

## **CHAPTER FOUR**

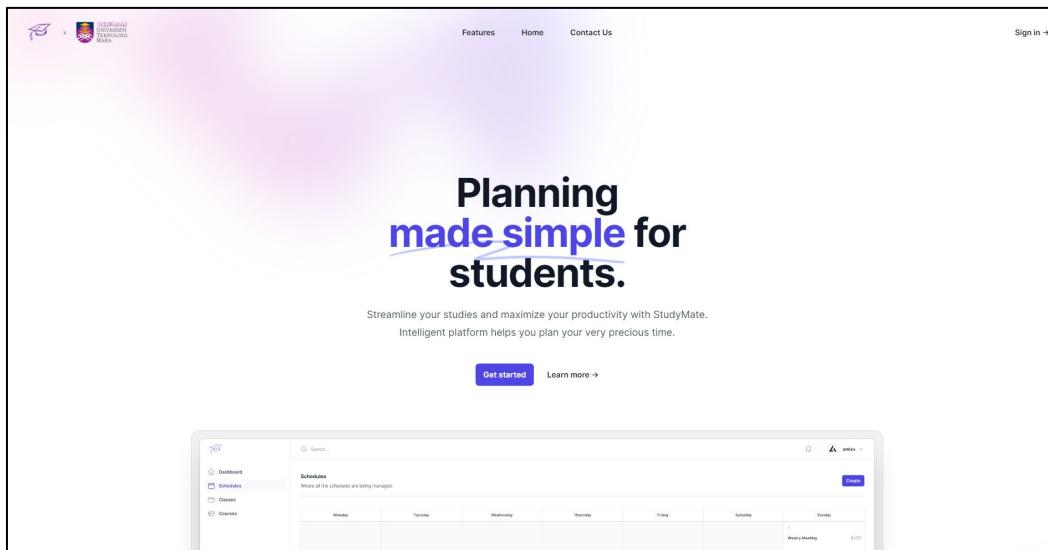
### **ANALYSIS & DISCUSSIONS**

This chapter analyzes StudyMate's (also referred to UiTM Student Time Management System) performance in great depth, outlining all its distinct characteristics. In addition to comprehensive data, it provides important user feedback obtained from extensive testing. Functionality testing was carefully carried out by an IT specialist to guarantee that every feature works as intended. However, the chapter captures the voices of its target audience, UiTM students, going beyond technical assessments. However, by integrating non-UiTm students, the user-acceptance test expands its reach and offers insightful information about how the system might perform with a larger user base. This comprehensive strategy lays the groundwork for StudyMate's effective deployment and best-in-class support for UiTM students by providing a complex perspective of the platform's advantages and shortcomings.

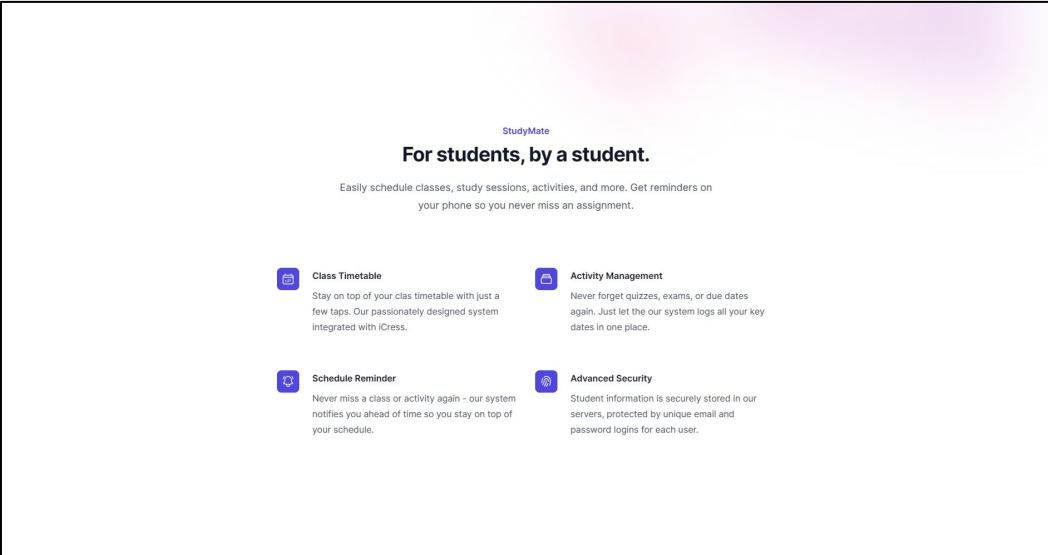
#### **4.1 User Interface**

StudyMate, an UiTM student time management system, has a user interface (UI) that allows for seamless interactions between users and the application. Its smart layout, engaging visual style, and flexible controls enable students to access tools and information to organize their study in an intuitive manner. A comprehensive yet user-friendly user interface is critical for StudyMate to create an exceptional user experience that satisfies the needs of its student users.

**Table 4.1** Result User Interface: Landing Page: Home

User Interface	Landing Page: Home
	
<b>Description</b>	
<p>This landing page is the entry point for StudyMate, the UiTM Student Time Management System. The prominent "Get Started" button catches the eye, inviting new users to create an account via registration. For those with existing accounts, a simple click of the "Sign In" button navigates to the login page. Helpful links across the top enable easy access to different sections. As the initial gateway, this interface offers clear calls-to-action so users can quickly find their way based on whether they need to register or sign in.</p>	

**Table 4.2** Result User Interface: Landing Page: Features

User Interface	Landing Page: Features
	 <p>The screenshot shows the StudyMate landing page with a header "StudyMate" and a tagline "For students, by a student." Below this, a sub-tagline reads: "Easily schedule classes, study sessions, activities, and more. Get reminders on your phone so you never miss an assignment." Four feature cards are displayed:</p> <ul style="list-style-type: none"> <li><b>Class Timetable</b>: Stay on top of your class timetable with just a few taps. Our passionately designed system integrated with iCress.</li> <li><b>Activity Management</b>: Never forget quizzes, exams, or due dates again. Just let our system log all your key dates in one place.</li> <li><b>Schedule Reminder</b>: Never miss a class or activity again - our system notifies you ahead of time so you stay on top of your schedule.</li> <li><b>Advanced Security</b>: Student information is securely stored in our servers, protected by unique email and password logins for each user.</li> </ul>

**Figure 4.2** Result User Interface: Landing Page: Features

Description
Scrolling down or clicking "Features" in the top navigation bar brings users to this informative section highlighting StudyMate's features. At a glance, the cards convey the system's capabilities and value proposition in managing student time. Each card succinctly states a key feature – class timetable, activity management, and schedule reminder. Answering the question "What can StudyMate do for me?" This sneak peek aims to convince students that using StudyMate will empower them to organize, plan, and use their time effectively. The clean, visual layout lets the main selling points shine.

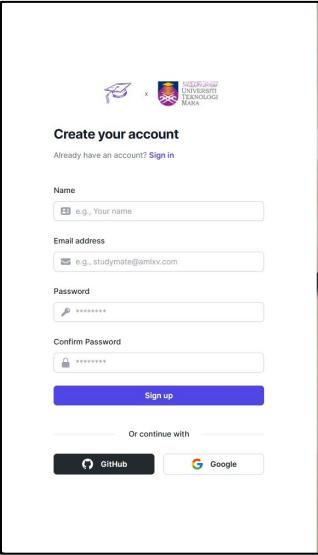
**Table 4.3** Result User Interface: Landing Page: Contact Us

User Interface	Landing Page: Contact Us

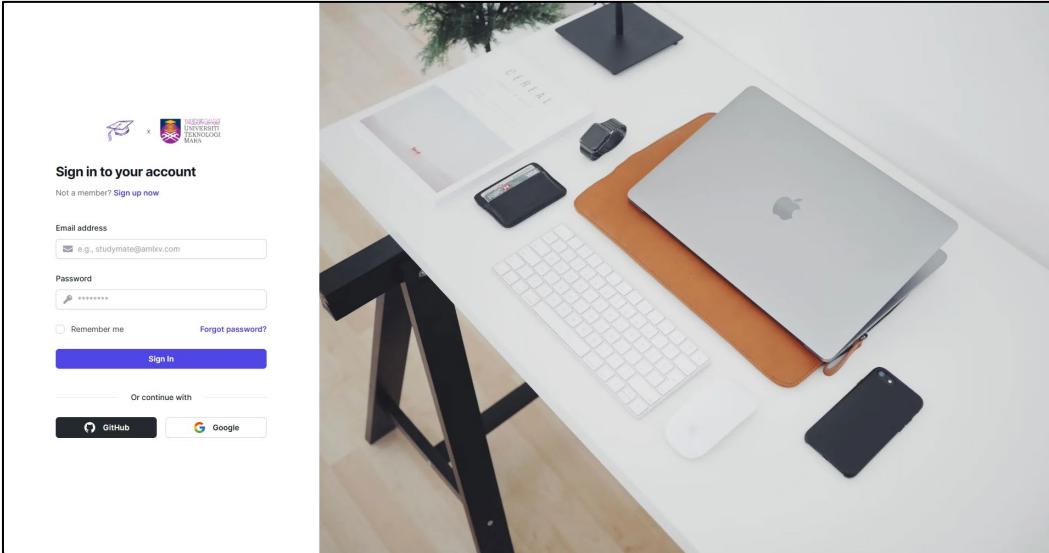
**Figure 4.3** Result User Interface: Landing Page: Contact Us

Description
<p>This Contact Us section, accessible by scrolling down or clicking the top navigation, enables direct communication with the StudyMate team. Users may need to get in touch for various reasons - questions, feedback, and issues. By filling out the subject line and message fields and clicking the button, their default email application opens pre-populated with StudyMate's email address. Whether they have a quick query or more in-depth matter, this direct access ensures their concerns or thoughts can be promptly received and addressed. With clear fields and a smooth email mechanism, contacting the team is simple and straightforward.</p>

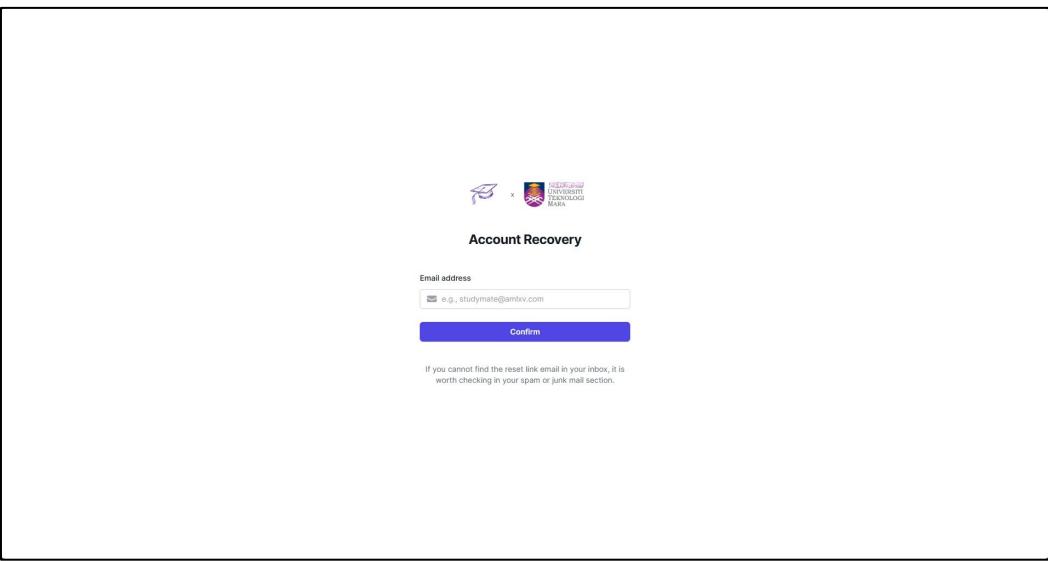
**Table 4.4** Result User Interface: Sign Up

User Interface	Sign Up
	
<p><b>Description</b></p> <p>This registration page offers new users two straightforward paths to create a StudyMate account. The manual option allows inputting one's name, email, and preferred password to generate credentials unique to the system. Alternatively, intuitive single-click registration with existing social media delivers instant access without needing to remember additional login details. By syncing with platforms like Google or GitHub, the social button enables users to seamlessly integrate and authenticate via their familiar online identity. Whether preferring to manage a separate StudyMate profile or easily connect their social media presence, students can quickly and easily register through their method of choice.</p>	

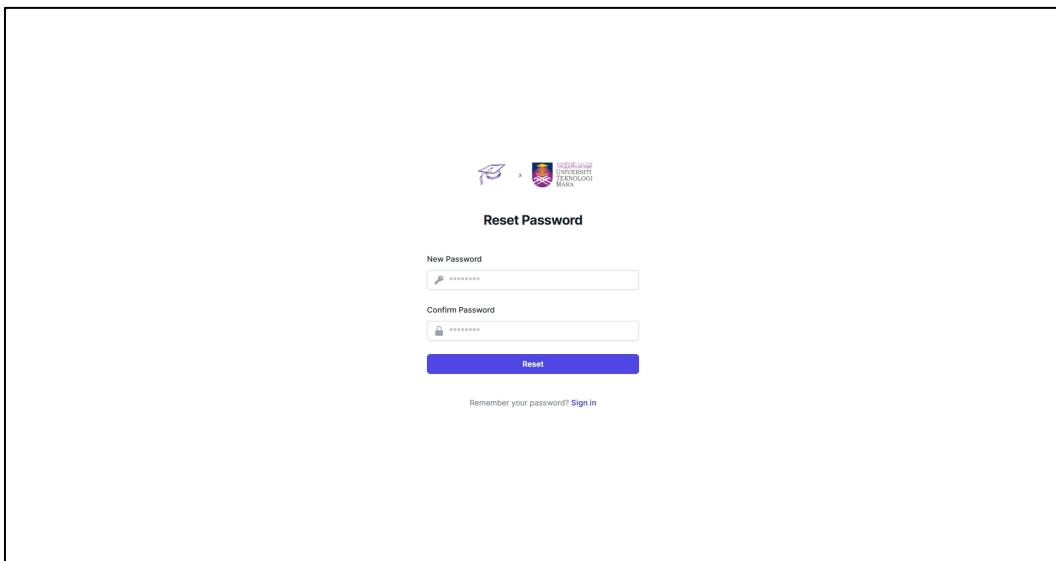
**Table 4.5** Result User Interface: Sign In

User Interface	Sign In
 A screenshot of the StudyMate sign-in page. At the top, there's a logo for Universiti Malaysia Sarawak (UNIMAS) and a link to the university's website. Below that, the heading "Sign in to your account" is displayed, followed by a "Not a member? Sign up now" link. The main form fields are "Email address" (with placeholder "e.g., studymate@amiv.com") and "Password" (with placeholder "*****"). There are also "Remember me" and "Forgot password?" links. A blue "Sign In" button is centered below the fields. Below the form, there's a "Or continue with" section featuring "GitHub" and "Google" social media login buttons.	 An overhead photograph of a modern workspace. It features a white desk with a black metal tripod base. On the desk is a silver laptop resting on an orange leather sleeve, a white keyboard, a white mouse, a small black smartphone, and a white rectangular tray containing a small plant and some papers. The background shows a light-colored wooden floor and a portion of a chair.
Description	
<p>This Sign In page mirrors the Registration page in layout, for a consistent and recognizable user experience. Two simple options give existing users the ability to authenticate and access their StudyMate accounts. Inputting their email and password logs them in manually, while single click social media buttons provide quick no-hassle login via integrated platforms like Google or GitHub. In fact, clicking a social button when one doesn't already have an account will automatically register and login the user for added convenience. For those who may have forgotten their local password, the "Forgot Password?" link routes them to a password recovery flow.</p>	

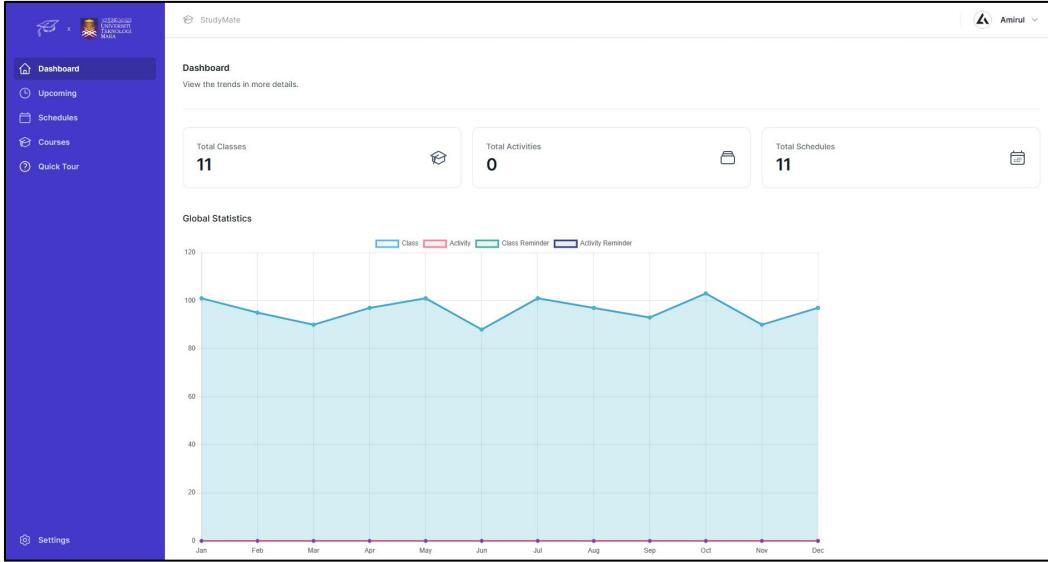
**Table 4.6** Result User Interface: Forgot Password

User Interface	Forgot Password
	
Description	This Forgot Password page provides a recovery flow for users who have lost access to their StudyMate credentials. By entering the email address registered with their account and clicking the button, a password reset link is emailed which remains active for a limited period. For security reasons, the unique link expires if not promptly used. Additionally, a check verifies the submitted email aligns with an existing account before sending the notification. Upon receiving the email, users click the one-time link to change their password securely. This thoughtful process allows users to seamlessly re-establish account access even if they forget sensitive login details

**Table 4.7** Result User Interface: Reset Password

User Interface	Reset Password
	
<p><b>Description</b></p> <p>This password reset page is only accessible via the unique link sent to a user's email, preventing unauthorized access. By entering and confirming a new password then clicking reset, users can securely establish new login credentials if they had forgotten their previous one. The page safeguards this update process to apply only to those coming from a valid password recovery email. For anyone who may have stumbled here incorrectly or already recalled their existing password, the handy "Sign In" button redirects back to the login page. Allowing authenticated users in need to safely create new passwords while giving others a clear path back to sign in formulates a clean, sensible flow.</p>	

