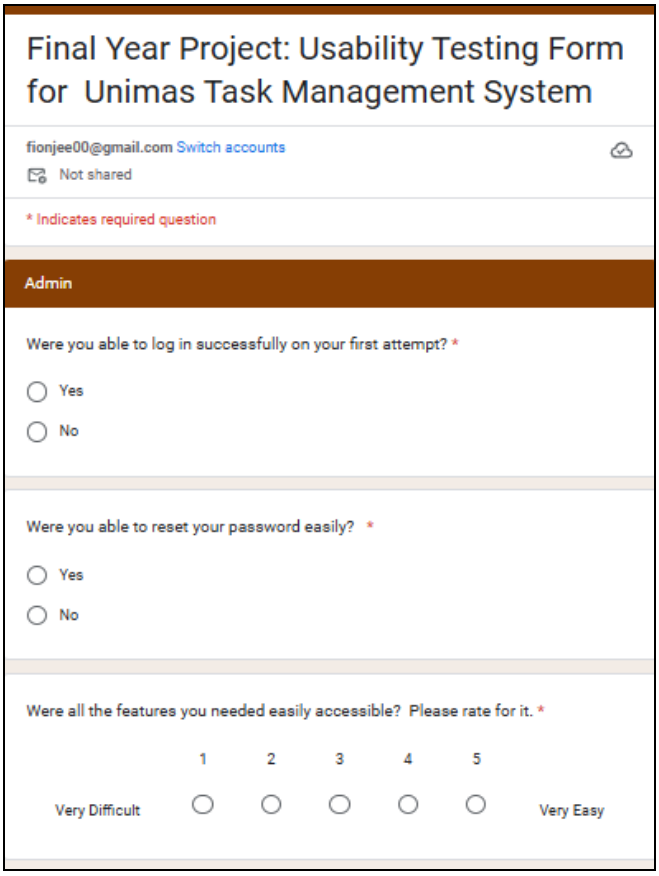

Figure 3. Task management system questionnaire

Table 2. Interview session

Question	Miss Wong (First-Class Bachelor in Computer Science with Honours students)	Mr. Chia (First-Class Bachelor in Computer Science with Honours students)
What unique challenges do you face in managing your tasks?	Balancing coursework with personal activities. Schedules overlap, making it hard to track everything.	Managing group projects is difficult. It is hard to coordinate everyone's tasks.
How often do you collaborate with others, and what features could help?	A few times a week. A shared calendar or task list would help.	Mostly during projects. A chat feature would be useful for real-time updates.
Have you faced any problems with current task management tools?	Some tools are too complicated. I need something simple.	Most tools don not integrate well with academic systems. Manually entering everything is a hassle.
Do you prefer learning a new system or something intuitive?	Prefer something easy to use from the start.	Willing to learn if it saves time and meets our needs.
What challenges do you face with deadlines and time management?	Exam periods are stressful. I sometimes miss deadlines.	Managing multiple projects with the same deadline is tough. A tool that helps prioritize tasks would be helpful.
What features would your ideal task management system have?	Automatic academic calendar adjustments and reminders.	Easy collaboration, integration with academic systems, and a simple interface.
Do you prefer a simple to-do list or a detailed planner?	A simple to-do list to quickly see what needs to be done.	A detailed planner with calendars and reminders for long-term projects.

Functional requirements were made to outline the needs of every UNIMAS student involved in this project. Two user types were identified for the system. These are Administrator (Admin) Role Users and Student Role Users. In this design, all users test the system by entering inputs, checking the outputs, and comparing the actual results with the expected outcomes.

4.2. Use Case Design

Use Case Diagram is a type of Unified Modeling Language (UML) diagram. It shows how UNIMAS students interact with the task management system to improve their efficiency and productivity. Figure 4 shows the Use Case Diagram for the UniTask prototype. In this system, a single actor interacts with the application. The diagram includes eight primary use cases: Register account, Login account, Forgot password, View project, Manage user profile, View calendar, Manage notification, and View user list. Each use case has a description that explains its purpose, the actors involved, and how it works. These descriptions are included in the use case narratives in the following sections. An example of a Use Case Description for register account is shown in Table 3.

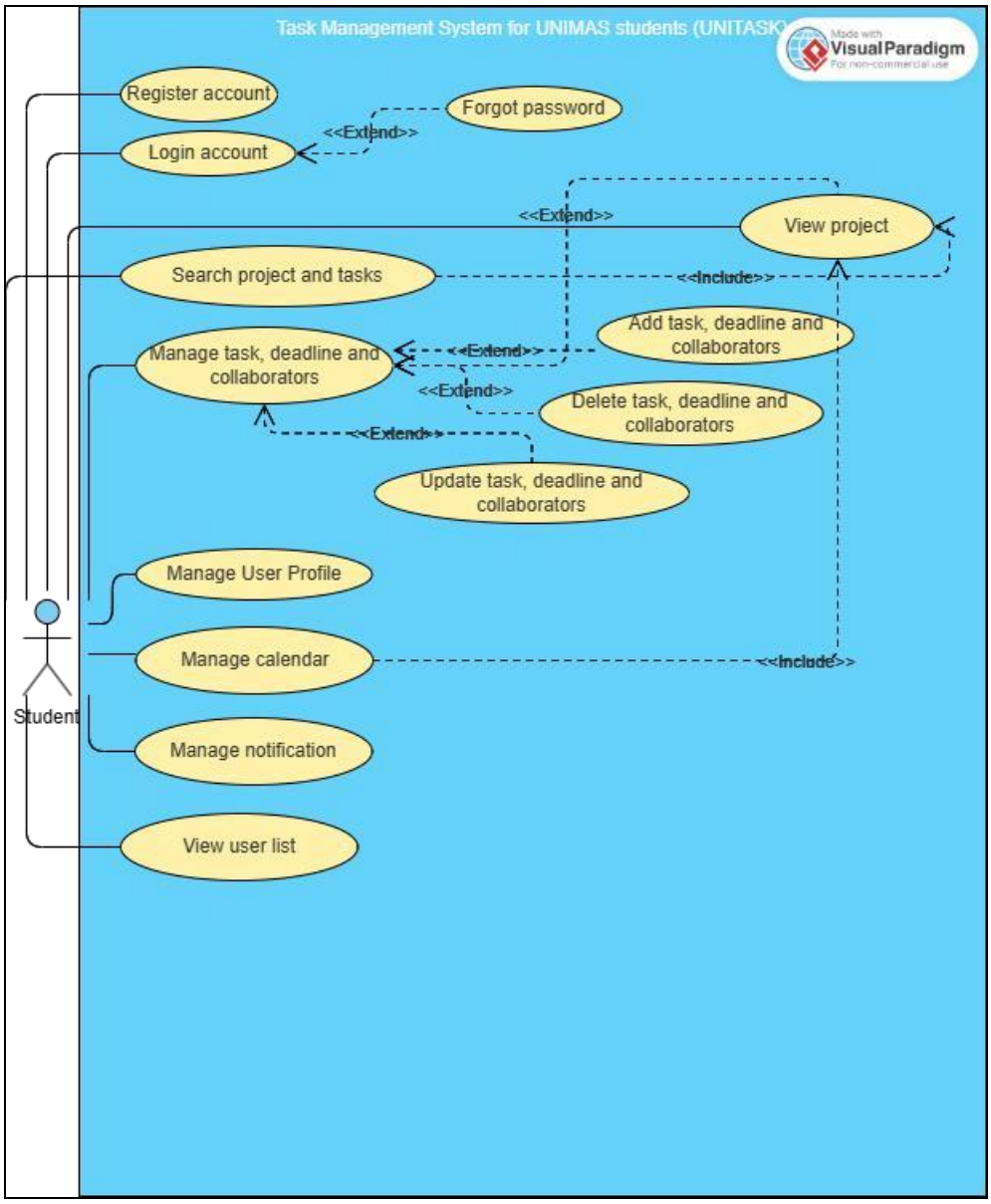

Figure 4. Use case diagram for Task Management System was created using Visual Paradigm.

Table 3. Use case description for register account

Use Case: Register account
Brief Description: The actor registers an account of the task management system.
Actor(s): UNIMAS Student
Pre-condition(s): All the information filled in during the registration must be accurate.
Post-condition(s): The actor successfully registers an account of the task management system.
Main Flow: 1. The process starts when the user does not possess an account for the intended application. 2. To create an account, the user needs to input their details on the registration page. 3. After successful registration of the account, the process advances. 4. Following registration, the login page appears. 5. The use case ends.
Alternative Flow(s): -
Exception Flow(s): The actor will be required to register the account again if the data entered is not accurate or incomplete.

4.3. Activity Diagram

Activity Diagram shows the workflows of UNIMAS students using the task management system. Figure 5 highlights project management actions. The workflow starts with "Display Project List." It includes three actions: creating, viewing, and modifying projects. Creating involves steps like "Enter Project Detail" and "Save Project Detail," ending with a success message. Viewing requires selecting "View Project" to see details. Modifying includes searching, updating, and deleting. Searching shows results based on criteria. Updating involves saving changes with a success alert. Deleting removes a project and updates the list.

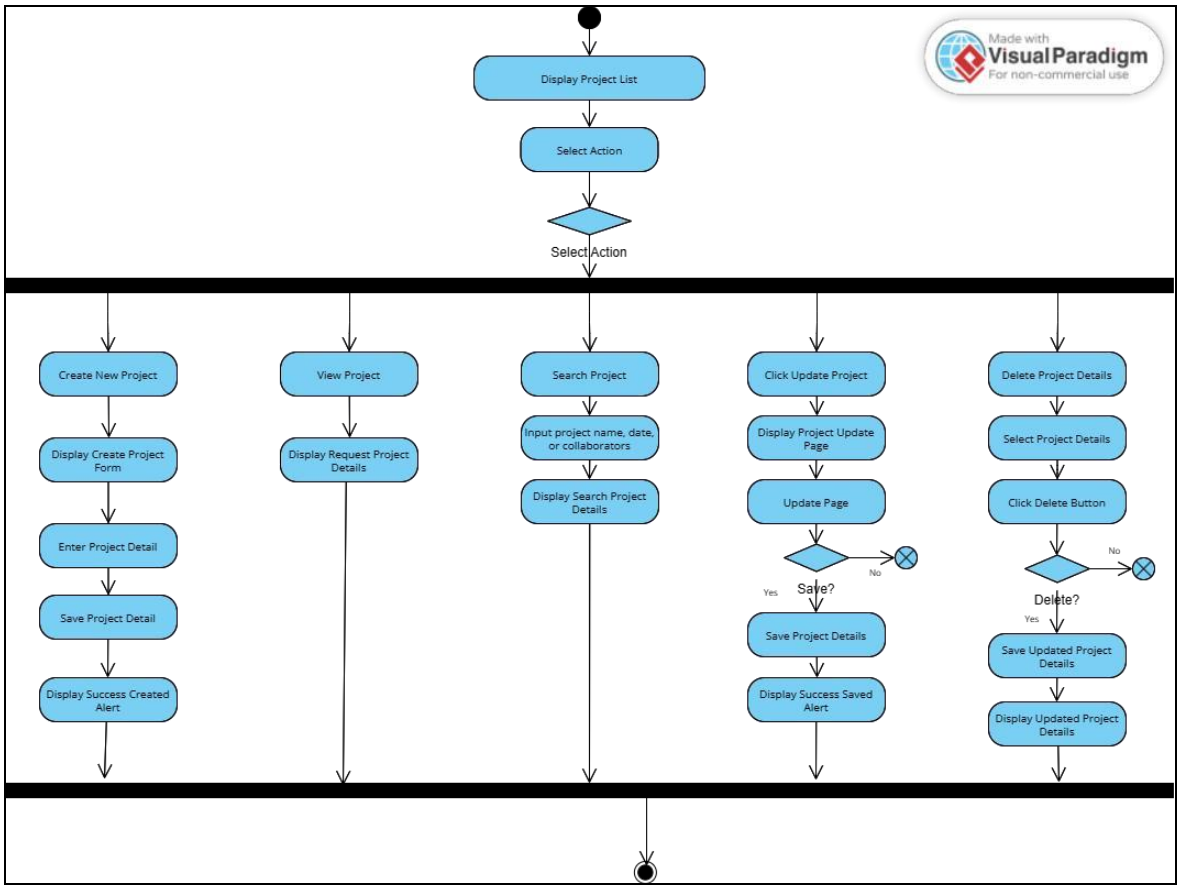

Figure 5. Activity diagram for manage project was created using Visual Paradigm

4.4. Physical Design

Physical design in this task management system refers to creating the system's visual layout and interface. Figure 6 is divided into four sections. Section 1, Project Cards, displays assignment details and the student assigned. Section 2, Today's Plan, organizes a to-do list for the day’s tasks. Section 3, Monthly Time Spent on Tasks, tracks time usage with options to view data weekly or monthly. Section 4, Task Prioritization, shows project cards labeled "urgent," "normal," or "low," helping students prioritize tasks. This layout provides an easy-to-use overview of assignments, plans, and progress.

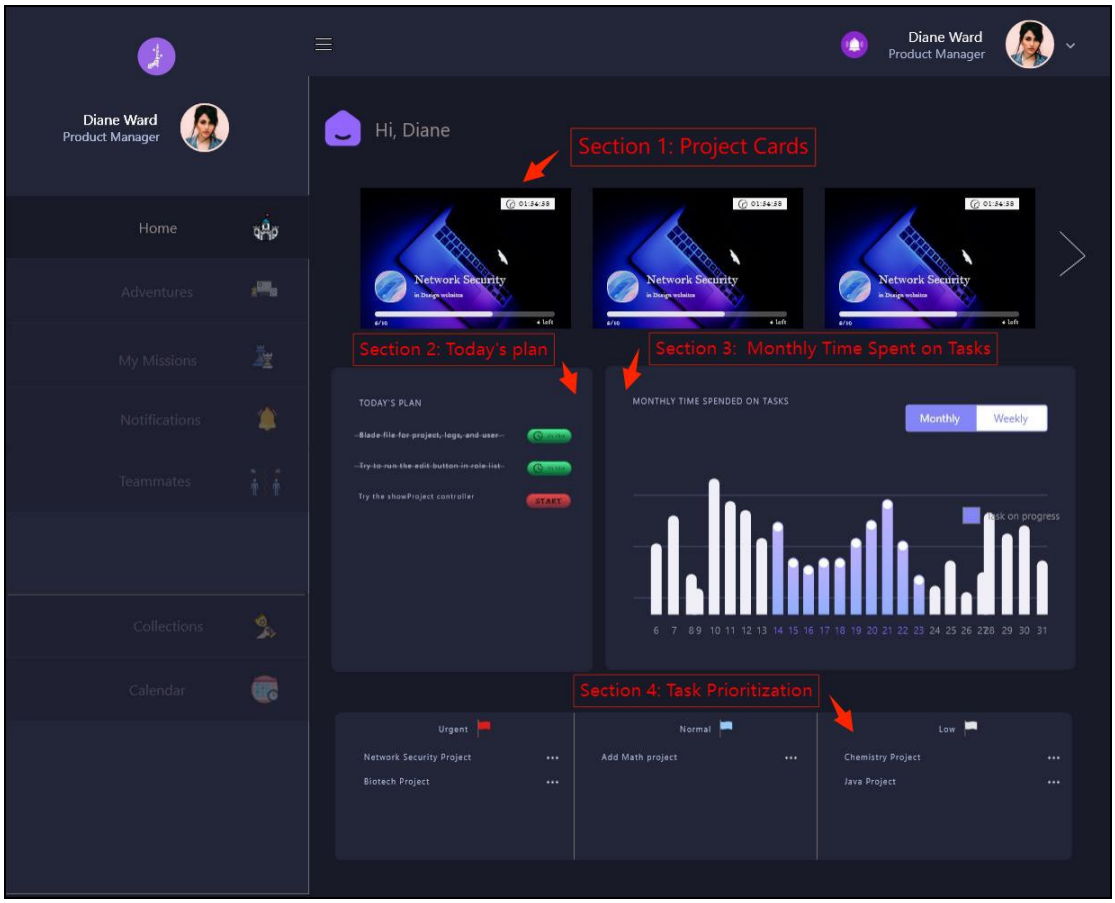

Figure 6. Graphical user interface design for dashboard

Figure 7 shows the graphical user interface for creating a project, divided into four sections. The first section, "Project Main Details," includes fields for 'Project Name' and 'Deadline,' both required, with a 'Status' dropdown pre-selected as 'Incomplete.' The second section, "Collaborator Management," lets users add collaborators, assign tasks, and edit or delete them. The third section, "Attachment Section," allows document uploads with icons for actions like editing or deleting. The fourth section, "Submit Project," has a 'Create' button to submit project details. This layout helps users quickly understand each part of the interface.