**Table 4.8** Result User Interface: Student's Dashboard

User Interface	Student's Dashboard
	
<b>Description</b>	
<p>This student dashboard provides an informative overview of one's StudyMate account. Key details are prominently displayed, including total classes, activities, and combined schedules added. This summary conveys the breadth of the user's current time management landscape at a glance. Additionally, the year-long usage statistics grant helpful monthly insight into class and activity creation trends, whether reminder-enabled or not. Students are equipped with at-hand data to better understand their behaviors over time when organizing their workload and commitments.</p>	

**Table 4.9** Result User Interface: Student's Upcoming Events

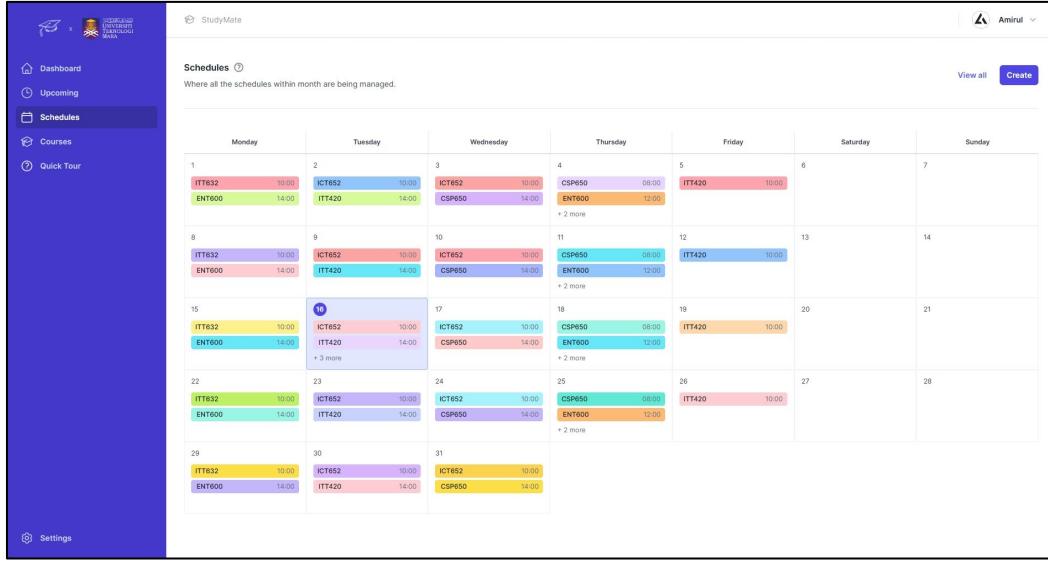
User Interface	Student's Upcoming Events

**Figure 4.9** Result User Interface: Student's Upcoming Events

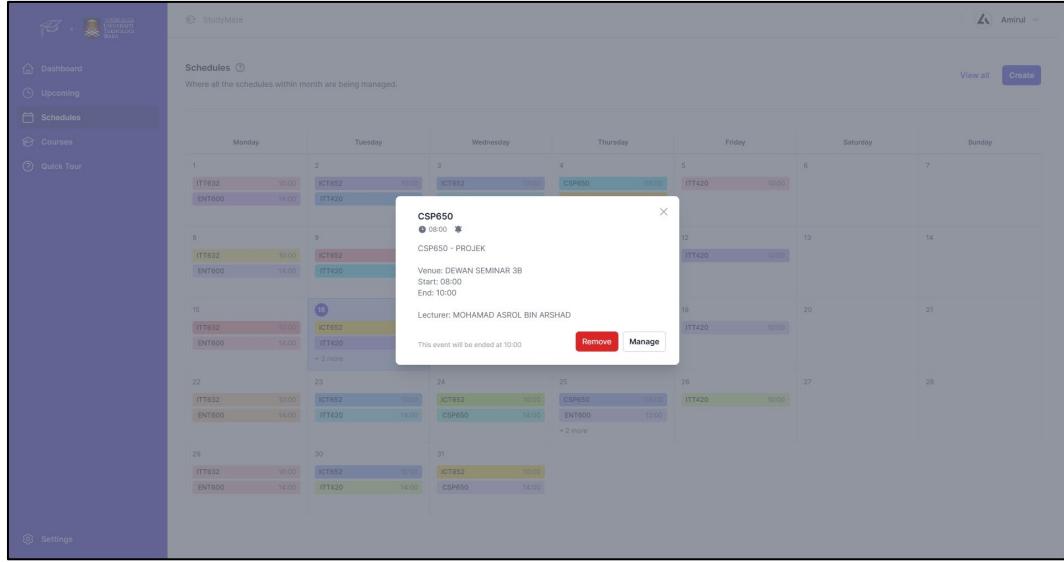
### Description

This Upcoming Events page gives students visibility into their immediate future schedules for the current day. By showing only impending events and commitments, it enables users to quickly see what lies ahead without sorting through irrelevant past items that have already occurred earlier in the day. The clean focus on simply the next scheduled tasks or classes provides an at-a-glance answer to "What's going on next today?". Devoid of any clutter from hours gone by, this page achieves its singular purpose to inform users of imminent appointments within the same day, so they know what is soon to come.

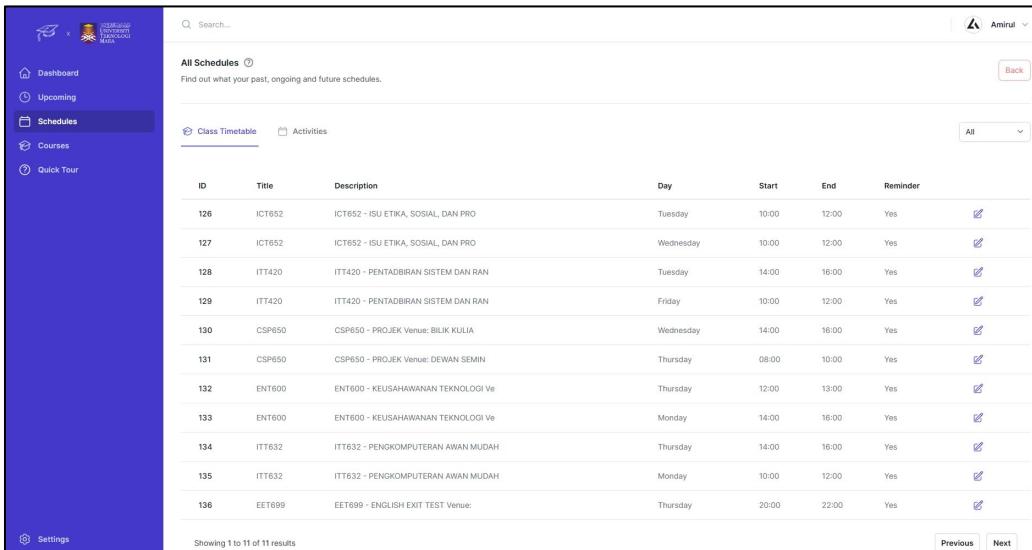
**Table 4.10** Result User Interface: Student's Schedule

User Interface	Student's Schedule
	
<b>Description</b>	
<p>This Schedules page gives students a comprehensive look at all their calendar items for the current month. In contrast to the Upcoming Events page showing only immediate daily tasks, this view provides an expanded snapshot of longer-term commitments. By encompassing all classes, activities and reminders scheduled across the full month, students can broadly visualize their academic and personal obligations across weeks rather than just the rest of today. The widened scope enables more holistic planning and time management compared to an hour-by-hour glance.</p>	

**Table 4.11** Result User Interface: Student's Schedule Details

User Interface	Student's Schedule Details
	
<b>Description</b>	
<p>To maintain an uncluttered calendar interface while still providing comprehensive schedule details, a clickable popup is the optimal solution. Rather than presenting extensive information all at once which may feel overwhelming, schedules are represented clearly and succinctly within the monthly layout. Then for any given calendar item, users can tap for further specifics to materialize in a popup overlay. The layers cater smartly to both bird's eye planning along with granular schedule and task insights.</p>	

**Table 4.12** Result User Interface: Student's All Schedules

User Interface		Student's All Schedules					
							

**Figure 4.12** Result User Interface: Student's All Schedules

### Description

With the Upcoming Events page showing today's schedules and the main Schedules page displaying the current month, students may wonder how to view academic commitments beyond this range. The “All Schedules” page delivers complete flexibility to comb through every schedule added thus far. Offering an extensive table of all classes and activities. This archive grants students to constantly access to their comprehensive scheduling history. Helpful search and filtering put students in full control to dig into precise details ranging from last year's exam calendar to a research project due next semester. No schedule is left behind or out of sight.

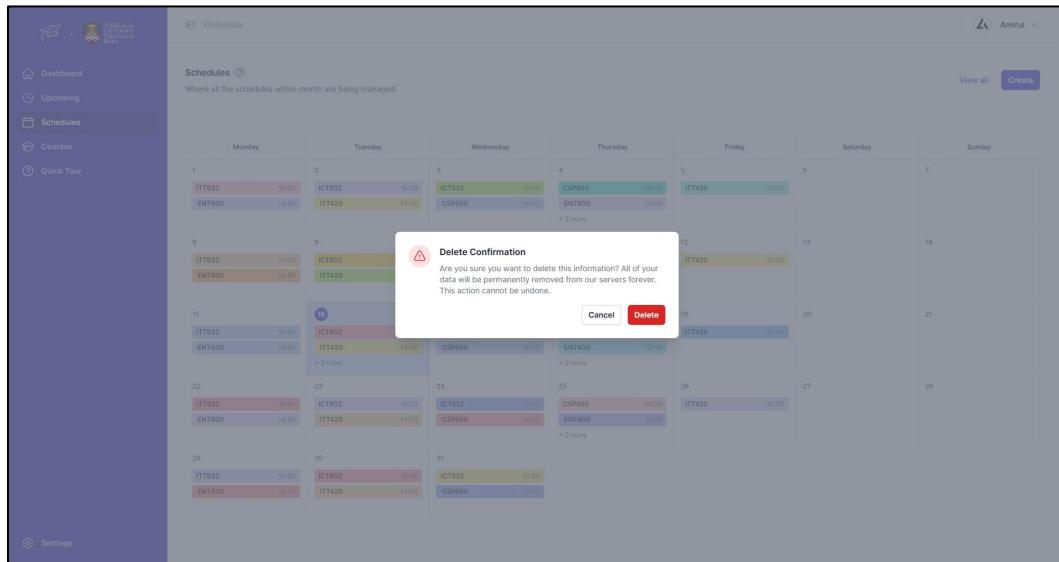
**Table 4.13** Result User Interface: Student's Add Schedule

User Interface	Student's Add Schedule
<b>Description</b>	
<p>This schedule addition page provides a straightforward form for students to populate important details to set up a new calendar event. Key fields include scheduling title and descriptions to summarize the event. The selectors then enable selecting the type of schedule - class timetable or activities - along with dates or days and start and end times. By gathering all necessary data upfront, this schedule builder allows students to enter the specifics once rather than having to re-access or edit the event later to fill in additional attributes. The consolidated input form removes friction so students can easily batch prep upcoming classes, assignments, meetings and more for their calendar in one swift workflow.</p>	

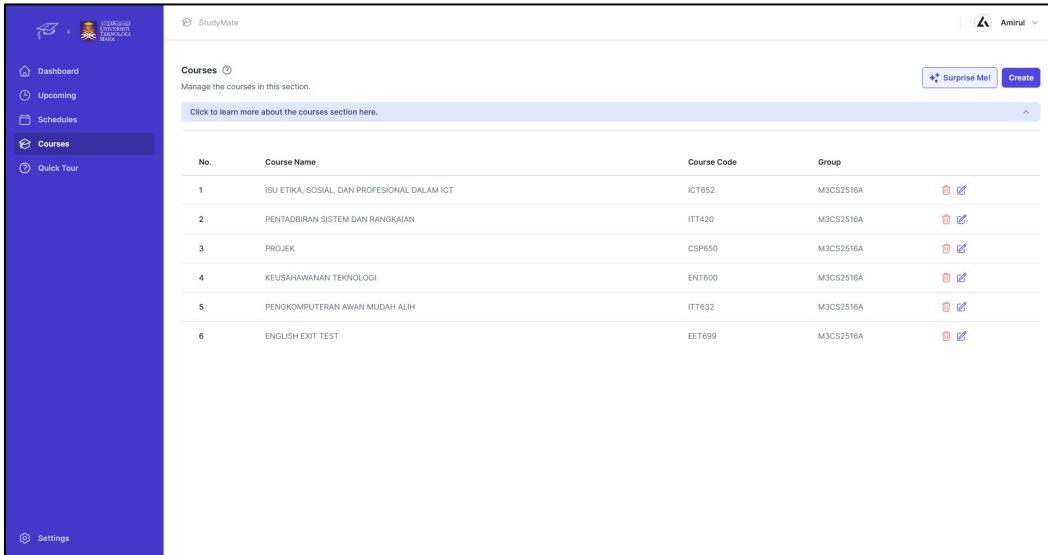
**Table 4.14** Result User Interface: Student's Edit Schedule

User Interface	Student's Edit Schedule
	Student's Edit Schedule
<b>Description</b>	
<p>This Edit Schedule page mirrors the layout and fields of the creation workflow allowing seamless schedule adjustments. However, rather than blank inputs, all current schedule details auto-populate. By presenting the existing data alongside open form fields, students can easily review and modify specifics like titles, descriptions, schedule types, dates and times as needed.</p>	

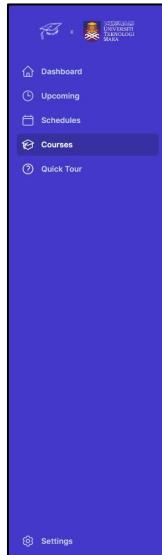
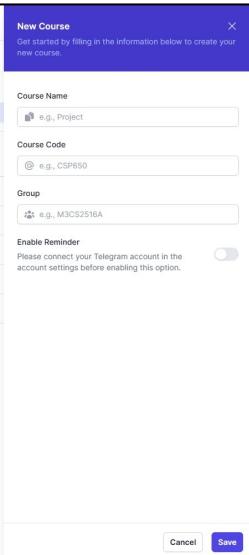
**Table 4.15** Result User Interface: Student's Delete Schedule

User Interface	Student's Delete Schedule
	
<b>Description</b>	
<p>This interface allows students to remove schedules from their calendar. When a schedule is clicked in the main view, a details popup appears showing information about that event. This popup contains a "Remove" button which, when clicked, will prompt the user to confirm they actually want to delete the schedule before it is removed. This confirmation step prevents users from accidentally deleting calendar items. The process is streamlined while still maintaining a safeguard against unintentional changes.</p>	

**Table 4.16** Result User Interface: Student's Course

User Interface	Student's Course																												
 <table border="1"> <thead> <tr> <th>No.</th><th>Course Name</th><th>Course Code</th><th>Group</th></tr> </thead> <tbody> <tr> <td>1</td><td>ISU ETIKA, SOSIAL, DAN PROFESIONAL DALAM ICT</td><td>ICT652</td><td>M3CS2516A</td></tr> <tr> <td>2</td><td>PENTADBIRAN SISTEM DAN RANGKAIAN</td><td>ITT420</td><td>M3CS2516A</td></tr> <tr> <td>3</td><td>PROJEK</td><td>CSP650</td><td>M3CS2516A</td></tr> <tr> <td>4</td><td>KEUSAHAWANAN TEKNOLOGI</td><td>ENT600</td><td>M3CS2516A</td></tr> <tr> <td>5</td><td>PENGKOMPUTERAN AWAN MUDAH ALIH</td><td>ITT632</td><td>M3CS2516A</td></tr> <tr> <td>6</td><td>ENGLISH EXIT TEST</td><td>EET699</td><td>M3CS2516A</td></tr> </tbody> </table>	No.	Course Name	Course Code	Group	1	ISU ETIKA, SOSIAL, DAN PROFESIONAL DALAM ICT	ICT652	M3CS2516A	2	PENTADBIRAN SISTEM DAN RANGKAIAN	ITT420	M3CS2516A	3	PROJEK	CSP650	M3CS2516A	4	KEUSAHAWANAN TEKNOLOGI	ENT600	M3CS2516A	5	PENGKOMPUTERAN AWAN MUDAH ALIH	ITT632	M3CS2516A	6	ENGLISH EXIT TEST	EET699	M3CS2516A	
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6	ENGLISH EXIT TEST	EET699	M3CS2516A																										
<b>Description</b>																													
<p>This Courses page allows UiTM students to manage academic schedules related to their class enrollments. Added courses are displayed in a list showing key details at a glance. The specialized integration with UiTM enables intelligent schedule coordination - creating a course auto-populates its associated lecture times, while removing a course eliminates affiliated calendar items. This pairing simplifies scheduling by linking relevant course schedules to simplify planning. The centralized course hub gives UiTM students a simplified way to sync classes taken with accompanying schedules for a unified view of their academic commitments.</p>																													

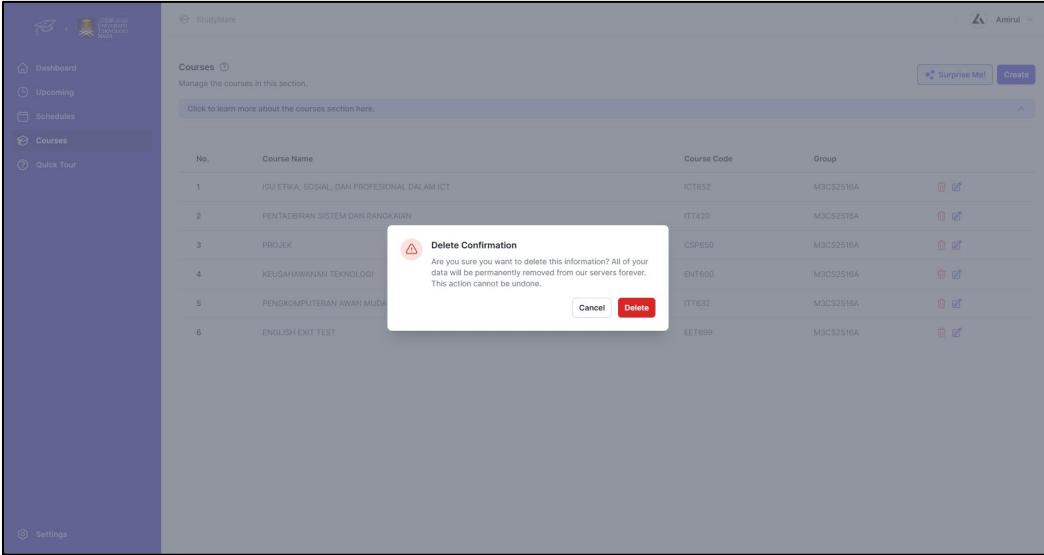
**Table 4.17 Result User Interface: Student's Add Course**

User Interface	Student's Add Course
	
<p><b>Figure 4.17 Result User Interface: Student's Add Course</b></p>	
Description	<p>This interface allows students to add courses to their schedule. Key details like course name, code, and group must be entered. Students should first confirm their student profile is complete for successful syncing. The system cross-checks entered courses against profile enrollment data, only adding valid matches to eliminate mismatches. For one-click addition, the "Surprise Me!" button automatically populates all schedules based on the student's registered classes and profile. This simplifies course scheduling by handling it automatically while still giving the option to manually add specific classes.</p>

**Table 4.18** Result User Interface: Student's Edit Course

User Interface	Student's Edit Course
<b>Description</b>	
<p>This Edit Course page mirrors the add course interface, automatically populating fields with the selected course's current details. Students can update the name, code, group or other information by editing the text boxes before clicking Save to commit changes. The identical form makes it easy to view and adjust course data seamlessly.</p>	

**Table 4.19** Result User Interface: Student's Delete Course

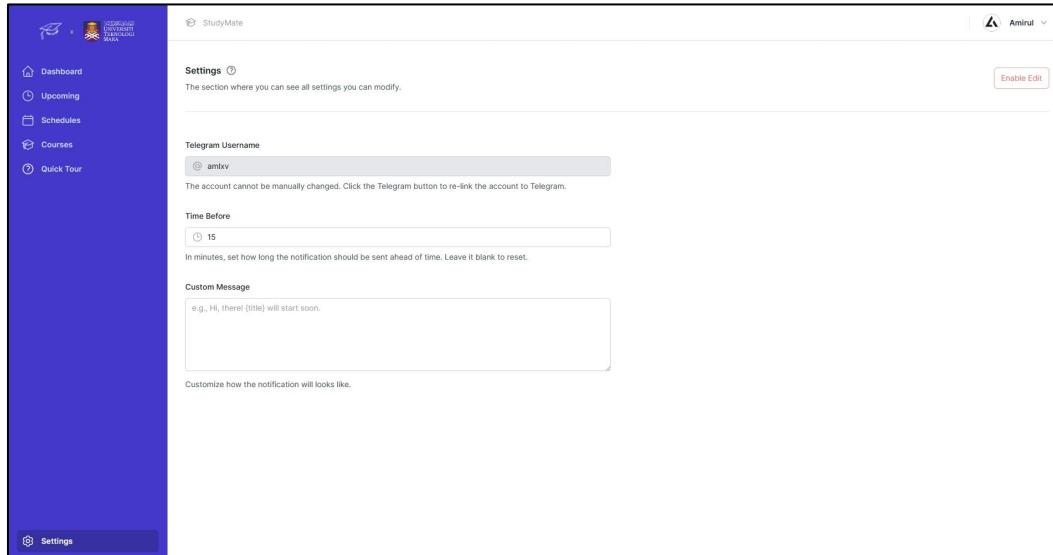
User Interface	Student's Delete Course
	

**Figure 4.19** Result User Interface: Student's Delete Course

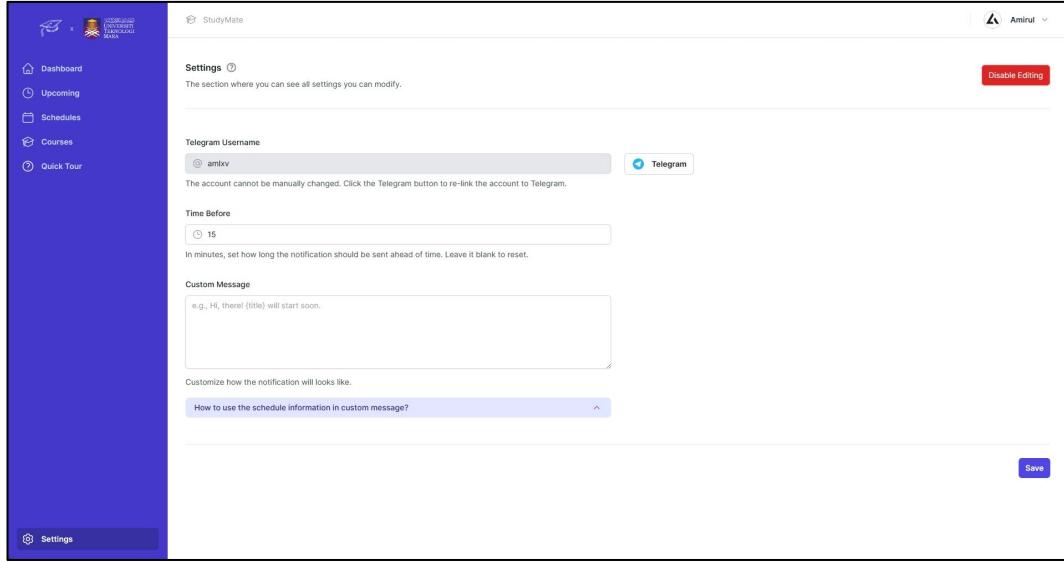
### Description

The trash icon allows deleting courses. For safety, this triggers a confirmation prompt before removing the course and its associated class schedules. This prevents unintentional data loss, adding an extra layer of protection for this potentially impactful change.

**Table 4.20** Result User Interface: Student's Preferences

User Interface	Student's Preferences
	
<b>Description</b>	
<p>This user interface functions as the preferences setting for the student. In this section, users can manage how the system should work according to their preferences. These preferences are typically applicable when the user has configured a reminder-enabled schedule. Since most of the preferences revolve around receiving reminders, they become relevant in this context. Additionally, users can integrate their Telegram account on this page to enable the reminder feature. This Telegram integration allows StudyMate's Telegram Bot to send reminders to the user.</p>	

**Table 4.21** Result User Interface: Student's Edit Preferences

User Interface	Student's Edit Preferences
	<p>The screenshot shows the 'Settings' page of the StudyMate application. On the left, there is a sidebar with icons for Dashboard, Upcoming, Schedules, Courses, and Quick Tour. The main area has a header 'StudyMate' and 'Settings'. It displays a 'Telegram Username' field with 'amirkv' and a 'Telegram' button. Below it is a 'Time Before' input set to '15' minutes. A 'Custom Message' section contains a placeholder 'e.g., Hi, there! (title) will start soon.' and a link 'How to use the schedule information in custom message?'. A 'Save' button is at the bottom right.</p>
<b>Description</b>	
<p>This user interface serves as the preferences editing section for the student. Here, users can modify how the system operates according to their preferences. These preferences are typically relevant when the user has set up a reminder-enabled schedule. Since most of the preferences center around receiving reminders, they become applicable in this context. Additionally, users can reintegrate their Telegram account on this page to enable the reminder feature. This Telegram integration enables StudyMate's Telegram Bot to send reminders to the user.</p>	

**Table 4.22** Result User Interface: Student's Profile

User Interface	Student's Profile
<p><b>Description</b></p> <p>This user interface functions as the student profile page, displaying the current profile information. The page consists of two sections: the profile section and the student information section. The student information is mandatory unless the user opts not to utilize the course management feature.</p>	

**Table 4.23 Result User Interface: Student's Edit Profile**

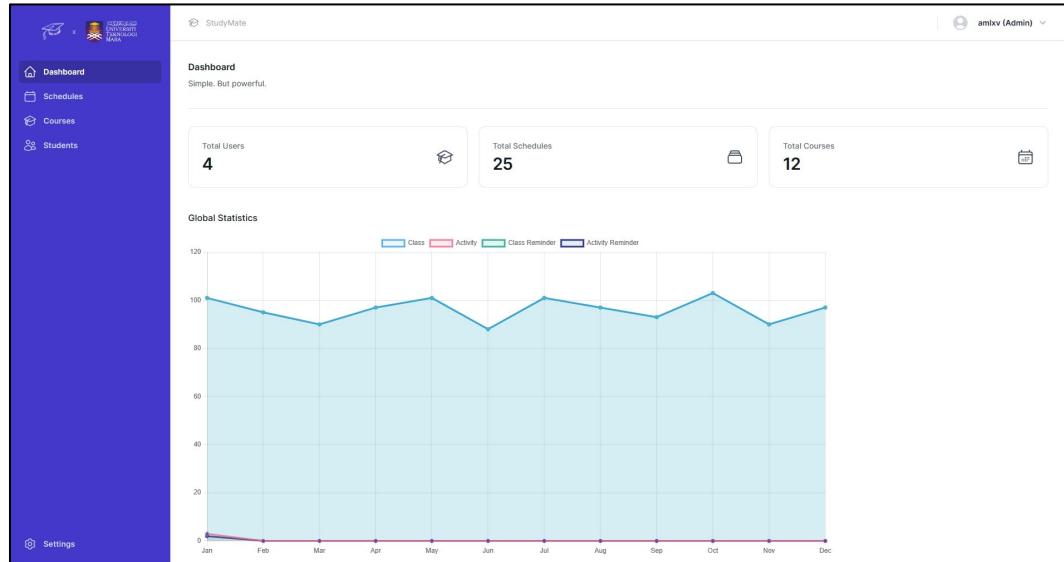
User Interface	Student's Edit Profile
	<p>StudyMate</p> <p>Profile ⓘ This information will be displayed publicly so be careful what you share.</p> <p>Avatar</p>  <p>Choose</p> <p>Name <input type="text" value="Amirul"/></p> <p>Email Address <input type="text" value="amirulfcso@gmail.com"/> The email address cannot be changed.</p> <p>Phone Number <input type="text" value="e.g.: +60168000782"/></p> <p>Gender <input type="text"/></p> <p>Address <input type="text" value="e.g., Kota Bharu, Kelantan"/></p> <p><b>Save</b></p>

**Figure 4.23 Result User Interface: Student's Edit Profile**

### Description

On the same page, there is an "Enable Edit" button that allows users to make the input boxes editable. This serves as a precautionary measure to prevent inadvertent edits. Once the necessary changes are made, users can click the "Save" button to save the modifications.

**Table 4.24** Result User Interface: Admin's Dashboard

User Interface	Admin's Dashboard
 <p>The screenshot shows the 'Admin's Dashboard' interface. At the top, there are three summary cards: 'Total Users' (4), 'Total Schedules' (25), and 'Total Courses' (12). Below these is a 'Global Statistics' chart titled 'StudyMate' with the subtitle 'Simple. But powerful.' The chart tracks four metrics over a year: 'Class' (blue line), 'Activity' (red line), 'Class Reminder' (green line), and 'Activity Reminder' (purple line). The 'Class' series starts at 100 in Jan and fluctuates between 85 and 105 through Dec. The other three series are near zero.</p>	
<b>Figure 4.24</b> Result User Interface: Admin's Dashboard	
<b>Description</b>	
<p>This user interface functions as the administrator dashboard, presenting various information such as the total number of users in the system, the overall schedules in the database, and the total added courses. This information is aggregated from all users in the system, representing the cumulative data. Additionally, there is a chart displaying statistics on classes and activities, categorizing them into those with or without reminders throughout the year.</p>	

**Table 4.25** Result User Interface: Admin's Schedules

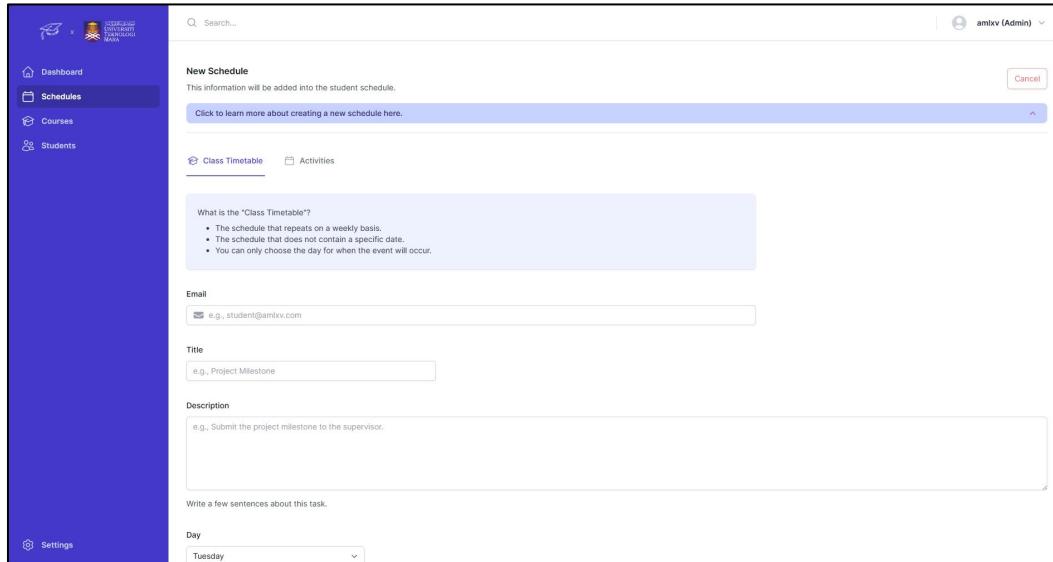
<b>User Interface</b>		<b>Admin's Schedules</b>									

**Figure 4.25** Result User Interface: Admin's Schedules

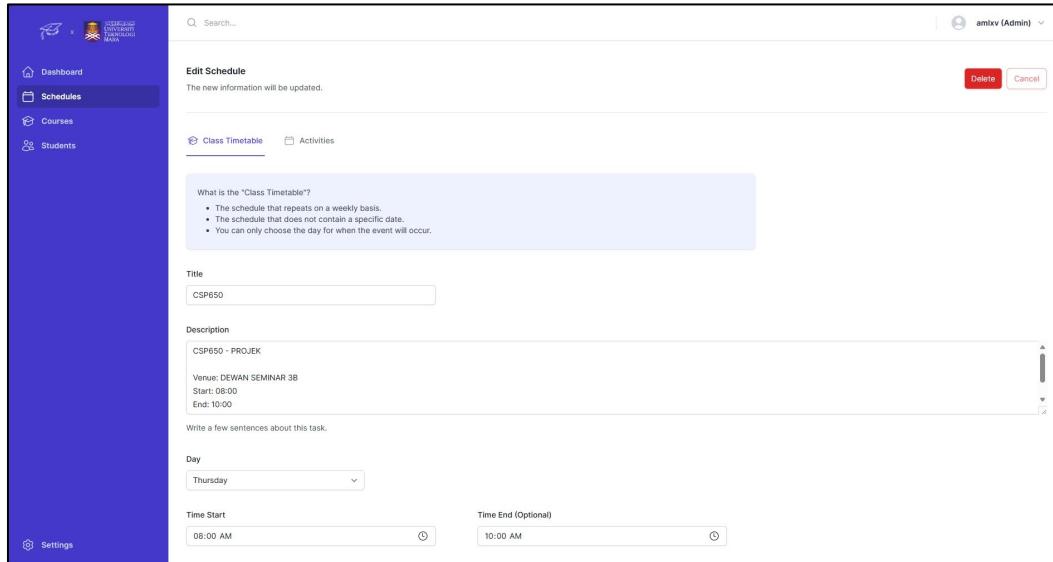
### Description

This user interface functions as the schedules section within the admin interface. It contains all the schedules added in the system, displaying essential information on a table for the administrator. Within this section, the admin can toggle to view different types of schedules, including class timetables and activities.

**Table 4.26** Result User Interface: Admin's Add Schedule

User Interface	Admin's Add Schedule
	
<b>Description</b>	
<p>This user interface serves as the admin interface for adding schedules on behalf of users. In this section, the admin is required to input the schedule details to be added. While typically students add their schedules individually, providing the capability for admins to add schedules on behalf of students is beneficial in cases where students request assistance.</p>	

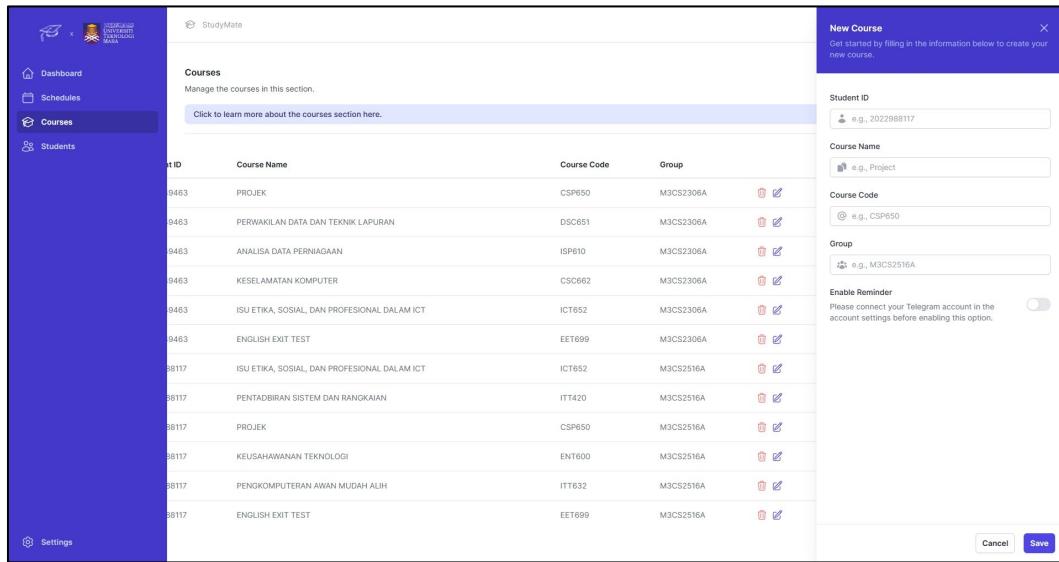
**Table 4.27** Result User Interface: Admin's Edit Schedule

User Interface	Admin's Edit Schedule
	
<b>Description</b>	
<p>This user interface serves as the admin interface for editing schedules. This section enables the admin to modify a student's schedule if necessary. Upon entering this section, the input fields are automatically populated with the existing schedule information, allowing the admin to conveniently replace the input with the updated details.</p>	

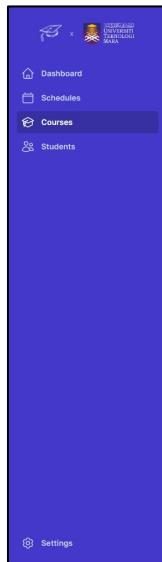
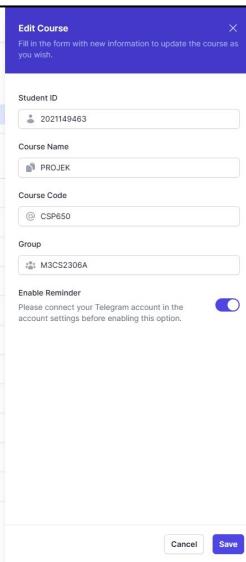
**Table 4.28** Result User Interface: Admin's Courses

User Interface						Admin's Courses	
						<p><b>Description</b></p> <p>This user interface functions as the admin interface for managing courses for each student in the system. All courses are listed in a table within this section, providing information such as student name, student ID, course name, course code, and group.</p>	