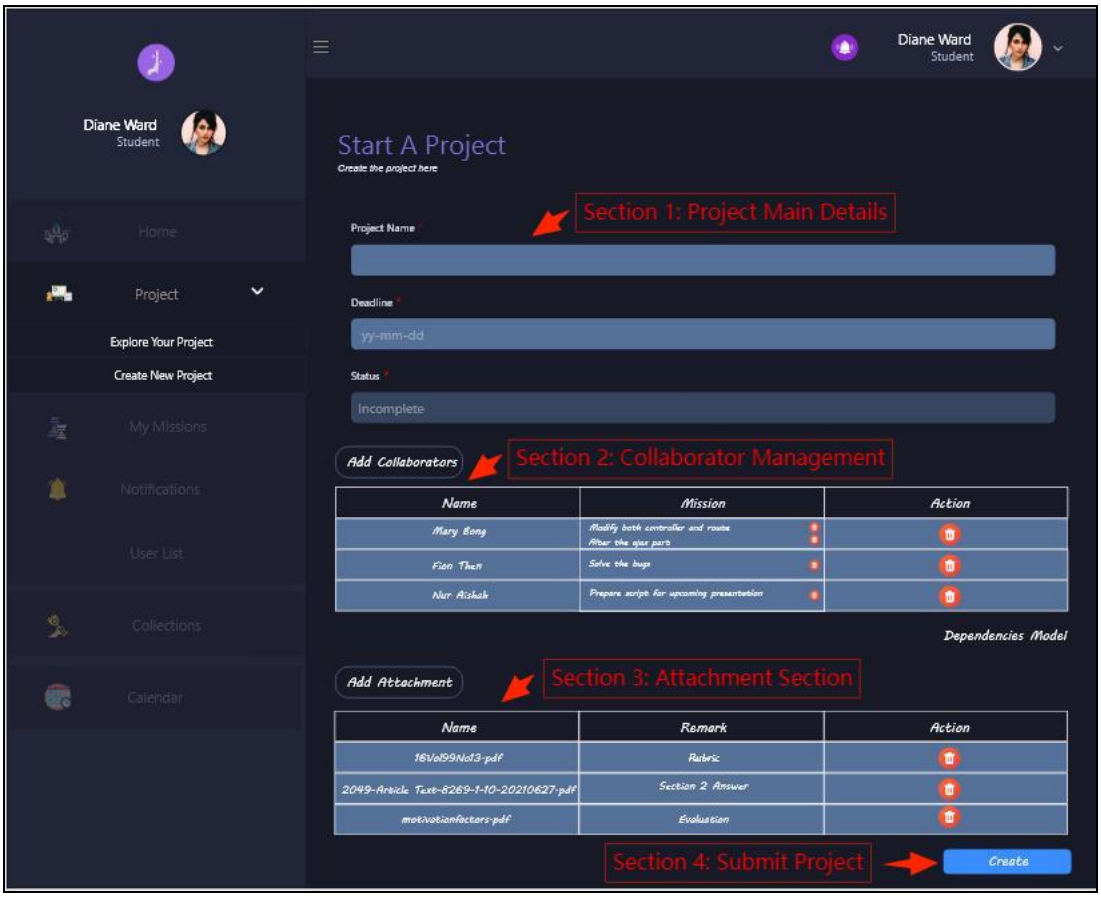

Figure 7. Graphical user interface design for create project

5. IMPLEMENTATION AND DISCUSSION

The implementation of the application is based on requirements gathered and interfaces designed using both logical and physical design principles. The following tools were essential in the development of this application:

5.1. Environment Setup

5.1.1. Visual Studio Code

Figure 8 shows the welcome page of Visual Studio Code, a source code editor that works on Windows, macOS, and Linux. It supports languages like JavaScript, TypeScript, and Node.js. It also offers extensions for languages such as C++, C#, Java, Python, and PHP. (Documentation for Visual Studio Code, 2021). Visual Studio Code was chosen for its large library of extensions, advanced code completion, and debugging features.

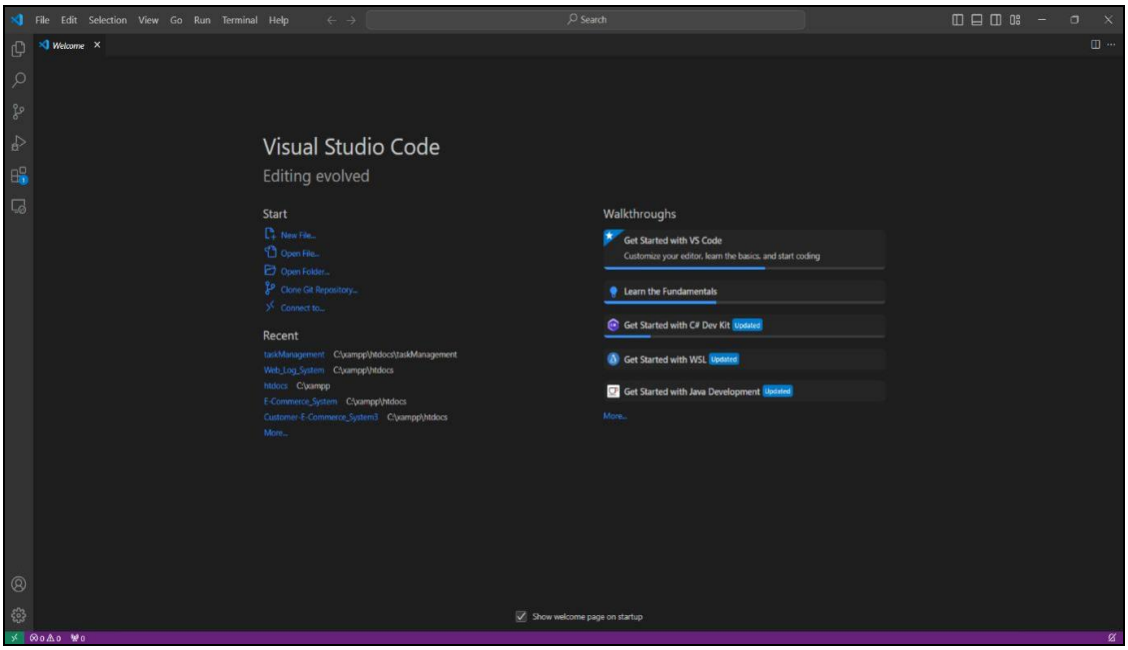

Figure 8. Visual Studio Code interface

5.1.2. phpMyAdmin

Figure 9 shows the phpMyAdmin structure page, a PHP-based tool used to manage MySQL or MariaDB databases. It helps with tasks like creating databases and managing user accounts (Introduction — phpMyAdmin 5.1.4 Documentation, n.d.). In the UniTask system, phpMyAdmin is used to manage the database, organize the architecture, run queries, and handle data for the application.