**Table 4.29** Result User Interface: Admin's Create Course

User Interface		Admin's Create Course
 <p>The screenshot shows the StudyMate application interface. On the left, there is a sidebar with icons for Dashboard, Schedules, Courses (selected), Students, and Settings. The main area is titled 'Courses' and contains a table with columns: Student ID, Course Name, Course Code, and Group. The table lists several courses such as PROJEK, PERWAKILAN DATA DAN TEKNIK LAPURAN, ANALISA DATA PERNIAGAAN, KESELAMATAN KOMPUTER, etc. A modal window titled 'New Course' is open on the right, prompting the admin to enter information: Student ID (e.g., 2022988117), Course Name (e.g., Project), Course Code (e.g., CSP850), Group (e.g., M3CS2306A), and an optional 'Enable Reminder' checkbox.</p>		
<p><b>Description</b></p> <p>This user interface serves as the admin interface for creating courses. The admin can add a course for a student by specifying the student ID and course information. However, if users have not completed their student information, the course creation feature may not function as intended. Similarly, enabling reminders only works if the student has already integrated their account with Telegram.</p>		

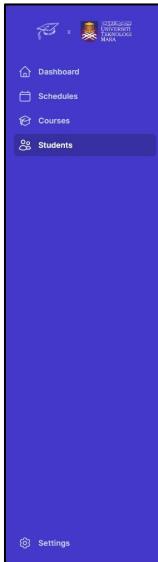
**Table 4.30** Result User Interface: Admins' Edit Course

<b>User Interface</b>		<b>Admins' Edit Course</b>
		
<b>Description</b>		
<p>This user interface functions as the admin interface for editing courses, whether added by the admin or students. Despite being the edit section, the system still requires completion of the student's information to utilize this feature. Similarly, enabling reminders is contingent on the student having integrated their account with Telegram.</p>		

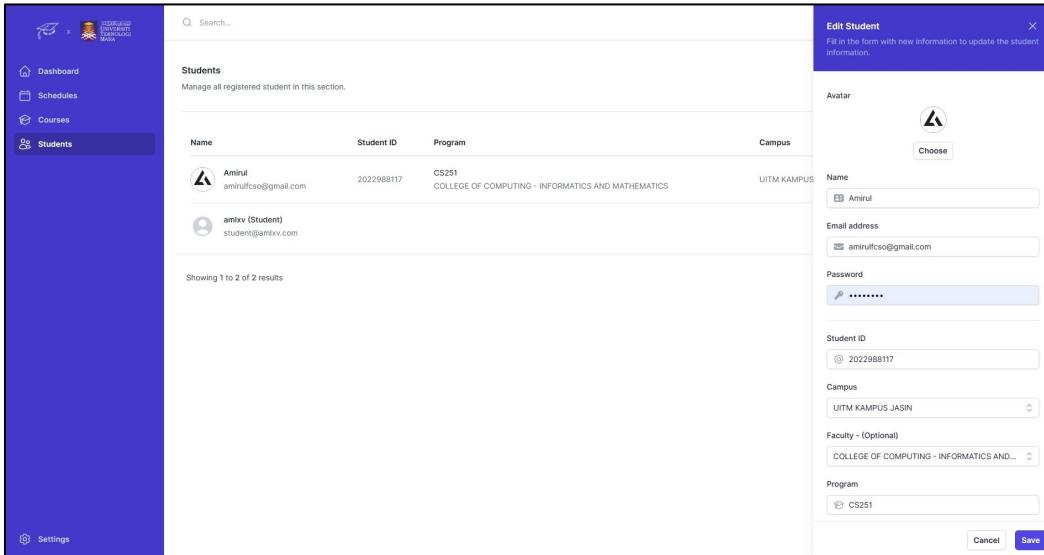
**Table 4.31** Result User Interface: Admin's Students Management

User Interface	Admin's Students Management
<b>Description</b>	
<p>This user interface functions as the admin interface for managing users with a student role in the system. In this section, the admin can view crucial details such as name, email, student ID, program, campus, and gender. The status indicator denotes whether the student has completed their information. "Active" signifies completion, while "Pending" indicates the opposite.</p>	

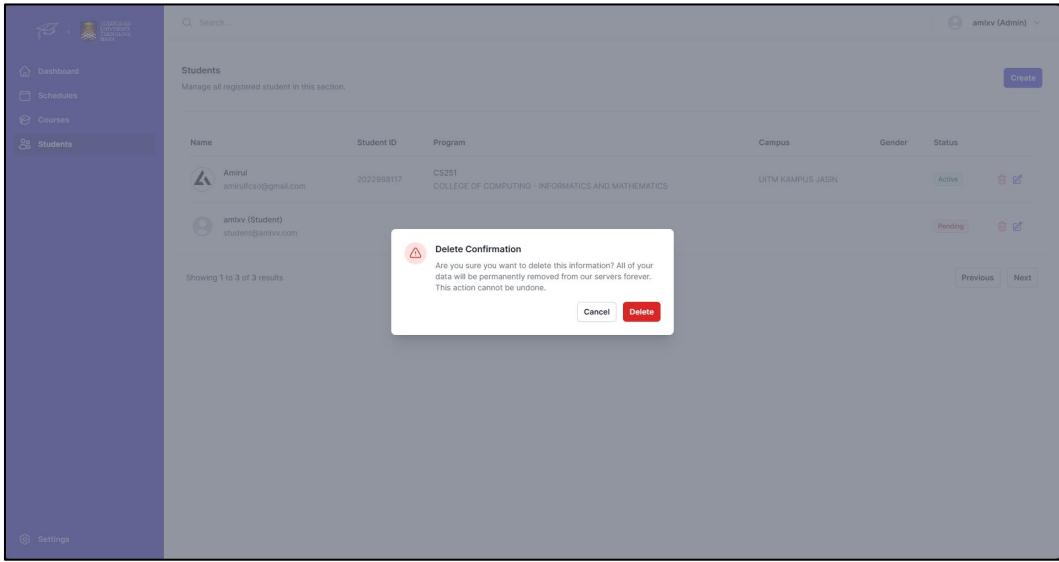
**Table 4.32** Result User Interface: Admin's Create Student

User Interface	Admin's Create Student
	<p>New Student</p> <p>Get started by filling in the information below to create a new student.</p> <p>Avatar</p> <p>Name: <input type="text" value="e.g., amirv"/></p> <p>Email address: <input type="text" value="e.g., me@amirv.com"/></p> <p>Password: <input type="password" value="*****"/></p> <p>Student ID: <input type="text" value="e.g., 2022988117"/></p> <p>Campus: <input type="text" value="Select the campus name"/></p> <p>Faculty - (Optional): <input type="text" value="Select the faculty name"/></p> <p>Program: <input type="text" value="e.g., CS251"/></p> <p><input type="button" value="Cancel"/> <input type="button" value="Save"/></p>
Description	
<p>This user interface functions as the admin interface for creating a student account. While not a primary feature, it is useful for cases where the admin needs to add a student manually. This section also enables the admin to input the student's information during the account creation process.</p>	

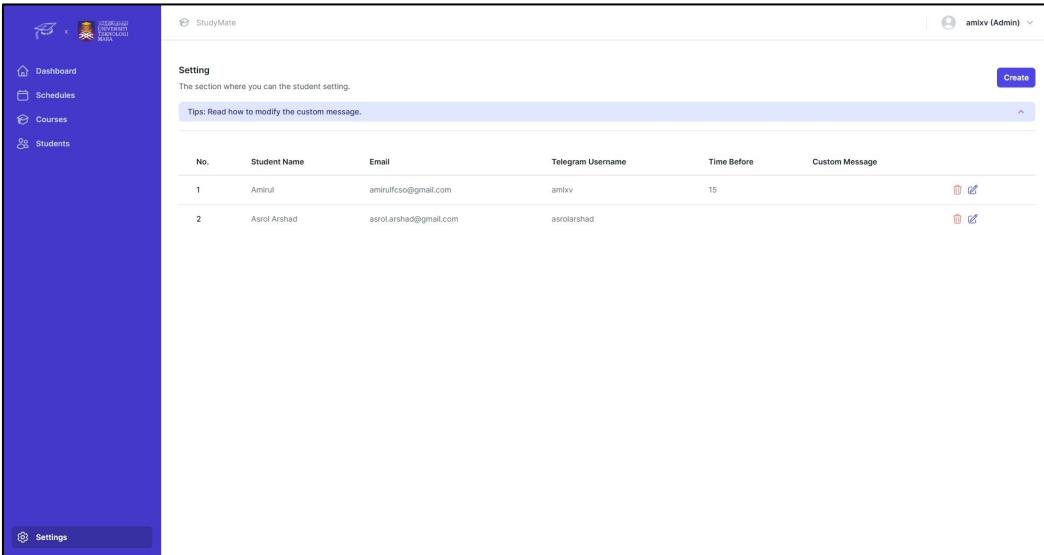
**Table 4.33** Result User Interface: Admin's Edit Student

User Interface	Admin's Edit Student
 <p>The screenshot shows a user interface for managing students. On the left, there's a sidebar with links for Dashboard, Schedules, Courses, and Students. The Students link is currently selected. The main area has a search bar at the top. Below it, a section titled 'Students' displays a table with columns for Name, Student ID, Program, and Campus. Two student entries are shown: 'Amirul' (Student ID: 2022988117, Program: CS251, Campus: UITM KAMPUS) and 'amixv (Student)' (Student ID: 2022988117, Program: COLLEGE OF COMPUTING - INFORMATICS AND MATHEMATICS). A modal window titled 'Edit Student' is open on the right, prompting the admin to fill in new information to update the student's details.</p>	<p><b>Edit Student</b> Fill in the form with new information to update the student information.</p> <p><b>Avatar</b></p> <p>Name: Amirul Email address: amirulfcso@gmail.com Password: ..... Student ID: 2022988117 Campus: UITM KAMPUS JASIN Faculty - (Optional): COLLEGE OF COMPUTING - INFORMATICS AND... Program: CS251</p> <p><b>Cancel</b> <b>Save</b></p>
Description	<p>This user interface serves as the admin interface for editing student information. Clicking on the pen icon to the right of the user name and details will reveal a form, allowing the admin to update the user profile information.</p>

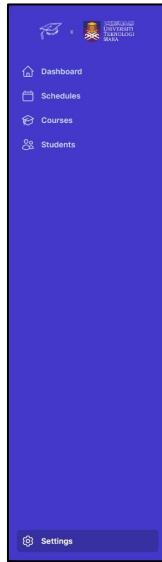
**Table 4.34** Result User Interface: Admin's Delete Student

User Interface	Admin's Delete Student
	
Description	
<p>This user interface functions as the delete confirmation for the admin to remove a student if necessary. The popup appears when the admin clicks on the trash bin icon, providing a confirmation step to minimize the risk of unintentionally deleting a student.</p>	

**Table 4.35** Result User Interface: Admin's Setting

User Interface	Admin's Setting
	
Description	
<p>This user interface functions as the admin interface for configuring user preferences. Although it is labeled as the admin section, it pertains to setting preferences for students. All students who have interacted with their settings will be listed here. Students who have not accessed the settings section will not be visible in this list, but the admin can still manage students who are not yet listed.</p>	

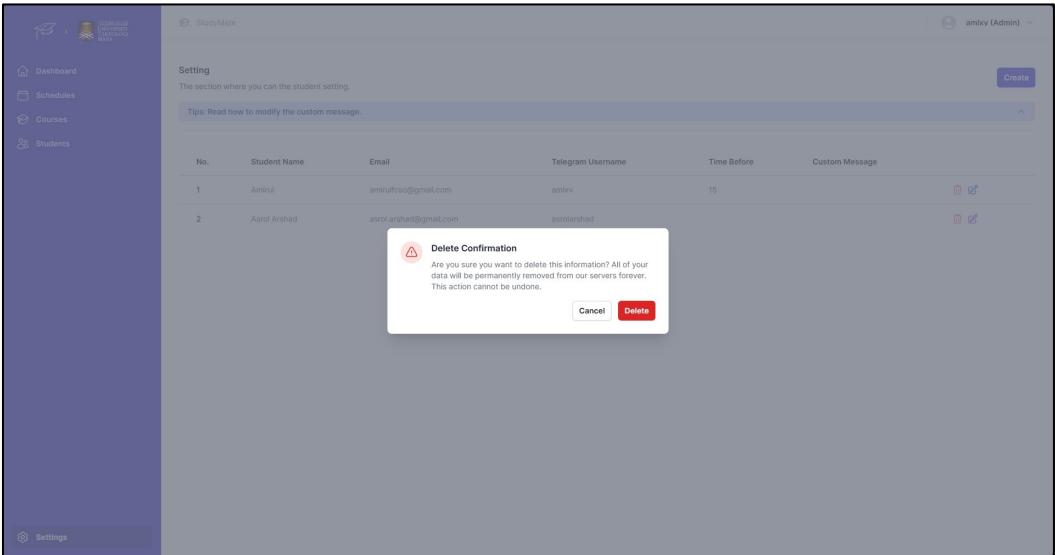
**Table 4.36** Result User Interface: Admin's Create Setting

User Interface	Admin's Create Setting
 <p>The screenshot shows the StudyMate application interface. On the left, there is a sidebar with icons for Dashboard, Schedules, Courses, and Students. At the bottom of the sidebar is a 'Settings' button. The main area is titled 'Setting' and contains a table with two rows. The columns are labeled 'Email', 'Telegram Username', 'Time Before', and 'Custom Message'. The first row has an email 'amrufcso@gmail.com' and a telegram username 'amxv'. The second row has an email 'asrolarshad@gmail.com' and a telegram username 'asrolarshad'. There are edit and delete icons next to each row.</p>	<p><b>New Setting</b> Get started by filling in the information below to create new setting for the user.</p> <p><b>Email</b> <input type="text" value="e.g., student@amkv.com"/></p> <p><b>Telegram Username</b> <input type="text" value="e.g., amkv"/> Only the account owner can modify this information.</p> <p><b>Time Before</b> <input type="text" value="e.g., 10"/> Leave it blank to reset.</p> <p><b>Custom Message</b> <input type="text" value="e.g., Hi, there! (title) will start soon."/> Customize how the notification will looks like.</p> <p><b>Cancel</b> <b>Save</b></p>
<b>Description</b>	
<p>This user interface functions as the admin interface for creating settings for users. If a user has not accessed their settings yet, their name will not be visible in the list. Therefore, in cases where the admin needs to create new settings for a particular user, the admin must specify the user's email address to allow the system to identify which user the settings should be added to. For privacy reasons, the admin cannot manage any aspects of users associated with third-party integrations such as Telegram. These settings must be configured by the actual users themselves.</p>	

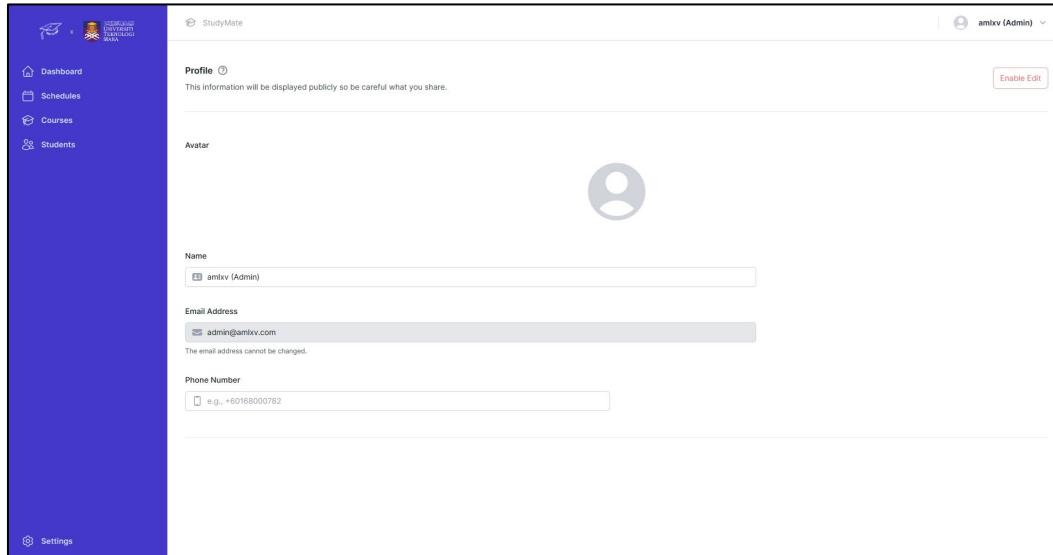
**Table 4.37 Result User Interface: Admin's Edit Setting**

User Interface	Admin's Edit Setting
	<p><b>Edit Setting</b> Fill in the form with new information to update the setting for the user.</p> <p>Email: <input type="text" value="amirufcso@gmail.com"/></p> <p>Telegram Username: <input type="text" value="amkv"/> Only the account owner can modify this information.</p> <p>Time Before: <input type="text" value="15"/> Leave it blank to reset.</p> <p>Custom Message: e.g., Hi, there! (title) will start soon. <input type="text"/></p> <p>Customize how the notification will looks like.</p> <p>Cancel Save</p>
<b>Description</b>	
<p>This user interface functions as the admin interface for editing user settings. The admin can choose any user from the list to edit their settings. Selecting a user will automatically populate the input fields in the edit section, facilitating a seamless process of modifying existing data without the need to recall and re-enter information. For privacy reasons, the admin cannot manage any aspects of users associated with third-party integrations such as Telegram. These settings must be configured by the actual users themselves.</p>	

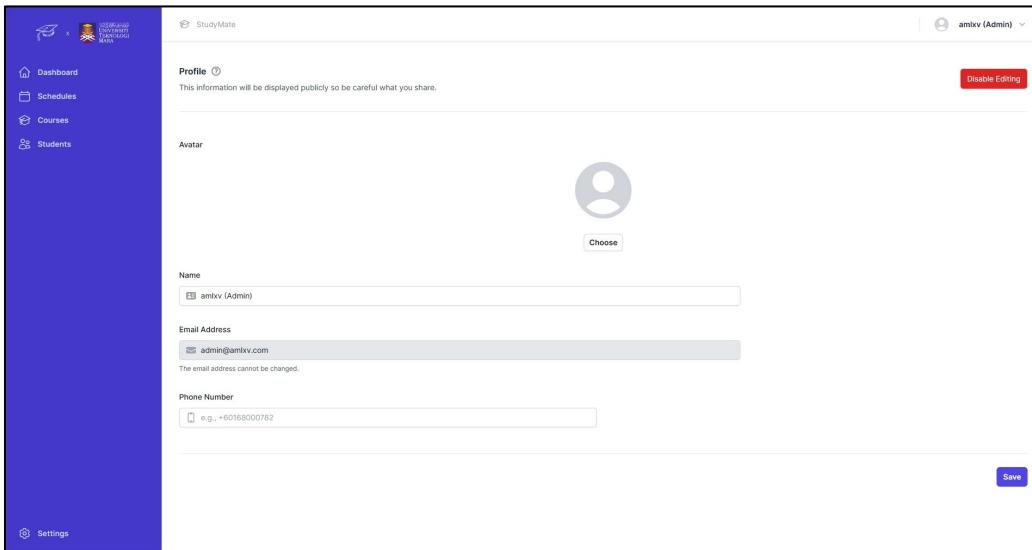
**Table 4.38** Result User Interface: Admin's Delete Setting