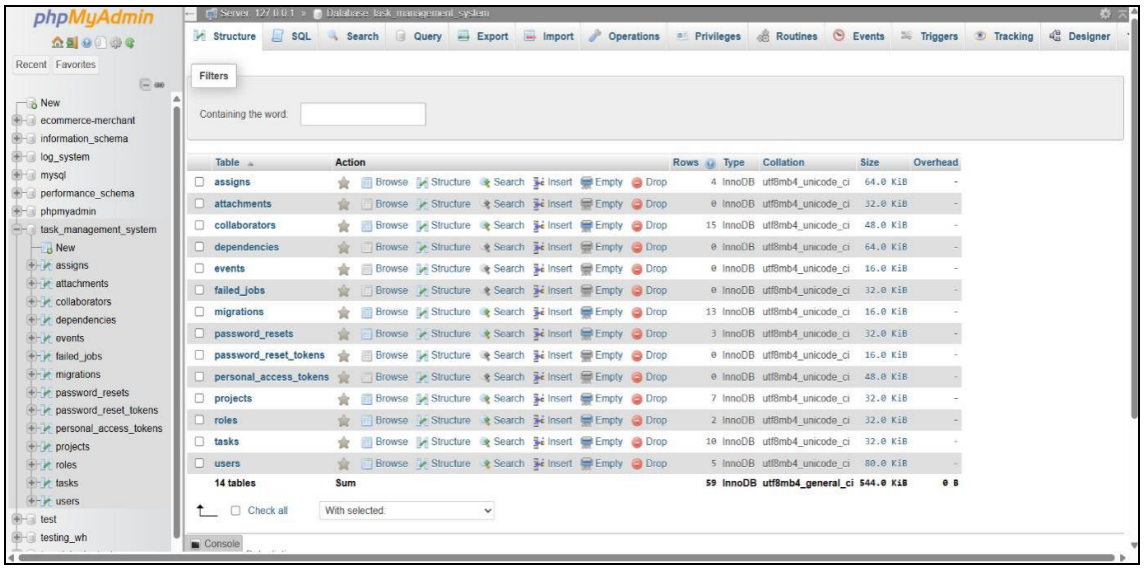

Figure 9. phpMyAdmin interface

5.1.3. *Github*

Figure 10 shows the GitHub dashboard, a cloud platform for storing and collaborating on code (About GitHub and Git - GitHub Docs, n.d.). Storing the UniTask code in GitHub ensures a secure backup and allows access from any device with internet connection, providing a safe solution if there are issues with the local development environment.

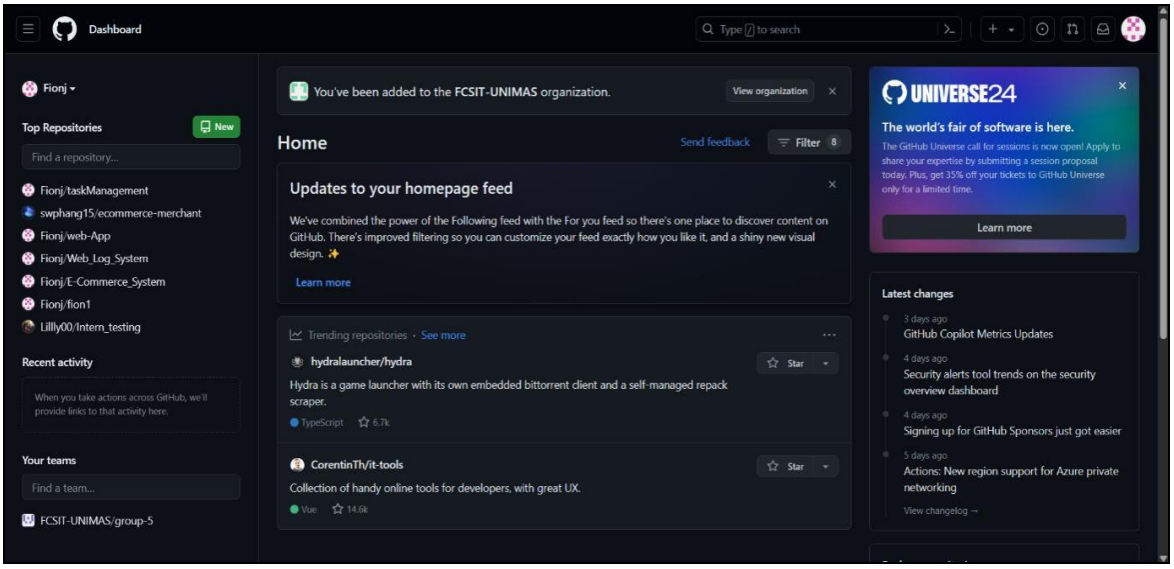

Figure 10. Github dashboard

5.2. Admin Module

In this Figure 11, administrators can perform several actions. Section 1: Role Creation allows them to create new roles by adding titles and permissions. Section 2: Search Role enables administrators to search for specific roles within the system. Section 3: Role Update allows them to change permissions or titles of existing roles when needed. Section 4: Role Deletion lets them remove roles that are no longer needed. Section 5: Role View allows administrators to view existing roles and check the assigned permissions. These functions ensure that each user gets the correct access based on their role.

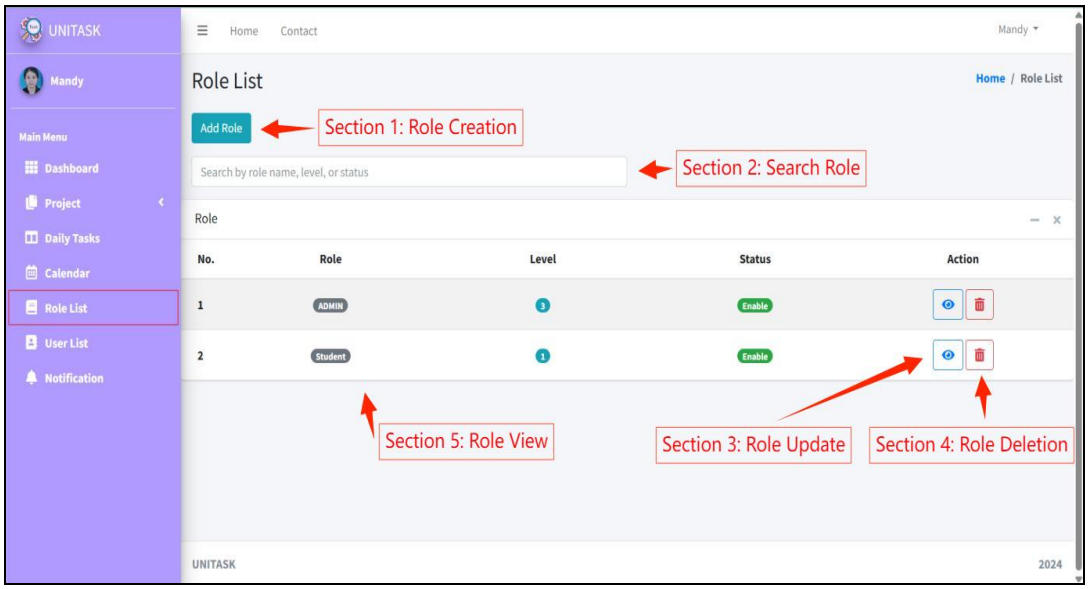

Figure 11. Role management in the admin module

In Figure 12, administrators can perform several actions. Section 1: User Creation allows them to create new users by adding details such as names and email addresses. Section 2: Search User enables administrators to search for specific users within the system. Section 3: User Update allows them to change user details, such as names, email addresses, or roles, when needed. Section 4: User Deletion lets them remove users who are no longer needed. Section 5: User View allows administrators to view existing users and check their details and roles. These functions ensure that each user is properly managed within the system.