User Interface	Admin's Delete Setting																		
 <p>The screenshot shows the StudyMate admin interface. On the left, there is a sidebar with icons for Dashboard, Schedules, Courses, and Students. The main area is titled "Setting" and contains a table with two rows of data:</p> <table border="1"> <thead> <tr> <th>No.</th> <th>Student Name</th> <th>Email</th> <th>Telegram Username</th> <th>Time Before</th> <th>Custom Message</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Aminul</td> <td>aminulfcso@gmail.com</td> <td>amixv</td> <td>15</td> <td></td> </tr> <tr> <td>2</td> <td>Asrol Arshad</td> <td>asrol.arshad@gmail.com</td> <td>asrolarshad</td> <td></td> <td></td> </tr> </tbody> </table> <p>A modal dialog box titled "Delete Confirmation" is open over the second row, asking if the user wants to delete the information. It states: "Are you sure you want to delete this information? All of your data will be permanently removed from our servers forever. This action cannot be undone." It has "Cancel" and "Delete" buttons.</p>	No.	Student Name	Email	Telegram Username	Time Before	Custom Message	1	Aminul	aminulfcso@gmail.com	amixv	15		2	Asrol Arshad	asrol.arshad@gmail.com	asrolarshad			
No.	Student Name	Email	Telegram Username	Time Before	Custom Message														
1	Aminul	aminulfcso@gmail.com	amixv	15															
2	Asrol Arshad	asrol.arshad@gmail.com	asrolarshad																
<b>Description</b>																			
<p>This user interface functions as the admin interface for deleting user settings. The admin can easily click on the trash bin icon to remove the settings for a user. Similar to the delete setting feature, removing a user's settings will not affect third-party integrations made by the user. For instance, if the user has integrated their account with Telegram, deleting the user setting will not impact that integration.</p>																			

**Table 4.39** Result User Interface: Admin's Profile

User Interface	Admin's Profile
	
Description	
<p>This user interface functions as the admin section for viewing the admin's own profile. The admin can view and modify their profile information within this section.</p>	

**Table 4.40** Result User Interface: Admin's Edit Profile

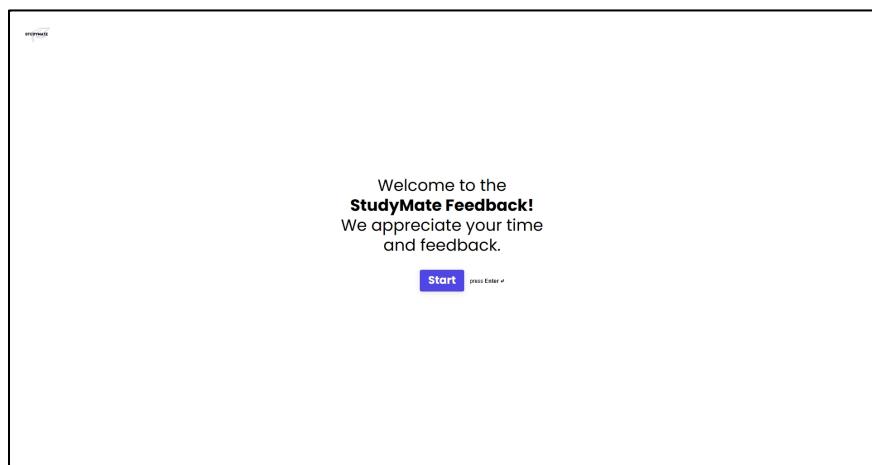
User Interface	Admin's Edit Profile
	
Description	
<p>This user interface acts as the page for updating the admin profile. Clicking on the "Enable Edit" button makes the input fields editable, allowing the admin to update their profile. Subsequently, clicking on the "Save" button will save the modified data to the database.</p>	

## 4.2 Testing

Testing is crucial in the software development life cycle as it involves thorough testing of the developed system or application. This is designed to guarantee the quality, functionality, and reliability of the system. By implementing a well-defined set of test cases and scenarios, any defects, errors, or deviations from the expected behavior of the system can be identified and addressed.

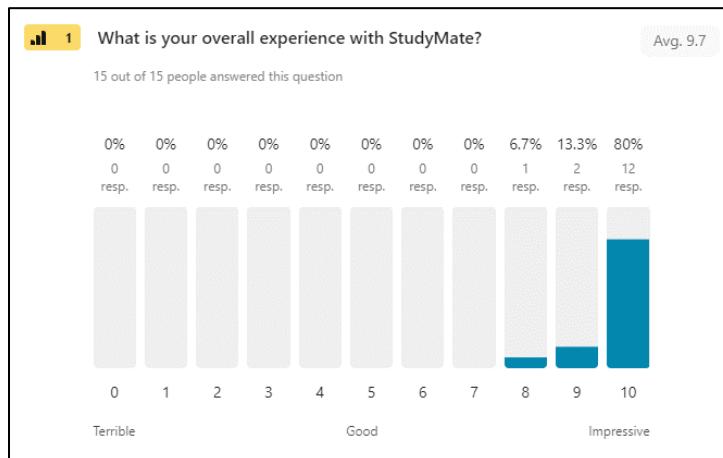
### 4.2.1 User Acceptance Test

The User Acceptance Test (UAT) serves as a means to evaluate the system, assessing its capability to address challenges faced by students in traditional methods. During this test, users are required to fully utilize the developed system and provide feedback through a user acceptance test survey. The survey has been conducted with 15 students to gather feedback on StudyMate. Various questions were posed to assess the user acceptance of this system.



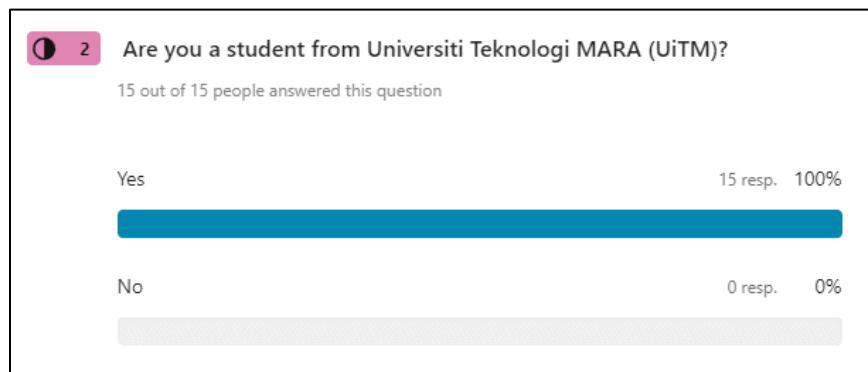
**Figure 4.41** User Acceptance Test: Welcome Page

Figure 4.41 displays the initial screen that users will encounter to respond to the User Acceptance Test questions. A "Start" button is provided to commence the process of answering the questions.



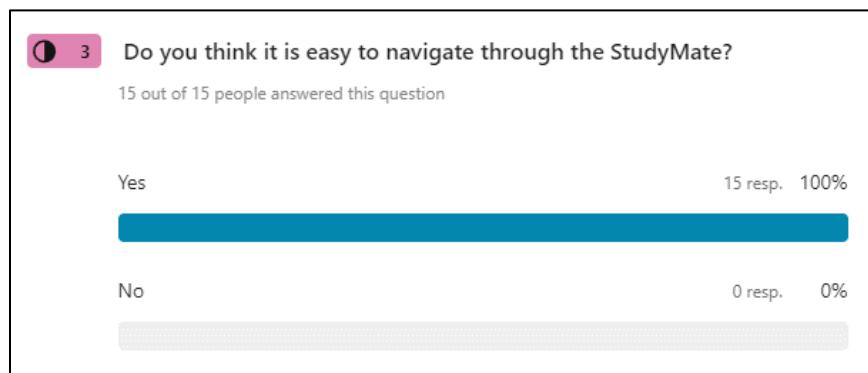
**Figure 4.42** User Acceptance Test: Question 1

Figure 4.42 depicts the findings of the first question in the User Acceptance Test. It reveals that 80% of the 15 respondents found their overall experience with the StudyMate: UiTM Student Time Management System to be impressive. This indicates predominantly positive feedback from the test users regarding the system. Additionally, 6.7% of respondents rated their experience as 8 out of 10, which still signifies a favorable overall impression. This outcome can be attributed to StudyMate's user-friendly design tailored for beginners, complemented by extensive guides and tips, facilitating ease of use and enhancing the user experience.



**Figure 4.43** User Acceptance Test: Question 2

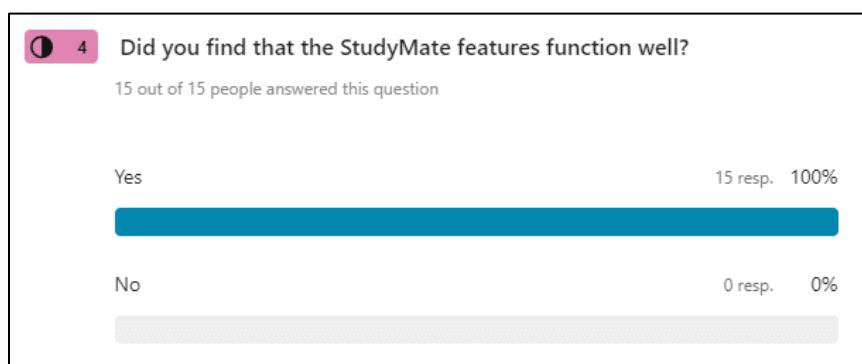
Figure 4.43 presents the results of a question querying respondents about their affiliation, specifically whether they are students from Universiti Teknologi MARA (UiTM) or from another university or college. Surprisingly, the data reveals that all 15 respondents are from UiTM. This indicates a significant majority of testers hailing from UiTM. The prevalence of UiTM students among the respondents can be attributed to the survey's broad dissemination to all students, necessitating this question to ascertain the respondents' affiliations accurately.



**Figure 4.44** User Acceptance Test: Question 3

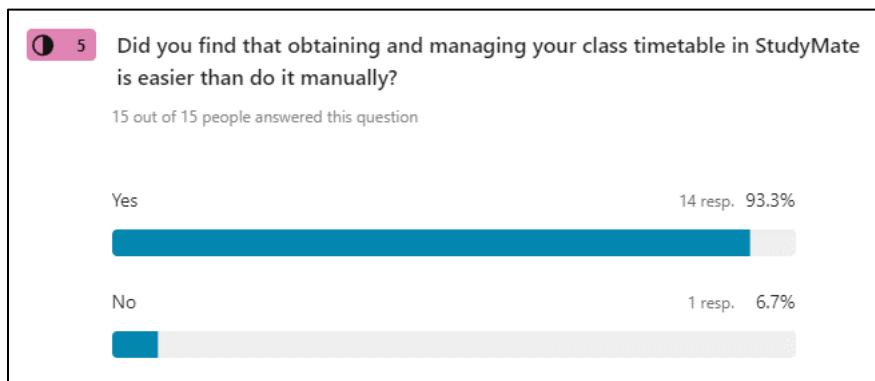
Figure 4.44 showcases responses to a question regarding the ease of navigation through the StudyMate website. Remarkably, all 15 respondents agree that navigating StudyMate is easy. This overwhelming consensus suggests that the majority of testers

did not face challenges while navigating the website. Such positive feedback underscores the user-friendly design of StudyMate, particularly tailored to accommodate users with limited familiarity with technology. This success in usability can be attributed to StudyMate's deliberate emphasis on simplicity and intuitiveness in its design.



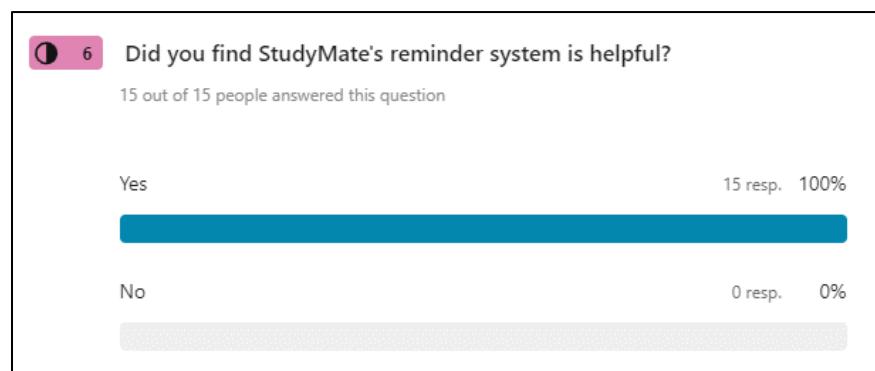
**Figure 4.45** User Acceptance Test: Question 4

Figure 4.45 presents responses to a question regarding the functionality of the features provided by StudyMate. Notably, all 15 respondents confirmed that the features are indeed working as intended. This unanimous agreement indicates that none of the testers encountered issues with the provided features. This success can be attributed to rigorous testing conducted during the development phase, ensuring that features perform optimally before being rolled out into production. Such meticulous testing contributes to the overall reliability and functionality of StudyMate, enhancing the user experience and satisfaction.



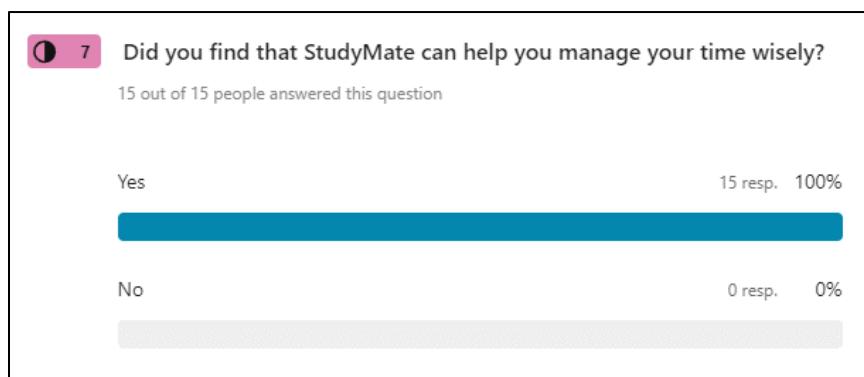
**Figure 4.46** User Acceptance Test: Question 5

Figure 4.46 depicts responses to a question regarding the ease of obtaining and managing class timetables within StudyMate compared to manual methods. Impressively, 93.3% of the 15 respondents affirmed that managing the class timetable in StudyMate is indeed easier than manually retrieving timetables for each subject. This overwhelming majority suggests that StudyMate effectively simplifies the process of obtaining and managing class schedules. However, it's noteworthy that 6.7% of respondents, equivalent to one respondent, disagreed with this statement. Despite this dissenting opinion, the overall consensus remains overwhelmingly in favor of StudyMate's efficacy in streamlining timetable management processes.



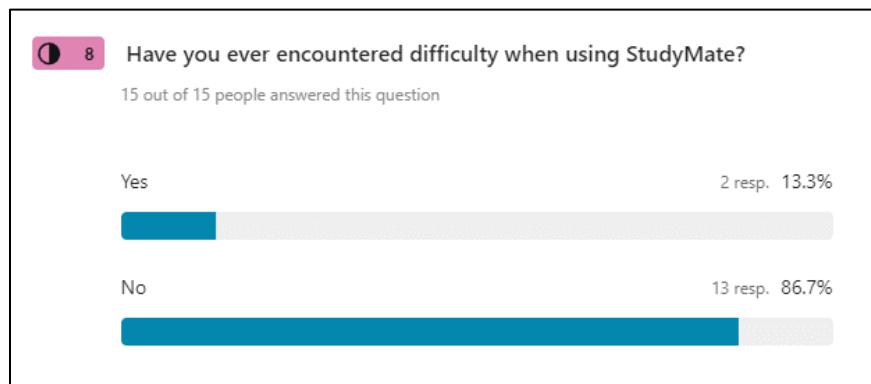
**Figure 4.47** User Acceptance Test: Question 6

Figure 4.47 showcases responses to a question regarding the utility of the reminder system provided by StudyMate. Impressively, all 15 respondents unanimously agree that StudyMate's reminder system, utilizing a Telegram Bot, is indeed helpful. This consensus highlights the effectiveness of StudyMate's reminder feature in aiding students with time management. The reminder system proves beneficial particularly for students juggling various commitments, helping them stay organized and on track with their class timetable schedules. This high level of satisfaction underscores the practical value of StudyMate's reminder system in supporting students' academic endeavors.



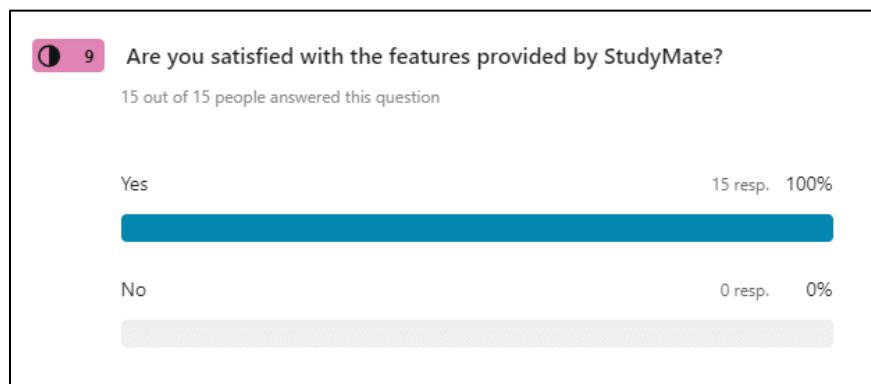
**Figure 4.48** User Acceptance Test: Question 7

Figure 4.48 presents responses to a question regarding StudyMate's effectiveness in assisting users with managing their time wisely. Remarkably, all 15 respondents unanimously confirmed that StudyMate is indeed effective in helping them manage their time wisely. This overwhelming consensus highlights the significant impact of StudyMate on users' time management skills. The availability of features such as receiving reminders before scheduled events further contributes to StudyMate's effectiveness, ensuring that users stay organized and make the most of their time.



**Figure 4.49** User Acceptance Test: Question 8

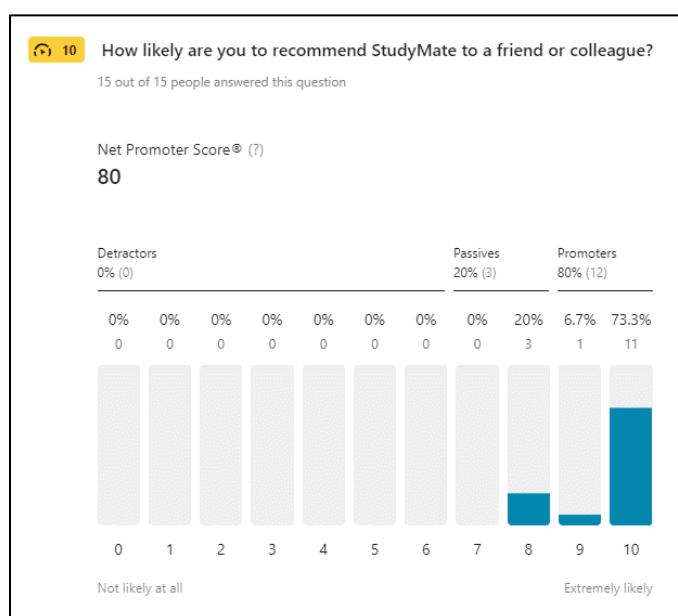
Figure 4.49 presents responses to a question regarding whether respondents encountered any difficulties when using StudyMate. Impressively, 86.7% out of 15 respondents reported not facing any problems, indicating that StudyMate's features are largely functioning as intended. However, it's notable that 13.3% of respondents did encounter difficulties. This feedback provides valuable insights for further enhancing StudyMate, ensuring a smoother user experience for all users. By addressing the reported issues, StudyMate can strive for continuous improvement and greater user satisfaction.



**Figure 4.50** User Acceptance Test: Question 9

Figure 4.50 showcases responses to a question regarding respondents' satisfaction with the existing features provided in StudyMate. Remarkably, 100% out of 15 respondents

expressed satisfaction with the features. This overwhelming agreement suggests that respondents are highly content with the features offered by StudyMate. This satisfaction is likely attributed to the diligent development process, wherein all features are carefully crafted, tested, and refined to ensure optimal performance and usability. Such meticulous attention to detail contributes to the overall satisfaction of users with StudyMate's features.



**Figure 4.51** User Acceptance Test: Question 10

Figure 4.51 presents responses to a question regarding respondents' likelihood of recommending StudyMate to a friend or colleague. Impressively, 73.3% out of 15 respondents expressed a willingness to share StudyMate with their friends or colleagues. This positive inclination towards recommending StudyMate reflects the respondents' satisfaction with the system and their belief in its usefulness. Such a high likelihood of recommendation is a testament to StudyMate's user-friendly design and its effectiveness in aiding time management. This positive feedback further reinforces the value and utility of StudyMate in the eyes of its users.

## 4.2.2 Functionality Test

This test is a comprehensive examination conducted by IT experts to evaluate the functionality of the StudyMate: UiTM Student Time Management System in real-world scenarios. The test is categorized into several sections to enhance readability.

### a. General Test

**Table 4.41** General Test

No.	ID	Description	Pass/Fail		
			Mohamad Asrol bin Arshad	Ts. Dr. Siti Rahayu binti Abdul Aziz	Mohd Ali bin Mohd Isa
1	G_01	Landing Page	Pass	Pass	Pass
2	G_02	Contact Us	Pass	Pass	Pass
3	A_01	Sign Up	Pass	Pass	Pass
4	A_02	Social Login	Pass	Pass	Pass
5	A_03	Sign In	Pass	Pass	Pass
6	A_04	Verify Email	Pass	Pass	Pass
7	A_05	Forgot Password	Pass	Pass	Pass

8	A_06	Reset Password	Pass	Pass	Pass
9	A_07	Sign Out	Pass	Pass	Pass
10	NV_01	Navigation	Pass	Pass	Pass
11	D_01	Dashboard	Pass	Pass	Pass

### b. Student Tests

**Table 4.42** Student Test Table

No.	ID	Description	Pass/Fail		
			Mohamad Asrol bin Arshad	Ts. Dr. Siti Rahayu binti Abdul Aziz	Mohd Ali bin Mohd Isa
1	P_01	Profile View	Pass	Pass	Pass
2	P_02	Profile Update	Pass	Pass	Pass
3	U_01	Upcoming	Pass	Pass	Pass
4	SC_01	Schedule View	Pass	Pass	Pass
5	SC_02	Schedule View All	Pass	Pass	Pass
6	SC_03	Schedule Create	Pass	Pass	Pass

7	SC_04	Schedule Update	Pass	Pass	Pass
8	SC_05	Schedule Delete	Pass	Pass	Pass
9	C_01	Course View	Pass	Pass	Pass
10	C_02	Course Create	Pass	Pass	Pass
11	C_03	One Click Timetable Retrieve	Pass	Pass	Pass
12	C_04	Course Update	Pass	Pass	Pass
13	C_05	Course Delete	Pass	Pass	Pass
14	SE_01	Setting View	Pass	Pass	Pass
15	SE_02	Setting Update	Pass	Pass	Pass
16	T_01	Telegram	Pass	Pass	Pass

**c. Admin Tests**

**Table 4.43 Admin Test Table**

<b>No.</b>	<b>ID</b>	<b>Description</b>	<b>Pass/Fail</b>		
			<b>Mohamad Asrol bin Arshad</b>	<b>Ts. Dr. Siti Rahayu binti Abdul Aziz</b>	<b>Mohd Ali bin Mohd Isa</b>
1	XP_01	Profile View	Pass	Pass	Pass
2	XP_02	Profile Update	Pass	Pass	Pass
3	XSC_01	Schedule View	Pass	Pass	Pass
4	XSC_02	Schedule Create	Pass	Pass	Pass
5	XSC_03	Schedule Update	Pass	Pass	Pass
6	XSC_04	Schedule Delete	Pass	Pass	Pass
7	XC_01	Course View	Pass	Pass	Pass
8	XC_02	Course Create	Pass	Pass	Pass
9	XC_03	Course Update	Pass	Pass	Pass
10	XC_04	Course Delete	Pass	Pass	Pass
11	XST_01	Student View	Pass	Pass	Pass

12	XST_02	Student Create	Pass	Pass	Pass
13	XST_03	Student Update	Pass	Pass	Pass
14	XST_04	Student Delete	Pass	Pass	Pass
15	XSE_01	Setting View	Pass	Pass	Pass
16	XSE_02	Setting Create	Pass	Pass	Pass
17	XSE_03	Setting Update	Pass	Pass	Pass
18	XSE_04	Setting Delete	Pass	Pass	Pass

#### d. System Tests

**Table 4.44** System Test Table

No.	ID	Description	Pass/Fail		
			Mohamad Asrol bin Arshad	Ts. Dr. Siti Rahayu binti Abdul Aziz	Mohd Ali bin Mohd Isa
1	S_SCH	Scheduler	Pass	Pass	Pass
2	S_SCR	Scraping	Pass	Pass	Pass
3	S_TEL	Telegram	Pass	Pass	Pass

The impressive outcome of all functionality tests being passed with flying colors, especially when conducted by an IT expert, speaks volumes about the quality and thoroughness of the system's development. Such success is indeed commendable and surpasses expectations for a new system. It underscores the importance of meticulous attention to detail and rigorous testing for each functionality during the development phase. While achieving such results may require significant investment of time and resources, the outcome proves that it's worth every cent. This diligent approach ensures that the system meets high standards of performance, reliability, and user satisfaction, ultimately contributing to its success in fulfilling its intended purpose.

### **4.2.3 Accuracy Test**

The accuracy tests for this project are split into two main components, each focusing on verifying specific functionalities. Within this project scope, the accuracy of two key features, web-scraping and the reminder system, is assessed. The web-scraping test aims to validate the precise retrieval of student class timetables from UiTM's platforms such as ICress or myStudent, ensuring parity with the students' actual schedules. Meanwhile, the reminder system undergoes testing to confirm its ability to effectively dispatch reminders to students at designated times, ensuring prompt reception. These accuracy assessments are conducted utilizing five StudyMate accounts for comprehensive evaluation.

#### **a. Web-scraping Accuracy Test**

**Table 4.45** Web-scraping Accuracy Test Table

No.	Student ID	Course Taken	Web-scraping Result	Pass/Fail
1	2022937689	ICT652	ICT652	Pass
		ITT420	ITT420	Pass
		CSP650	CSP650	Pass
		ENT600	ENT600	Pass
		ITT632	ITT632	Pass
		EET699	EET699	Pass

2	2022930735	ICT653	ICT653	Pass
		DSC650	DSC650	Pass
		ENT600	ENT600	Pass
		ICT652	ICT652	Pass
		CSP650	CSP650	Pass
3	2022905495	CSC567	CSC567	Pass
		CSP650	CSP650	Pass
		ICT652	ICT652	Pass
		CSC536	CSC536	Pass
4	2022907921	ICT653	ICT653	Pass
		DSC650	DSC650	Pass
		ENT600	ENT600	Pass
		ICT652	ICT652	Pass
		CSP650	CSP650	Pass
5	2022987975	ICT652	ICT652	Pass
		ITT420	ITT420	Pass
		CSP650	CSP650	Pass

	ENT600	ENT600	Pass
	ITT632	ITT632	Pass
	EET699	EET699	Pass

According to the findings presented in Table 4.45, the algorithm and technique employed to extract UiTM student class timetables demonstrate reliability. The test data and results align accurately with manual retrieval from the UiTM website, indicating the project's success in facilitating easier access to timetables for students. Notably, the web-scraping results consistently match the courses enrolled by each student, affirming the achievement of the project objective.

#### b. Automatic Reminder Accuracy Test

**Table 4.46** Reminder Accuracy Test Table

No.	Student ID	Send Before (Minutes)	Reminder Received?	Pass/Fail
1	2022937689	0	Yes	Pass
		5	Yes	Pass
		10	Yes	Pass
2	2022772035	0	Yes	Pass
		5	Yes	Pass

		10	Yes	Pass
3	2022907921	0	Yes	Pass
		5	Yes	Pass
		10	Yes	Pass
4	2022930735	0	Yes	Pass
		5	Yes	Pass
		10	Yes	Pass
5	2022905495	0	Yes	Pass
		5	Yes	Pass
		10	Yes	Pass

Table 4.46 presents the accuracy of the system in sending reminders to students at the specified times. The tests were conducted using three distinct time intervals: real-time (0 minutes), 5 minutes prior, and 10 minutes prior to the scheduled start time. The values denote the lead time in minutes before the event for reminder delivery. Across all five tests employing varied time intervals, all reminders were successfully received by the students. This robust performance underscores the reliability of the reminder system in promptly notifying students about their upcoming schedules.

## **CHAPTER FIVE**

### **CONCLUSION AND RECOMMENDATIONS**

This chapter discusses the conclusion of the StudyMate: UiTM Student Time Management System. Additionally, recommendations are also covered in this section. This marks the conclusion of all chapters within the report for this project.

#### **5.1 Introduction**

The StudyMate project, the UiTM Student Time Management System, initially aimed to simplify tasks by providing a centralized platform for students to access their schedules. The goal was to create a class timetable that could be easily viewed in one place, eliminating the need to retrieve it repeatedly and avoiding scattered storage, such as saving it in various unsuitable locations like personal WhatsApp messages for future reference. However, after extensive brainstorming, numerous features were identified for integration to enhance the system's robustness. Implementing the functionality to receive reminders before the class starts was one of the notable ideas incorporated into the project.

Implementing notification or reminders for tasks is not overly challenging. However, determining what the message should contain and when the system should send the reminder presents a crucial consideration. Opting for the schedule's title and description, along with additional pertinent information, and sending the reminder at the actual time elevates the system to another level. To address this, making the message customizable enables users to manage the content, and allowing them to specify how many minutes in advance they want the system to send the reminder before the event starts provides a flexible solution.

Contemplating useful features can be complex, considering the myriad possibilities for system implementation. Planning to add numerous features might lead to incomplete implementation, as the system should primarily achieve its main objectives and address current user issues. Prioritizing the attainment of objectives and problem resolution takes precedence over feature upgrades. However, striking a balance is key in managing this project.

## 5.2 Future Works

### a) Diverse Platforms for Receiving Reminders

Currently, the system is integrated only with Telegram, allowing users to receive notifications exclusively through that platform. However, expanding the integration to multiple and diverse platforms would significantly enhance the system. Users could then choose based on their preferences or even enable notifications across all platforms. While implementing this functionality may require a substantial amount of time, the resulting enhancement in user satisfaction would justify the time invested in the implementation.

### b) Integration with Various Universities or Colleges

Presently, the project named, "UiTM Student Time Management System" is specifically designed for UiTM students but not limited to them. This implies that users who are not UiTM students can still make use of the system's features, except for the course section. The course section is a special module integrated with the UiTM timetable, allowing users to fetch their class timetable from the UiTM website. However, exploring the possibility of integrating with other universities and colleges could be intriguing. This would extend the convenience of the system to users from various educational institutions.

### **5.3 Limitations**

#### a) Single Platform for Receiving Reminders

Presently, the system exclusively utilizes Telegram to dispatch reminders to students. Integration with other social or reminder platforms has not yet been implemented.

#### b) Some Features Limited to UiTM Student Only

Although the system is accessible to all users, its timetable retrieval functionality is tailored specifically for UiTM students at present. Students from other universities or colleges can manually input their class timetables by specifying the class type.

### **5.4 Summary**

In conclusion, the StudyMate project, the UiTM Student Time Management System, is designed to assist students in managing their time effectively. However, the system's effectiveness relies on the users being punctual, responsible, and willing to manage their time wisely. The project is developed as a tool to aid students in time management. Conveniently receiving reminders before class times and task deadlines may contribute to students' success in their academic and professional endeavors. Having a robust integration with the UiTM website simplifies the process for UiTM students to access their timetables. This, coupled with the easily enabled reminder feature in the settings, ensures that students receive timely reminders before each class begins.

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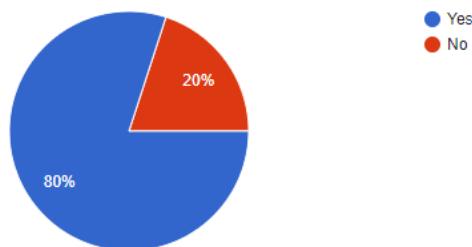
## **APPENDIX A**

### **PROBLEM STATEMENT SURVEY**

Do you have difficulty remembering the course code?

 Copy

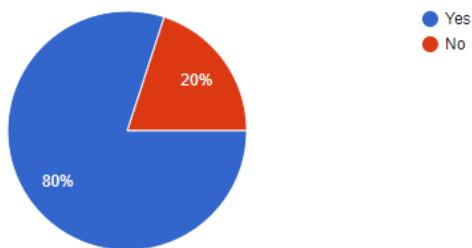
35 responses



Do you have difficulty obtaining your class timetable?

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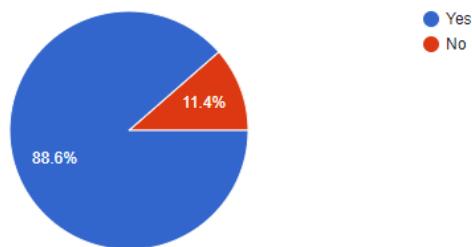
35 responses



Do you have difficulty remembering task or assignment due dates?

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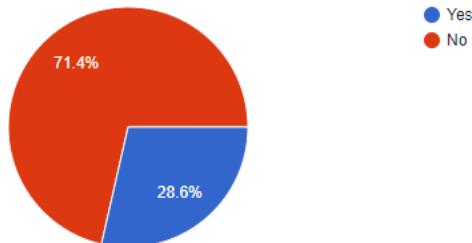
35 responses



Do you use an application to remind you about class and assignment due dates?

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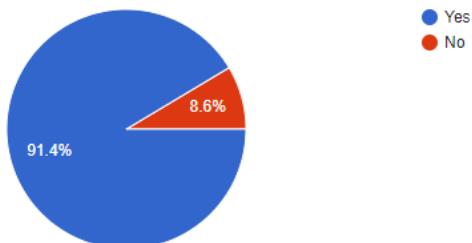
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Do you think a system that reminds you before each class starts and assignment due dates would be helpful?

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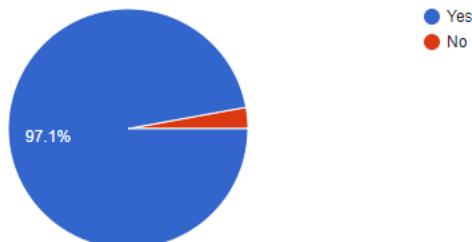
35 responses



Do you think **Developing UiTM Student Time Management System using Web-Scraping and Telegram Bot API with Advanced Notification Reminder** can help improving your productivity?

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35 responses



## **APPENDIX B**

### **FUNCTIONALITY TEST**

## **Functionality Test Agreement**

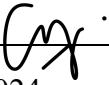
The test to verify the functionality of the system is conducted by the tester and the developer under the terms of this agreement. This agreement includes:

### **Purpose of testing and objective:**

This test's objectives are to ascertain whether the system is operating correctly and to reveal any mistakes or issues that may exist. The system is tested using modules as the basis.

### **Requirements:**

- The tester receives the test agreement and test form.
- The system is tested on a computer or laptop.
- It is necessary to fill in the test results field on the form.
- All the testers information is required.