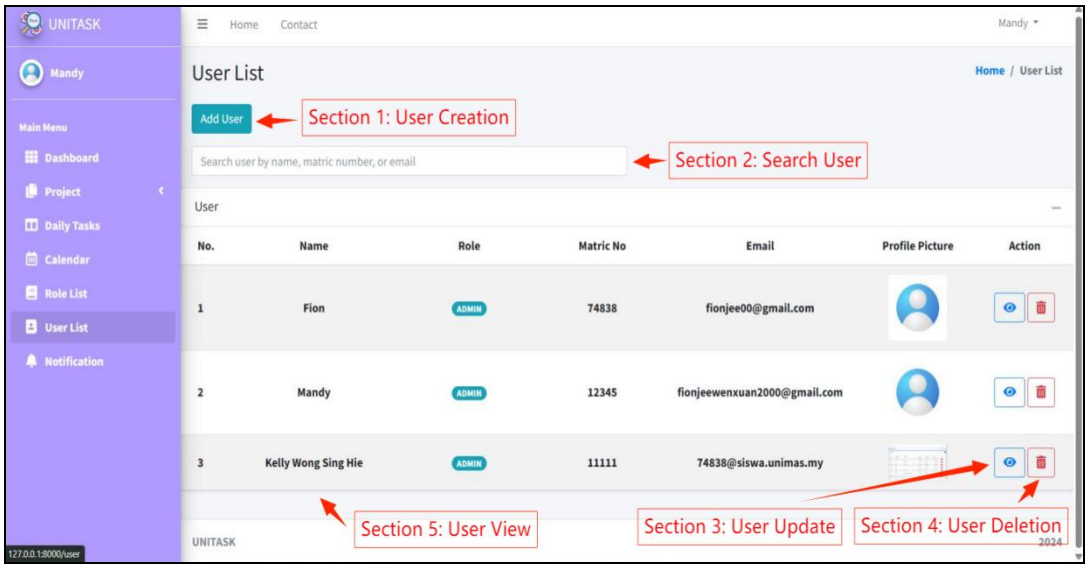

Figure 12. User management in the admin module

5.3. User Module

The User Module is divided into two primary roles: Project Leader and Project Collaborator, each with specific functionalities and access levels. Figure 13 shows the UniTask dashboard with three sections. Section 1: Task Status Count shows the number of tasks in different statuses to track assignments. Section 2: Project Completion Chart shows a bar chart of project progress to show how much work is left. Section 3: Project Deadline Calendar shows deadlines for all projects to help stay organized. The objective of this module is to help users track overall data using visual representation, making it quicker and easier to understand the project status.

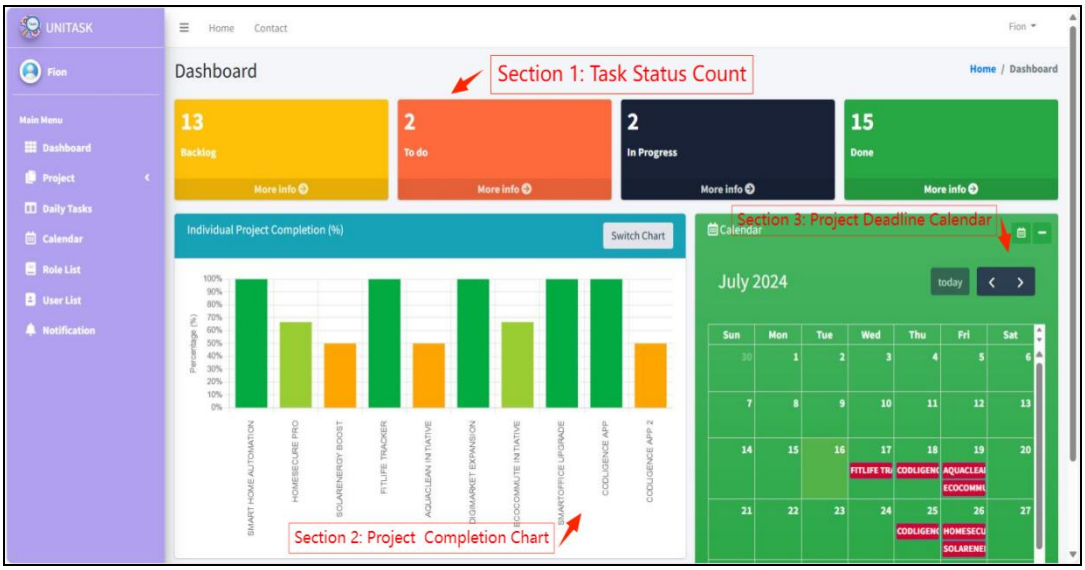

Figure 13. Dashboard page

Figure 14 shows the Project Leader interface for creating a new project. Part 1: Project Details lets the leader enter the project title and description. Part 2: Additional Information lets the leader add collaborators, assign tasks, and upload attachments. This module is used to create projects, assign tasks, and manage collaborators and documents.

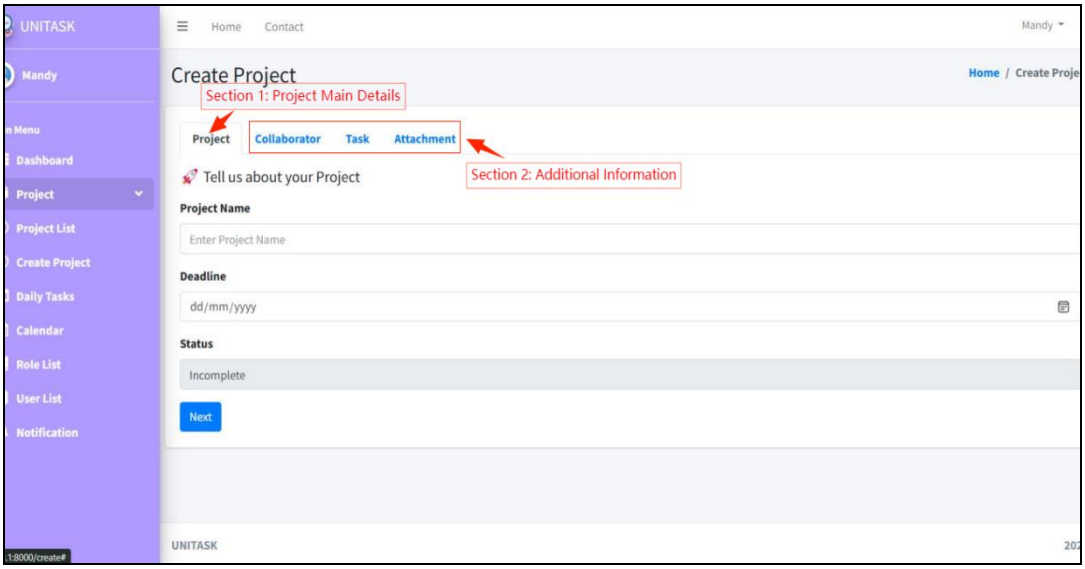

Figure 14. Project leader role for project creation

Figure 15 shows the UniTask view dependencies page. All project collaborators, including the leader, can see tasks and their collaborators. The leader and collaborators can click the blue icon link to see the dependent task for that task. This helps manage and monitor task dependencies for better project flow. The figure has three main parts. One is for viewing all project dependencies. Another is for updating the latest project dependencies. The last one is for viewing only specific project dependencies.

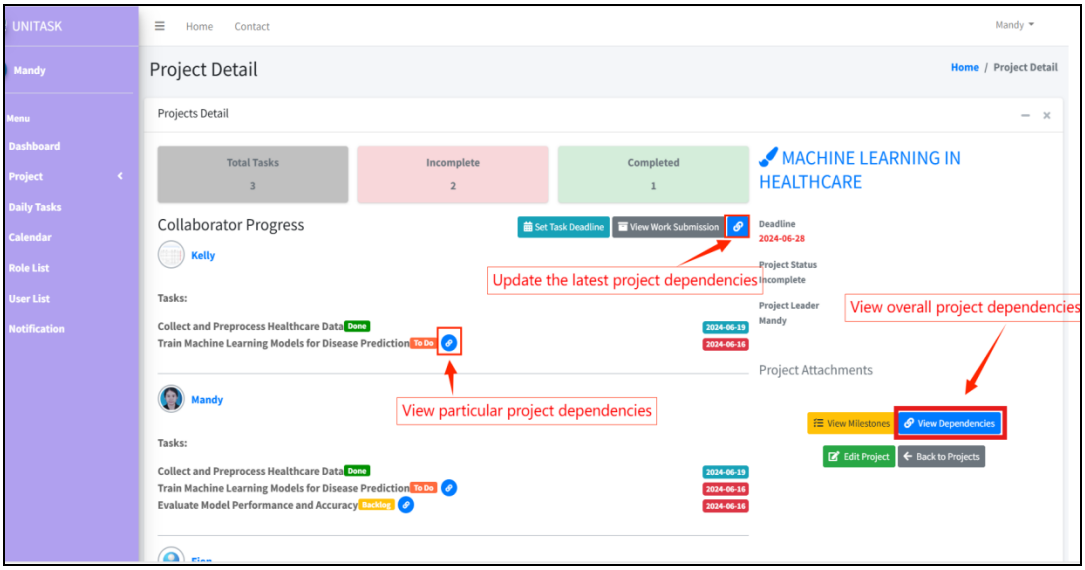

Figure 15. View project dependencies

Figure 16 shows the UniTask view and delete task deadline function on the project details page. Only the leader can delete task deadlines by clicking on them. Both leaders and collaborators can view the task deadline. If the deadline is exceeded, the tag turns red to show it is overdue, and an email is sent to the leader and related collaborators. This module is used to manage and track task deadlines, with visual and email notifications for overdue tasks.