Information	Tester	Developer
Name	DR. SITI RAHAYU BINTI ABDUL AZIZ	MUHAMMAD AMIRUL BIN MAMAT
Position	SENIOR LECTURER	STUDENT
Phone Number	0192361615	0168000782
Signature		
Date	24/01/2024	24/01/2024

## 1. General Tests

No.	ID	Description	Expected Output	Result	Pass/Fail
1	G_01	Landing Page	<ul style="list-style-type: none"> <li>The Landing Page is accessible. Including the Features &amp; Contact Us sections.</li> </ul>	/	Pass
2	G_02	Contact Us	<ul style="list-style-type: none"> <li>The Contact Us section is loaded.</li> <li>The system will redirect the user to the user's default mailbox with the subject &amp; message they entered.</li> </ul>	/	Pass
3	A_01	<p>Sign Up</p> <p>Notes: You can sign up using any of your email.</p> <p>But alternatively, you can also use a temporary email at,</p> <p><a href="https://tempmail.ac.id">https://tempmail.ac.id</a>.</p> <p>The system will ask for email verification. Check your inbox for verification link.</p>	<ul style="list-style-type: none"> <li>The Sign-Up page is accessible.</li> <li>Successfully created an account. The system redirects the user to the page for verifying the email address.</li> <li>The system sends the verification link to the user's email address.</li> </ul>	/	Pass

			<ul style="list-style-type: none"> <li>• This does not apply for authentication using Social Login.</li> </ul>		
4	A_02	<p>Social Login</p> <p>Notes: Sign in with any of your Google or GitHub account.</p>	<ul style="list-style-type: none"> <li>• The Social Login options are available.</li> <li>• The system logs in the user into the system.</li> <li>• If the user does not yet exist, the system will create a new user.</li> <li>• The system then redirects the users to the Dashboard page.</li> </ul>	/	Pass
5	A_03	<p>Sign In</p> <p>Notes: Sign in using the account you created earlier.</p> <p>OR</p> <p>Use this sample account:</p> <p><u>Student</u></p> <p>Email:</p> <p><a href="mailto:student@amlxv.com">student@amlxv.com</a></p> <p>Password: password</p>	<ul style="list-style-type: none"> <li>• The Sign In page is accessible.</li> <li>• Successfully logged into the system.</li> <li>• The system redirects the user into the Dashboard.</li> </ul>	/	Pass

		<p><u>Admin</u></p> <p>Email:</p> <p><a href="mailto:admin@amlxv.com">admin@amlxv.com</a></p> <p>Password: password</p>			
6	A_04	<p>Verify Email</p> <p>Notes: Check the inbox, there will be an email from StudyMate for verifying the email.</p>	<ul style="list-style-type: none"> <li>• The Verify Email page is accessible using the email verification link sent to the user's email address.</li> <li>• The user received the email verification link in their email inbox.</li> <li>• If the resend button is clicked, the system will again send the email verification link to the user's email address.</li> <li>• Clicking on the "Verify Email Address" or verification link in the email inbox will redirect the user into the Dashboard.</li> </ul>	/	Pass

			<ul style="list-style-type: none"> <li>• This does not apply for authentication using Social Login.</li> </ul>		
7	A_05	Forgot Password	<ul style="list-style-type: none"> <li>• The Forgot Password page is accessible.</li> <li>• A reset password link is sent to the user's email address upon request.</li> <li>• The user received the reset password link.</li> </ul>	/	Pass
8	A_06	<p>Reset Password</p> <p>Notes: Check the inbox, there will be an email from StudyMate for reset the password.</p>	<ul style="list-style-type: none"> <li>• The Reset Password page is accessible using the password reset link sent to the user's email address.</li> <li>• Successfully reset the password.</li> <li>• The system will redirect the users to the Sign In page.</li> <li>• Able to sign in using the new password.</li> </ul>	/	Pass
9	A_07	Sign Out	<ul style="list-style-type: none"> <li>• Terminate the user's current session.</li> <li>• The system will bring the user to the landing page.</li> </ul>	/	Pass

10	NV_01	<p>Navigation</p> <p>Notes: Sign in again to the system.</p>	<ul style="list-style-type: none"> <li>• Able to navigate through the Dashboard, Upcoming, Schedules, Courses, Settings &amp; Profile.</li> </ul>	/	Pass
11	D_01	Dashboard	<ul style="list-style-type: none"> <li>• The Dashboard page is accessible.</li> <li>• The statistics and graph can be seen (but the data may be empty).</li> </ul>	/	Pass

## 2. Student Tests

No.	ID	Description	Expected Output	Result	Pass/Fail
1	P_01	Profile View	<ul style="list-style-type: none"> <li>The Profile page is accessible.</li> <li>Able to see the user's general &amp; student profile information.</li> <li>Toggle click on "Enable Edit" will allow or disallow the users to make changes to the information.</li> </ul>	/	Pass
2	P_02	<p>Profile Update</p> <p>Notes: For student information, which is required for upcoming tests, you can use any of the student's details. But you can also use this sample data:</p> <p><b>Student ID:</b> 2022988117</p> <p><b>Campus:</b> UITM KAMPUS JASIN</p> <p><b>Faculty:</b> COLLEGE OF COMPUTING - INFORMATICS AND</p>	<ul style="list-style-type: none"> <li>All the information except an email address is editable.</li> <li>There is an option for selecting the campus.</li> <li>There is an option for selecting the faculty.</li> <li>Successfully updated the information on save.</li> </ul>	/	Pass

		MATHEMATICS <b>Program:</b> CS251			
3	U_01	Upcoming	<ul style="list-style-type: none"> <li>The Upcoming page is accessible.</li> <li>If there is no upcoming schedule, there will be a button for adding the schedule.</li> <li>Clicking on the “New Schedule” will bring the user to the create schedule page.</li> <li>If there is an upcoming schedule, the card containing the schedule’s information will appear.</li> <li>Clicking on the card will redirect the user to the edit page for the selected schedule.</li> </ul>	/	Pass
4	SC_01	Schedule View	<ul style="list-style-type: none"> <li>The Schedule page is accessible.</li> <li>Able to see a calendar-like interface showing the</li> </ul>	/	Pass

			<p>current schedule in a month.</p> <ul style="list-style-type: none"> <li>• If exist a schedule in the current month, user should be able to click on the schedule to see more details about the schedule, manage &amp; delete the schedule.</li> </ul>		
5	SC_02	Schedule View All	<ul style="list-style-type: none"> <li>• The View All Schedule page is accessible.</li> <li>• Toggle between “Class Timetable” &amp; “Activities” will change the schedules being displayed based on their type.</li> <li>• Able to see all the schedule that has been created.</li> </ul>	/	Pass
6	SC_03	<p>Schedule Create</p> <p>Notes: Enabling notification feature requires Telegram Integration. Refer to Student Test (No. 15) or test ID: T_01</p>	<ul style="list-style-type: none"> <li>• The Create Schedule page is accessible.</li> <li>• Toggle between “Class Timetable” &amp; “Activities” will change the schedule’s type.</li> </ul>	/	Pass

			<ul style="list-style-type: none"> <li>• Able to create a new schedule.</li> </ul>		
7	SC_04	<p>Schedule Update</p> <p>Notes: Enabling notification feature requires Telegram Integration. Refer to Student Test (No. 15) or test ID: T_01</p>	<ul style="list-style-type: none"> <li>• The Update Schedule page is accessible.</li> <li>• Toggle between “Class Timetable” &amp; “Activities” will change the schedule’s type.</li> <li>• Able to save the schedule with the new information.</li> </ul>	/	Pass
8	SC_05	Schedule Delete	<ul style="list-style-type: none"> <li>• Able to delete the schedule.</li> <li>• The schedule should be removed from the lists.</li> </ul>	/	Pass
9	C_01	Course View	<ul style="list-style-type: none"> <li>• The Course page is accessible.</li> <li>• If the course exists, able to see the list of course in a table.</li> </ul>	/	Pass
10	C_02	<p>Course Create</p> <p>Notes: Enabling notification feature requires Telegram Integration. Refer to</p>	<ul style="list-style-type: none"> <li>• Users should be able to add a new course with or without the reminder being turned on.</li> </ul>	/	Pass

	<p>Student Test (No. 15) or test ID: T_01</p> <p>For creating the course, the course details are required. You can use any UiTM's courses information.</p> <p>For UiTM's lecturers, to get to know what subjects that the student taken, you can follow this step:</p> <ul style="list-style-type: none"> <li>- Visit the link to <a href="https://sims-academic.uitm.edu.my/sims/index.htm">https://sims-academic.uitm.edu.my/sims/index.htm</a></li> <li>- Sign in with your credentials.</li> <li>- Click on "Student Details" or "Maklumat Pelajar".</li> <li>- Fill in the student ID.</li> <li>- Click on quick search.</li> <li>- Choose "academic".</li> </ul>	<ul style="list-style-type: none"> <li>• On success, the new course will be added to the courses list.</li> <li>• The schedule that belongs to the course will also being added in the background. Kindly check the schedules page for confirmation.</li> </ul>		
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		<ul style="list-style-type: none"> <li>- Scroll to view the subject has been taken.</li> </ul> <p>But alternatively, you can also use these sample:</p> <p><u>Sample 1</u></p> <p><b>Name:</b> PROJECT</p> <p><b>Code:</b> CSP650</p> <p><b>Group:</b> M3CS2516A</p> <p><u>Sample 2</u></p> <p><b>Name:</b> TECHNOLOGY ENTREPRENEURSHIP</p> <p><b>Code:</b> ENT600</p> <p><b>Group:</b> M3CS2516A</p> <p><u>Sample 3</u></p> <p><b>Name:</b> NETWORK AND SYSTEM ADMINISTRATION</p> <p><b>Code:</b> ITT420</p> <p><b>Group:</b> M3CS2516A</p>		
11	C_03	<p>One Click Timetable Retrieve</p> <p>Notes: This feature requires a student information being setup properly. Refer to</p>	<ul style="list-style-type: none"> <li>• Users should be able to add their courses taken with only a single click.</li> <li>• The system should retrieve all the</li> </ul>	/ Pass

		<p>Student Test (No. 2) for updating the student information.</p> <p>To use this feature, simply click on the button called “Surprise Me!” in the course section.</p>	<p>courses and timetables for the corresponding user and save them into the database.</p> <ul style="list-style-type: none"> <li>• On success, the courses will be shown on the courses list.</li> <li>• The schedules for the courses should also being added.</li> </ul>		
12	C_04	Course Update	<ul style="list-style-type: none"> <li>• Users should be able to update the existing course with or without the reminder being turned on.</li> <li>• On success, the course will be updated and shown on the courses list.</li> <li>• The schedule that belongs to the course will also being updated in the background. Kindly check the schedules page for confirmation.</li> </ul>	/	Pass

13	C_05	Course Delete	<ul style="list-style-type: none"> <li>The users should be able to delete the course.</li> <li>The course will be deleted from the courses list.</li> <li>The schedule that belongs to the corresponding course will also be deleted as well.</li> </ul>	/	Pass
14	SE_01	Setting View	<ul style="list-style-type: none"> <li>The Setting page is accessible.</li> <li>Toggle click on “Enable Edit” will allow or disallow the users to make changes to the information.</li> </ul>	/	Pass
15	SE_02	Setting Update	<ul style="list-style-type: none"> <li>All the information except the telegram username can be manually edited.</li> <li>Successfully updated the information on save.</li> </ul>	/	Pass
16	T_01	Telegram	<ul style="list-style-type: none"> <li>On Setting page, clicking on the</li> </ul>	/	Pass

		<p>Notes: This requires you to have a Telegram account. The Telegram widget will pop-up for a verification.</p>	<p>Telegram button will integrate the StudyMate with user's Telegram account.</p> <ul style="list-style-type: none"> <li>• Users should be able to see their username on the Telegram Username on the setting page.</li> <li>• Users should receive a message from StudyMate Telegram Bot.</li> </ul>		
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### 3. Admin Tests

\* Sign in with the “Admin” test account. Email: [admin@amlxv.com](mailto:admin@amlxv.com) | Password: password

No.	ID	Description	Expected Output	Result	Pass/Fail
1	XP_01	Profile View	<ul style="list-style-type: none"> <li>The Profile page is accessible.</li> <li>Able to see the user's profile information.</li> <li>Toggle click on “Enable Edit” will allow or disallow the users to make changes to the information.</li> </ul>	/	Pass
2	XP_02	Profile Update	<ul style="list-style-type: none"> <li>All the information except an email address is editable.</li> <li>Successfully updated the information on save.</li> </ul>	/	Pass
3	XSC_01	Schedule View	<ul style="list-style-type: none"> <li>The Schedule page is accessible.</li> <li>Able to see all schedules in a table.</li> </ul>	/	Pass
4	XSC_02	Schedule Create  Notes: Enabling notification feature	<ul style="list-style-type: none"> <li>The Create Schedule page is accessible.</li> </ul>	/	Pass

		requires Telegram Integration. Refer to Student Test (No. 15) or test ID: T_01	<ul style="list-style-type: none"> <li>• Toggle between “Class Timetable” &amp; “Activities” will change the schedule’s type.</li> <li>• Able to create a new schedule.</li> </ul>		
5	XSC_03	Schedule Update  Notes: Enabling notification feature requires Telegram Integration. Refer to Student Test (No. 15) or test ID: T_01	<ul style="list-style-type: none"> <li>• The Update Schedule page is accessible.</li> <li>• Toggle between “Class Timetable” &amp; “Activities” will change the schedule’s type.</li> <li>• Able to save the schedule with the new information.</li> </ul>	/	Pass
6	XSC_04	Schedule Delete	<ul style="list-style-type: none"> <li>• Able to delete the schedule.</li> <li>• The schedule should be removed from the lists.</li> </ul>	/	Pass
7	XC_01	Course View	<ul style="list-style-type: none"> <li>• The Course page is accessible.</li> <li>• Able to see all courses in a table.</li> </ul>	/	Pass
8	XC_02	Course Create	<ul style="list-style-type: none"> <li>• Able to create a new course with or</li> </ul>	/	Pass

		<p>Notes: Enabling notification feature requires Telegram Integration. Refer to Student Test (No. 15) or test ID: T_01</p> <p>For creating the course, the course details are required.</p> <p>For UiTM's lecturers, to get to know what subjects that the student taken, you can follow this step:</p> <ul style="list-style-type: none"> <li>- Visit the link to <a href="https://sims-academic.uitm.edu.my/sims/index.htm">https://sims-academic.uitm.edu.my/sims/index.htm</a></li> <li>- Sign in with your credentials.</li> <li>- Click on “Student Details” or “Maklumat Pelajar”.</li> <li>- Fill in the student ID.</li> </ul>	<p>without the reminder being turned on.</p> <ul style="list-style-type: none"> <li>• On success, the new course will be added to the courses list.</li> <li>• The schedule that belongs to the course and student will also being added in the background.</li> </ul>	
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		<ul style="list-style-type: none"> <li>- Click on quick search.</li> <li>- Choose “academic”.</li> <li>- Scroll to view the subject has been taken.</li> </ul> <p>But alternatively, you can also use these sample:</p> <p><u>Sample 1</u></p> <p><b>Student ID:</b> 2022988117</p> <p><b>Name:</b> ETHICAL IN ICT</p> <p><b>Code:</b> ICT652</p> <p><b>Group:</b> M3CS2516A</p> <p><u>Sample 2</u></p> <p><b>Student ID:</b> 2022988117</p> <p><b>Name:</b> MOBILE CLOUD COMPUTING</p> <p><b>Code:</b> ITT632</p> <p><b>Group:</b> M3CS2516A</p>		
9	XC_03	Course Update  Notes: Enabling notification feature	<ul style="list-style-type: none"> <li>• Able to update an existing course with or without the</li> </ul>	/ Pass

		requires Telegram Integration. Refer to Student Test (No. 15) or test ID: T_01	<p>reminder being turned on.</p> <ul style="list-style-type: none"> <li>On success, the course will be updated and shown on the courses list.</li> <li>The schedule that belongs to the course and student will also be updated in the background.</li> </ul>		
10	XC_04	Course Delete	<ul style="list-style-type: none"> <li>Able to delete the course.</li> <li>The course will be deleted from the courses list.</li> <li>The schedule that belongs to the corresponding course will also be deleted as well.</li> </ul>	/	Pass
11	XST_01	Student View	<ul style="list-style-type: none"> <li>The Student page is accessible.</li> <li>Able to see all the students in a table.</li> </ul>	/	Pass
12	XST_02	Student Create  Notes: You can create using any student's	<ul style="list-style-type: none"> <li>Able to create new students.</li> </ul>	/	Pass

		<p>information. But alternatively, you can also use this sample data:</p> <p><u>Sample 1</u></p> <p><b>Name:</b> Ahmad</p> <p><b>Email:</b> <a href="mailto:ahmad@test.com">ahmad@test.com</a></p> <p><b>Password:</b> 123456</p> <p><u>Sample 2</u></p> <p><b>Name:</b> Siti</p> <p><b>Email:</b> <a href="mailto:siti@test.com">siti@test.com</a></p> <p><b>Password:</b> 123456</p>	<ul style="list-style-type: none"> <li>On successful, the new students will be listed in the table.</li> </ul>		
13	XST_03	Student Update	<ul style="list-style-type: none"> <li>Able to update an existing student.</li> <li>Successfully updated the information on save.</li> </ul>	/	Pass
14	XST_04	<p>Student Delete</p> <p>Notes: If you're adding the student using the sample data included, find the user with name "Siti" and delete this user. If not, try to delete any user.</p>	<ul style="list-style-type: none"> <li>Able to delete the existing student.</li> </ul>	/	Pass

15	XSE_01	Setting View	<ul style="list-style-type: none"> <li>The Setting page is accessible.</li> <li>Able to see all the user's setting in a table.</li> </ul>		
16	XSE_02	<p>Setting Create</p> <p>Notes: If you're not using the included sample data for creating the student, you can find any student to create the setting for them. But if yes, you can use this sample data:</p> <p><b>Email:</b> <a href="mailto:ahmad@test.com">ahmad@test.com</a></p> <p><b>Time Before:</b> 10</p> <p><b>Custom Message:</b> Hi, there! {title} will start soon.</p> <p>The sample data for custom message may look terrifying, but you can simply copy and paste to the relevant input. However, you can also customize the message as you want.</p>	<ul style="list-style-type: none"> <li>Able to create a new setting for the users.</li> <li>On successful, the settings will be listed in the table.</li> </ul>	/	Pass

17	XSE_03	Setting Update	<ul style="list-style-type: none"> <li>• Able to update an existing setting for the users.</li> <li>• Successfully updated the information on save.</li> </ul>	/	Pass
18	XSE_04	Setting Delete	<ul style="list-style-type: none"> <li>• Able to delete an existing setting for the users.</li> </ul>	/	Pass

#### 4. System Tests

No.	ID	Description	Expected Output	Result	Pass/Fail
1	S_SCH	<p>Scheduler</p> <p>Notes: For verifying the scheduler is working properly, simply add the schedule with a notification enabled.</p> <p>You will receive the reminder as soon as it reached the given time thru the Telegram bot.</p>	<ul style="list-style-type: none"> <li>For a schedule with notification enabled, users should receive the reminder from StudyMate's Telegram Bot at the provided timestamp.</li> </ul>	/	Pass
2	S_SCR	<p>Scraping</p> <p>Notes: Scraping happened when the course is added. The timetable for the corresponding course will be retrieved.</p> <p>For determining whether the timetables are being fetched correctly or not, you can navigate to the “Schedule”, and compare them using iCress, an official</p>	<ul style="list-style-type: none"> <li>Successfully fetched the timetable at the course section.</li> </ul>	/	Pass

		<p>UiTM's website for retrieving timetables:</p> <p><a href="https://simsweb4.uitm.edu.my/estudent/class_timetable/index.htm">https://simsweb4.uitm.edu.my/estudent/class_timetable/index.htm</a></p>			
3	S_TEL	<p>Telegram</p> <p>Notes: For verifying whether your account has been linked with your Telegram account, kindly check the message from @studymate_amlxv_bot in Telegram. You will receive the notification when the integration succeeds.</p>	<ul style="list-style-type: none"> <li>• Successfully integrated the account with Telegram.</li> <li>• StudyMate's Telegram Bot able to send message to the users.</li> </ul>	/	Pass

## **Functionality Test Agreement**

The test to verify the functionality of the system is conducted by the tester and the developer under the terms of this agreement. This agreement includes:

### **Purpose of testing and objective:**

This test's objectives are to ascertain whether the system is operating correctly and to reveal any mistakes or issues that may exist. The system is tested using modules as the basis.