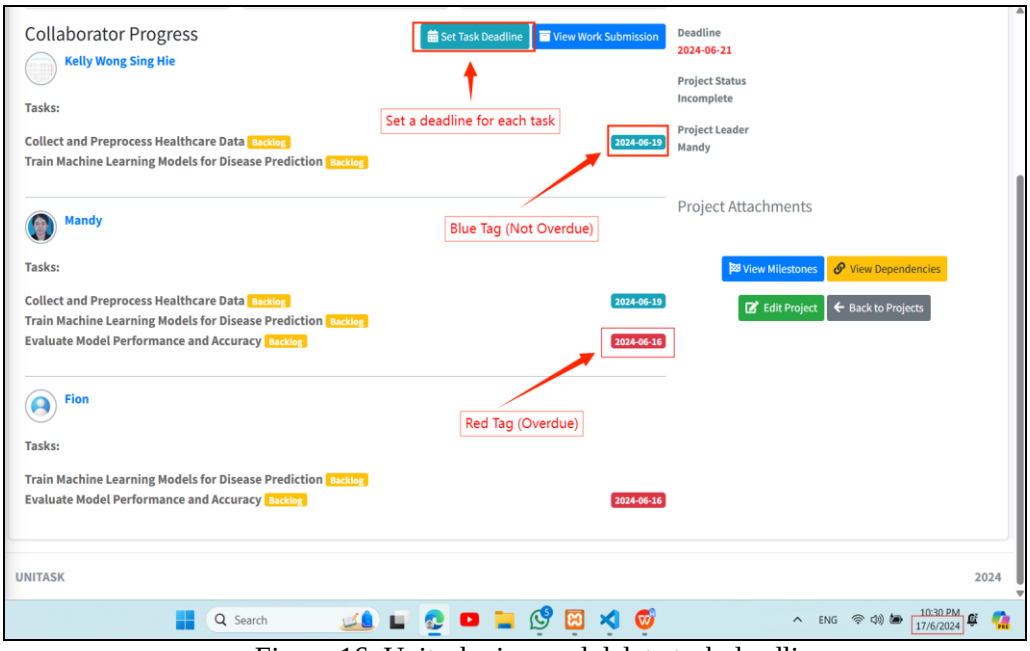

Figure 16. Unitask view and delete task deadline

Figure 17 shows the UniTask 'Create Comment on Submission' feature. Leaders can view submissions and add comments. File status are color-coded: green for 'Approved,' red for 'Rejected,' and grey for 'Needs Revision.' Collaborators can use the info, download, and comment buttons, but only the leader and submitter can delete the file. This module helps manage submissions, comments, and file status.

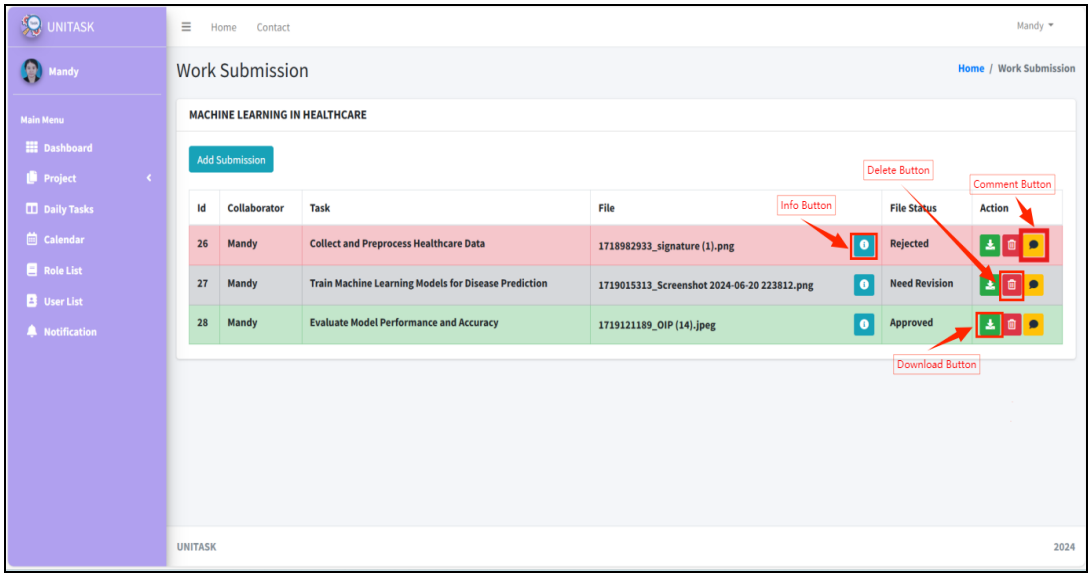

Figure 17. Project leader and collaborator role for project view page

Figure 18 shows the UniTask daily task page, where users manage leader-assigned tasks using a Kanban board. This module tracks project workflow and organizes tasks with custom colours and priority flags: red for high, blue for medium, and grey for low.

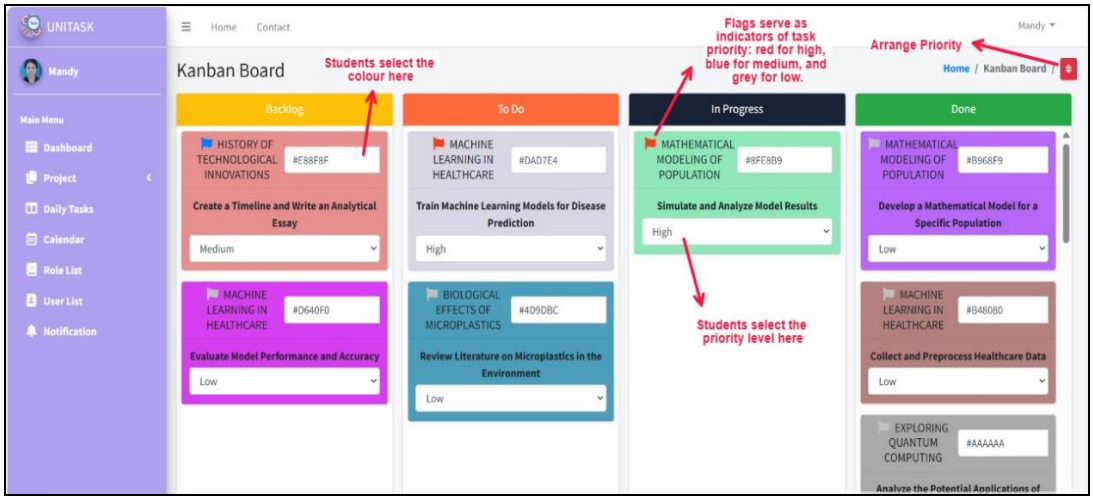

Figure 18. Project leader and collaborator role for Kanban board page

The User Module in UniTask consists of two roles: Project Leader and Project Collaborator, each with distinct responsibilities. The Project Leader is the user who creates a project and has full control over project management, including assigning collaborators, setting task dependencies, managing deadlines, and overseeing overall progress. Leaders can delete deadlines, approve or reject

file submissions, and organize tasks using a Kanban board with priority settings. In contrast, Project Collaborators are assigned tasks by the leader and can track their own progress, view dependencies, monitor deadlines, and submit files for review. While collaborators can interact with tasks and leave comments, only the leader can modify dependencies, delete deadlines, and manage project-wide settings. This structured role division ensures efficient workflow management, clear task delegation, and smooth collaboration within projects.

5.4. Testing

UniTask conducted tests to check if the application works correctly. This step helps developers fix problems before full system integration. Testing confirmed the system's functionality, usability, and performance, and improvements were made based on feedback from UNIMAS students. There were 40 respondents in total. 20 respondents tested UniTask as admin users, and 20 tested it as student users. The Figure 19 below shows the demographics of these admin respondents.

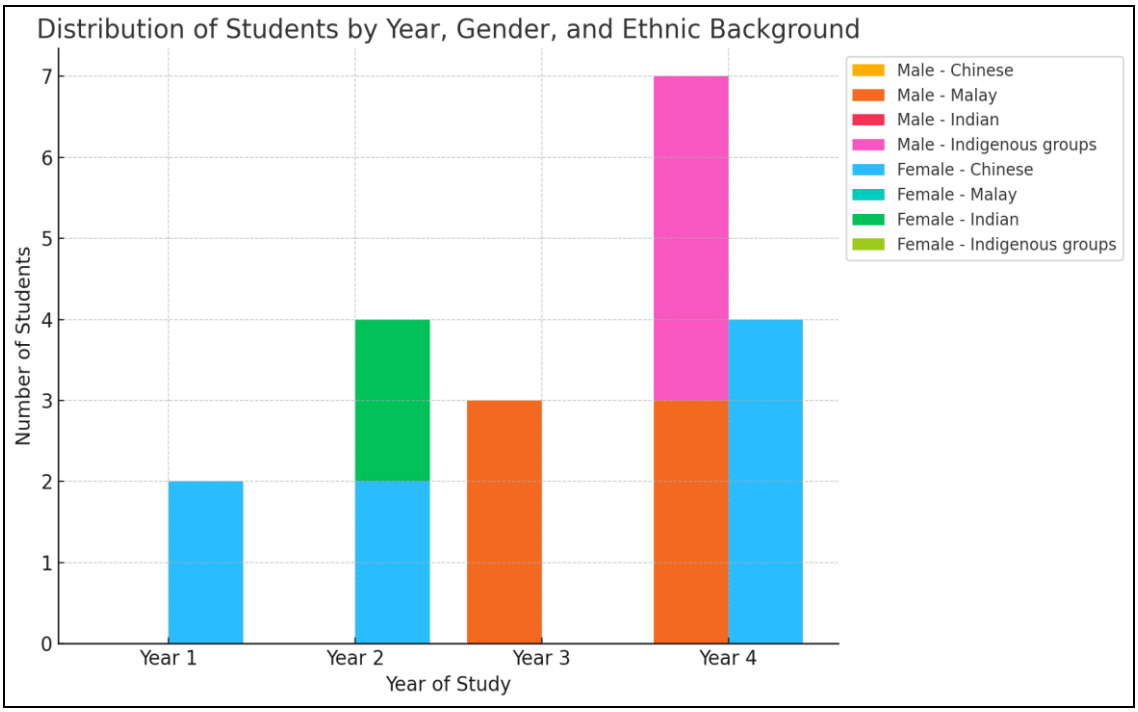

Figure 19. Admin respondent demographics for UniTask usability testing

5.4.1. Functional Testing

Table 4 shows functional testing to make sure the system works correctly. This involves giving inputs, checking the outputs, and comparing the actual results with the expected ones. There are two examples: Table 5 shows the test case for viewing the dashboard, and Table 6 shows the test case for creating a work submission. These test cases check if these features work as expected.

Table 4. Functional testing process and results

FT.	Test Description	Expected Result	Actual Result
FT.01	Login with valid credentials.	As expected	Pass
FT.02	View dashboard functionality in the proposed system, which includes task count, project completion chart, and project deadline calendar.	As expected	Pass
FT.03	Manage project functionality in the proposed system, which includes creating, reading, updating, deleting, viewing, and filtering all project details, as well as managing milestones, dependencies, and task deadlines.	As expected	Pass
FT.04	Manage task functionality in the proposed system, which handles all leader-assigned tasks. It allows users to move tasks between columns on the Kanban board, with task progress updates visible to all collaborators.	As expected	Pass
FT.05	Manage calendar functionality in the proposed system, which allows users to create, read, update, and delete events. Users can also update events by dragging and dropping them on the calendar page.	As expected	Pass
FT.06	Manage work submission functionality in the proposed system, which allows users to view, download, and delete work submissions.	As expected	Pass
FT.07	Manage comment functionality in the proposed system, which allows users to create, update, view, and delete comments on work submissions.	As expected	Pass

Table 5. Test case for view dashboard

Module	View Dashboard				
Test Objective	To test the view dashboard operation				
Test Case	Test Procedure	Input Data	Expected Outcomes	Actual Outcomes	Result
To verify view dashboard list function.	Click the “Dashboard” in navigation bar to redirect to project page. The dashboard section is displayed.	-	The dashboard will show the task count, project completion chart, and project deadline calendar.	As expected	Pass

Table 6. Test case for create work submission

Module	Create Work Submission				
Test Objective	To test the create work submission operation				
Test Case	Test Procedure	Input Data	Expected Outcomes	Actual Outcomes	Result
To verify the add task deadline function	Click the "Project List" in the side bar. The project page is displayed. Click the 3 dots button of project card user want to select. Click the "View Work Submission". Click "Add Submission". Select the task, submission file, and remark. Click "Save Submission".	Work Submission Information	The new work submission is added to the work submission page and database at the same time.	As expected	Pass

5.4.2. Non-Functional Testing

Non-functional testing was conducted through performance testing, availability testing, security testing, and portability testing. The table 7 below presents the outcomes of the nonfunctional testing.

Table 7. Non-Functional testing

Module	Non-functional testing			
Test Objective	To test the non-functional requirements of UniTask			
Test ID	Test Case	Expected Outcome	Actual Outcome	Result
Test Performance	The response time of system	The application should respond in a reasonable amount of time which is around 1 to 2 minutes.	UniTask completes all the tasks in a short amount of time.	Pass
Test Availability	The availability of system	The application can be accessed at anytime and anywhere.	Users can access UniTask at anytime and anywhere.	Pass
Test Security	The authentication of users	The application allows only registered users to log in to the system.	Users can only log in to UniTask by using the registered email and password.	Pass

5.4.3. Usability Testing for Admin Role User

Figure 20 shows the usability result for the accessibility of all admin role features. All 20 respondents strongly agree that these features are accessible. This means the admin role features in UniTask are seen as highly accessible and user-friendly by the participants.

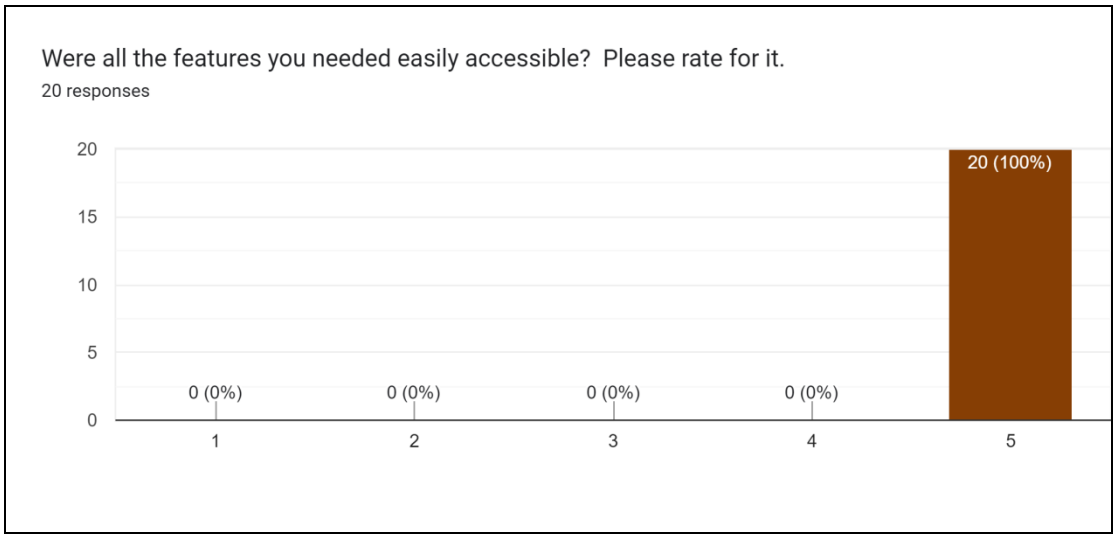

Figure 20. Usability result on accessible of all admin role features

5.4.4. Usability Testing for Student Role User

Figure 21 depicts all 20 respondents strongly agreed that the system functions are well integrated. This outcome highlights unanimous positive feedback regarding the integration of various functionalities within UniTask, indicating that users perceive the system as cohesive and seamless in operation.

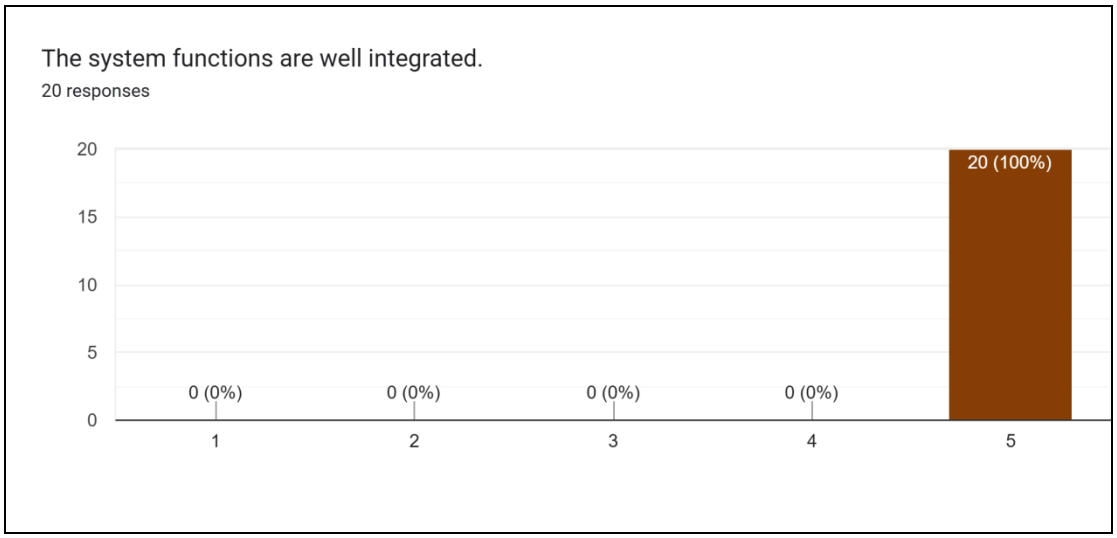

Figure 21. Usability results on system function integration

Figure 22 shows the usability results for the student dashboard. 65% of the 20 respondents strongly agreed that the dashboard is intuitive. 35% agreed. This shows that most users think the student dashboard is easy to use, with many expressing strong approval.

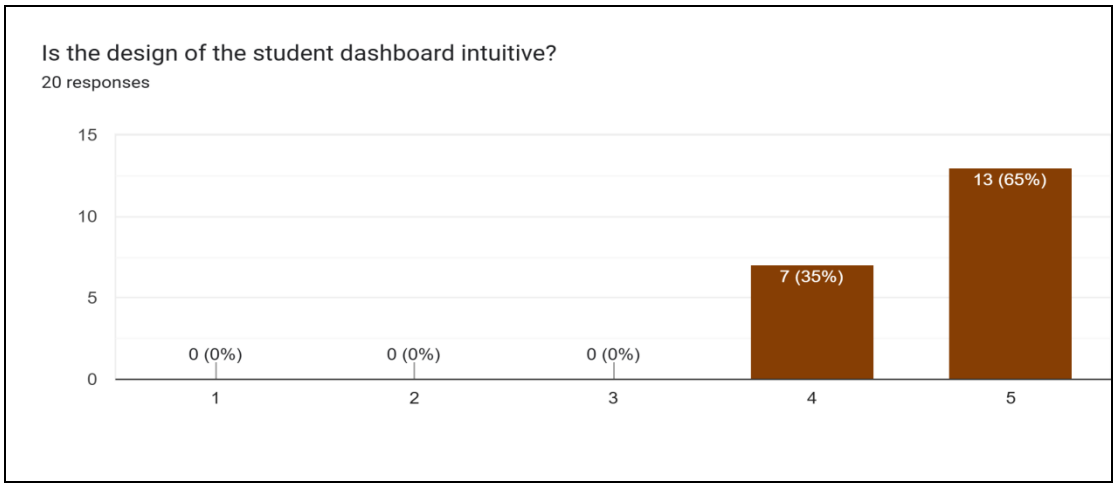

Figure 22. Usability result on intuitive of student dashboard

Table 8 shows a comparison of features before and after using UniTask. Before, features like Progress Analytics Chart Dashboard, Task Dependencies, Task Prioritization, Filtering Options, and Collaborative Features were not always available or required payment. Now, UniTask includes all these features for free. Data Security is stronger with better encryption, role-based access, and secure login. Exclusive Access for UNIMAS students makes sure only students can use the system. This prevents outsiders from accessing it and keeps the platform focused on student needs.

Table 8. Comparison of features before and after UniTask implementation

Feature	Before Implementation of UniTask (Other Web Application)	After Implementation of UniTask
Progress Analytics Chart Dashboard	Partially Free	Included
Task Dependencies	Partially Free	Included
Task Prioritization and Categorization	Partially Free	Included
Filter function with option lists	Partially Free	Included
Progress Visualizations	Partially Free	Included
Collaborative Features	Partially Free	Included
Calendar View	Partially Free	Included

Data Security	Basic	Enhanced
Exclusive Access for UNIMAS Students	No	Yes

5.5. Project Limitation

There are some limitations in UniTask. Users only get notifications on the notification page. If users do not check it often, they might miss important updates. UniTask also has performance issues in some circumstances such as it takes time to update when users change the colour of cards on the Kanban Board thus affecting the smoothness of the system. The platform only allows one type of bar chart to track project progress. This limits how users can view and understand their project data.
Scalability is another limitation of the system as the system needs to handle large amounts of data while supporting many simultaneous users at the same time. Our current system is not fully optimized to handle large number of users using the system at the same time. User adoption also poses a challenge as some students do not want to change their current method of working Furthermore, UniTask system currently only lets users add event titles to the calendar, which limits its usefulness for comprehensive task planning and scheduling.

6. CONCLUSION

Our UniTask system has demonstrated that it can effectively assist Universiti Malaysia Sarawak (UNIMAS) students manage their tasks better. By allowing users to track their task progress and visualize completions through dynamic progress charts, UniTask reduces delays and streamline workflows. Usability testing confirms that our system works as intended by the users. To further enhance our system, we recommend several improvements. The first is to develop mobile app version for our current web application system. A mobile version will help students check tasks, track progress, and get updates on their phones. It will also let them set reminders and manage deadlines anytime, making the system easier to use. Another improvement is artificial intelligence (AI) integration. AI can help students decide which tasks to do first by checking deadlines, urgency, and work habits. It can send reminders, track progress, and suggest the best way to manage time. AI can also learn from past tasks and give better advice over time. A chatbot can answer student questions, remind them about deadlines, and help with teamwork coordination. These improvements will make UniTask more useful. A mobile version will give students better access, while AI will make task management smarter. With this enhancement, UniTask will continue to help UNIMAS students manage their work more efficiently.

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CONFLICT OF INTEREST

We declare no conflict regarding the publication of the study.

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