### **Requirements:**

- The tester receives the test agreement and test form.
- The system is tested on a computer or laptop.
- It is necessary to fill in the test results field on the form.
- All the testers information is required.

Information	Tester	Developer
Name	MOHAMAD ASROL BIN ARSHAD	MUHAMMAD AMIRUL BIN MAMAT
Position	LECTURER	STUDENT
Phone Number	0129146490	0168000782
Signature		
Date	31/01/2024	24/01/2024

## 1. General Tests

No.	ID	Description	Expected Output	Result	Pass/Fail
1	G_01	Landing Page	<ul style="list-style-type: none"> <li>The Landing Page is accessible. Including the Features &amp; Contact Us sections.</li> </ul>	/	Pass
2	G_02	Contact Us	<ul style="list-style-type: none"> <li>The Contact Us section is loaded.</li> <li>The system will redirect the user to the user's default mailbox with the subject &amp; message they entered.</li> </ul>	/	Pass
3	A_01	<p>Sign Up</p> <p>Notes: You can sign up using any of your email.</p> <p>But alternatively, you can also use a temporary email at,</p> <p><a href="https://tempmail.ac.id">https://tempmail.ac.id</a>.</p> <p>The system will ask for email verification. Check your inbox for verification link.</p>	<ul style="list-style-type: none"> <li>The Sign-Up page is accessible.</li> <li>Successfully created an account. The system redirects the user to the page for verifying the email address.</li> <li>The system sends the verification link to the user's email address.</li> </ul>	/	Pass

			<ul style="list-style-type: none"> <li>• This does not apply for authentication using Social Login.</li> </ul>		
4	A_02	<p>Social Login</p> <p>Notes: Sign in with any of your Google or GitHub account.</p>	<ul style="list-style-type: none"> <li>• The Social Login options are available.</li> <li>• The system logs in the user into the system.</li> <li>• If the user does not yet exist, the system will create a new user.</li> <li>• The system then redirects the users to the Dashboard page.</li> </ul>	/	Pass
5	A_03	<p>Sign In</p> <p>Notes: Sign in using the account you created earlier.</p> <p>OR</p> <p>Use this sample account:</p> <p><u>Student</u></p> <p>Email:</p> <p><a href="mailto:student@amlxv.com">student@amlxv.com</a></p> <p>Password: password</p>	<ul style="list-style-type: none"> <li>• The Sign In page is accessible.</li> <li>• Successfully logged into the system.</li> <li>• The system redirects the user into the Dashboard.</li> </ul>	/	Pass

		<p><u>Admin</u></p> <p>Email:</p> <p><a href="mailto:admin@amlxv.com">admin@amlxv.com</a></p> <p>Password: password</p>			
6	A_04	<p>Verify Email</p> <p>Notes: Check the inbox, there will be an email from StudyMate for verifying the email.</p>	<ul style="list-style-type: none"> <li>• The Verify Email page is accessible using the email verification link sent to the user's email address.</li> <li>• The user received the email verification link in their email inbox.</li> <li>• If the resend button is clicked, the system will again send the email verification link to the user's email address.</li> <li>• Clicking on the “Verify Email Address” or verification link in the email inbox will redirect the user into the Dashboard.</li> </ul>	/	Pass

			<ul style="list-style-type: none"> <li>• This does not apply for authentication using Social Login.</li> </ul>		
7	A_05	Forgot Password	<ul style="list-style-type: none"> <li>• The Forgot Password page is accessible.</li> <li>• A reset password link is sent to the user's email address upon request.</li> <li>• The user received the reset password link.</li> </ul>	/	Pass
8	A_06	<p>Reset Password</p> <p>Notes: Check the inbox, there will be an email from StudyMate for reset the password.</p>	<ul style="list-style-type: none"> <li>• The Reset Password page is accessible using the password reset link sent to the user's email address.</li> <li>• Successfully reset the password.</li> <li>• The system will redirect the users to the Sign In page.</li> <li>• Able to sign in using the new password.</li> </ul>	/	Pass
9	A_07	Sign Out	<ul style="list-style-type: none"> <li>• Terminate the user's current session.</li> <li>• The system will bring the user to the landing page.</li> </ul>	/	Pass

10	NV_01	<p>Navigation</p> <p>Notes: Sign in again to the system.</p>	<ul style="list-style-type: none"> <li>• Able to navigate through the Dashboard, Upcoming, Schedules, Courses, Settings &amp; Profile.</li> </ul>	/	Pass
11	D_01	Dashboard	<ul style="list-style-type: none"> <li>• The Dashboard page is accessible.</li> <li>• The statistics and graph can be seen (but the data may be empty).</li> </ul>	/	Pass

## 2. Student Tests

No.	ID	Description	Expected Output	Result	Pass/Fail
1	P_01	Profile View	<ul style="list-style-type: none"> <li>The Profile page is accessible.</li> <li>Able to see the user's general &amp; student profile information.</li> <li>Toggle click on "Enable Edit" will allow or disallow the users to make changes to the information.</li> </ul>	/	Pass
2	P_02	<p>Profile Update</p> <p>Notes: For student information, which is required for upcoming tests, you can use any of the student's details. But you can also use this sample data:</p> <p><b>Student ID:</b> 2022988117</p> <p><b>Campus:</b> UITM KAMPUS JASIN</p> <p><b>Faculty:</b> COLLEGE OF COMPUTING - INFORMATICS AND</p>	<ul style="list-style-type: none"> <li>All the information except an email address is editable.</li> <li>There is an option for selecting the campus.</li> <li>There is an option for selecting the faculty.</li> <li>Successfully updated the information on save.</li> </ul>	/	Pass

		MATHEMATICS <b>Program:</b> CS251			
3	U_01	Upcoming	<ul style="list-style-type: none"> <li>The Upcoming page is accessible.</li> <li>If there is no upcoming schedule, there will be a button for adding the schedule.</li> <li>Clicking on the “New Schedule” will bring the user to the create schedule page.</li> <li>If there is an upcoming schedule, the card containing the schedule’s information will appear.</li> <li>Clicking on the card will redirect the user to the edit page for the selected schedule.</li> </ul>	/	Pass
4	SC_01	Schedule View	<ul style="list-style-type: none"> <li>The Schedule page is accessible.</li> <li>Able to see a calendar-like interface showing the</li> </ul>	/	Pass

			<p>current schedule in a month.</p> <ul style="list-style-type: none"> <li>• If exist a schedule in the current month, user should be able to click on the schedule to see more details about the schedule, manage &amp; delete the schedule.</li> </ul>		
5	SC_02	Schedule View All	<ul style="list-style-type: none"> <li>• The View All Schedule page is accessible.</li> <li>• Toggle between “Class Timetable” &amp; “Activities” will change the schedules being displayed based on their type.</li> <li>• Able to see all the schedule that has been created.</li> </ul>	/	Pass
6	SC_03	<p>Schedule Create</p> <p>Notes: Enabling notification feature requires Telegram Integration. Refer to Student Test (No. 15) or test ID: T_01</p>	<ul style="list-style-type: none"> <li>• The Create Schedule page is accessible.</li> <li>• Toggle between “Class Timetable” &amp; “Activities” will change the schedule’s type.</li> </ul>	/	Pass

			<ul style="list-style-type: none"> <li>• Able to create a new schedule.</li> </ul>		
7	SC_04	<p>Schedule Update</p> <p>Notes: Enabling notification feature requires Telegram Integration. Refer to Student Test (No. 15) or test ID: T_01</p>	<ul style="list-style-type: none"> <li>• The Update Schedule page is accessible.</li> <li>• Toggle between “Class Timetable” &amp; “Activities” will change the schedule’s type.</li> <li>• Able to save the schedule with the new information.</li> </ul>	/	Pass
8	SC_05	Schedule Delete	<ul style="list-style-type: none"> <li>• Able to delete the schedule.</li> <li>• The schedule should be removed from the lists.</li> </ul>	/	Pass
9	C_01	Course View	<ul style="list-style-type: none"> <li>• The Course page is accessible.</li> <li>• If the course exists, able to see the list of course in a table.</li> </ul>	/	Pass
10	C_02	<p>Course Create</p> <p>Notes: Enabling notification feature requires Telegram Integration. Refer to</p>	<ul style="list-style-type: none"> <li>• Users should be able to add a new course with or without the reminder being turned on.</li> </ul>	/	Pass

	<p>Student Test (No. 15) or test ID: T_01</p> <p>For creating the course, the course details are required. You can use any UiTM's courses information.</p> <p>For UiTM's lecturers, to get to know what subjects that the student taken, you can follow this step:</p> <ul style="list-style-type: none"> <li>- Visit the link to <a href="https://sims-academic.uitm.edu.my/sims/index.htm">https://sims-academic.uitm.edu.my/sims/index.htm</a></li> <li>- Sign in with your credentials.</li> <li>- Click on "Student Details" or "Maklumat Pelajar".</li> <li>- Fill in the student ID.</li> <li>- Click on quick search.</li> <li>- Choose "academic".</li> </ul>	<ul style="list-style-type: none"> <li>• On success, the new course will be added to the courses list.</li> <li>• The schedule that belongs to the course will also being added in the background. Kindly check the schedules page for confirmation.</li> </ul>		
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		<ul style="list-style-type: none"> <li>- Scroll to view the subject has been taken.</li> </ul> <p>But alternatively, you can also use these sample:</p> <p><u>Sample 1</u></p> <p><b>Name:</b> PROJECT</p> <p><b>Code:</b> CSP650</p> <p><b>Group:</b> M3CS2516A</p> <p><u>Sample 2</u></p> <p><b>Name:</b> TECHNOLOGY ENTREPRENEURSHIP</p> <p><b>Code:</b> ENT600</p> <p><b>Group:</b> M3CS2516A</p> <p><u>Sample 3</u></p> <p><b>Name:</b> NETWORK AND SYSTEM ADMINISTRATION</p> <p><b>Code:</b> ITT420</p> <p><b>Group:</b> M3CS2516A</p>		
11	C_03	<p>One Click Timetable Retrieve</p> <p>Notes: This feature requires a student information being setup properly. Refer to</p>	<ul style="list-style-type: none"> <li>• Users should be able to add their courses taken with only a single click.</li> <li>• The system should retrieve all the</li> </ul>	/ Pass

		<p>Student Test (No. 2) for updating the student information.</p> <p>To use this feature, simply click on the button called “Surprise Me!” in the course section.</p>	<p>courses and timetables for the corresponding user and save them into the database.</p> <ul style="list-style-type: none"> <li>• On success, the courses will be shown on the courses list.</li> <li>• The schedules for the courses should also being added.</li> </ul>		
12	C_04	Course Update	<ul style="list-style-type: none"> <li>• Users should be able to update the existing course with or without the reminder being turned on.</li> <li>• On success, the course will be updated and shown on the courses list.</li> <li>• The schedule that belongs to the course will also being updated in the background. Kindly check the schedules page for confirmation.</li> </ul>	/	Pass

13	C_05	Course Delete	<ul style="list-style-type: none"> <li>The users should be able to delete the course.</li> <li>The course will be deleted from the courses list.</li> <li>The schedule that belongs to the corresponding course will also be deleted as well.</li> </ul>	/	Pass
14	SE_01	Setting View	<ul style="list-style-type: none"> <li>The Setting page is accessible.</li> <li>Toggle click on “Enable Edit” will allow or disallow the users to make changes to the information.</li> </ul>	/	Pass
15	SE_02	Setting Update	<ul style="list-style-type: none"> <li>All the information except the telegram username can be manually edited.</li> <li>Successfully updated the information on save.</li> </ul>	/	Pass
16	T_01	Telegram	<ul style="list-style-type: none"> <li>On Setting page, clicking on the</li> </ul>	/	Pass

		<p>Notes: This requires you to have a Telegram account. The Telegram widget will pop-up for a verification.</p>	<p>Telegram button will integrate the StudyMate with user's Telegram account.</p> <ul style="list-style-type: none"> <li>• Users should be able to see their username on the Telegram Username on the setting page.</li> <li>• Users should receive a message from StudyMate Telegram Bot.</li> </ul>		
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### 3. Admin Tests

\* Sign in with the “Admin” test account. Email: [admin@amlxv.com](mailto:admin@amlxv.com) | Password: password

No.	ID	Description	Expected Output	Result	Pass/Fail
1	XP_01	Profile View	<ul style="list-style-type: none"> <li>The Profile page is accessible.</li> <li>Able to see the user's profile information.</li> <li>Toggle click on “Enable Edit” will allow or disallow the users to make changes to the information.</li> </ul>	/	Pass
2	XP_02	Profile Update	<ul style="list-style-type: none"> <li>All the information except an email address is editable.</li> <li>Successfully updated the information on save.</li> </ul>	/	Pass
3	XSC_01	Schedule View	<ul style="list-style-type: none"> <li>The Schedule page is accessible.</li> <li>Able to see all schedules in a table.</li> </ul>	/	Pass
4	XSC_02	Schedule Create  Notes: Enabling notification feature	<ul style="list-style-type: none"> <li>The Create Schedule page is accessible.</li> </ul>	/	Pass

		requires Telegram Integration. Refer to Student Test (No. 15) or test ID: T_01	<ul style="list-style-type: none"> <li>• Toggle between “Class Timetable” &amp; “Activities” will change the schedule’s type.</li> <li>• Able to create a new schedule.</li> </ul>		
5	XSC_03	Schedule Update  Notes: Enabling notification feature requires Telegram Integration. Refer to Student Test (No. 15) or test ID: T_01	<ul style="list-style-type: none"> <li>• The Update Schedule page is accessible.</li> <li>• Toggle between “Class Timetable” &amp; “Activities” will change the schedule’s type.</li> <li>• Able to save the schedule with the new information.</li> </ul>	/	Pass
6	XSC_04	Schedule Delete	<ul style="list-style-type: none"> <li>• Able to delete the schedule.</li> <li>• The schedule should be removed from the lists.</li> </ul>	/	Pass
7	XC_01	Course View	<ul style="list-style-type: none"> <li>• The Course page is accessible.</li> <li>• Able to see all courses in a table.</li> </ul>	/	Pass
8	XC_02	Course Create	<ul style="list-style-type: none"> <li>• Able to create a new course with or</li> </ul>	/	Pass

		<p>Notes: Enabling notification feature requires Telegram Integration. Refer to Student Test (No. 15) or test ID: T_01</p> <p>For creating the course, the course details are required.</p> <p>For UiTM's lecturers, to get to know what subjects that the student taken, you can follow this step:</p> <ul style="list-style-type: none"> <li>- Visit the link to <a href="https://sims-academic.uitm.edu.my/sims/index.htm">https://sims-academic.uitm.edu.my/sims/index.htm</a></li> <li>- Sign in with your credentials.</li> <li>- Click on “Student Details” or “Maklumat Pelajar”.</li> <li>- Fill in the student ID.</li> </ul>	<p>without the reminder being turned on.</p> <ul style="list-style-type: none"> <li>• On success, the new course will be added to the courses list.</li> <li>• The schedule that belongs to the course and student will also being added in the background.</li> </ul>	
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		<ul style="list-style-type: none"> <li>- Click on quick search.</li> <li>- Choose “academic”.</li> <li>- Scroll to view the subject has been taken.</li> </ul> <p>But alternatively, you can also use these sample:</p> <p><u>Sample 1</u></p> <p><b>Student ID:</b> 2022988117</p> <p><b>Name:</b> ETHICAL IN ICT</p> <p><b>Code:</b> ICT652</p> <p><b>Group:</b> M3CS2516A</p> <p><u>Sample 2</u></p> <p><b>Student ID:</b> 2022988117</p> <p><b>Name:</b> MOBILE CLOUD COMPUTING</p> <p><b>Code:</b> ITT632</p> <p><b>Group:</b> M3CS2516A</p>		
9	XC_03	Course Update  Notes: Enabling notification feature	<ul style="list-style-type: none"> <li>• Able to update an existing course with or without the</li> </ul>	/ Pass

		requires Telegram Integration. Refer to Student Test (No. 15) or test ID: T_01	<p>reminder being turned on.</p> <ul style="list-style-type: none"> <li>On success, the course will be updated and shown on the courses list.</li> <li>The schedule that belongs to the course and student will also be updated in the background.</li> </ul>		
10	XC_04	Course Delete	<ul style="list-style-type: none"> <li>Able to delete the course.</li> <li>The course will be deleted from the courses list.</li> <li>The schedule that belongs to the corresponding course will also be deleted as well.</li> </ul>	/	Pass
11	XST_01	Student View	<ul style="list-style-type: none"> <li>The Student page is accessible.</li> <li>Able to see all the students in a table.</li> </ul>	/	Pass
12	XST_02	Student Create  Notes: You can create using any student's	<ul style="list-style-type: none"> <li>Able to create new students.</li> </ul>	/	Pass

		<p>information. But alternatively, you can also use this sample data:</p> <p><u>Sample 1</u></p> <p><b>Name:</b> Ahmad</p> <p><b>Email:</b> <a href="mailto:ahmad@test.com">ahmad@test.com</a></p> <p><b>Password:</b> 123456</p> <p><u>Sample 2</u></p> <p><b>Name:</b> Siti</p> <p><b>Email:</b> <a href="mailto:siti@test.com">siti@test.com</a></p> <p><b>Password:</b> 123456</p>	<ul style="list-style-type: none"> <li>On successful, the new students will be listed in the table.</li> </ul>		
13	XST_03	Student Update	<ul style="list-style-type: none"> <li>Able to update an existing student.</li> <li>Successfully updated the information on save.</li> </ul>	/	Pass
14	XST_04	<p>Student Delete</p> <p>Notes: If you're adding the student using the sample data included, find the user with name "Siti" and delete this user. If not, try to delete any user.</p>	<ul style="list-style-type: none"> <li>Able to delete the existing student.</li> </ul>	/	Pass

15	XSE_01	Setting View	<ul style="list-style-type: none"> <li>The Setting page is accessible.</li> <li>Able to see all the user's setting in a table.</li> </ul>		
16	XSE_02	<p>Setting Create</p> <p>Notes: If you're not using the included sample data for creating the student, you can find any student to create the setting for them. But if yes, you can use this sample data:</p> <p><b>Email:</b> <a href="mailto:ahmad@test.com">ahmad@test.com</a></p> <p><b>Time Before:</b> 10</p> <p><b>Custom Message:</b> Hi, there! {title} will start soon.</p> <p>The sample data for custom message may look terrifying, but you can simply copy and paste to the relevant input. However, you can also customize the message as you want.</p>	<ul style="list-style-type: none"> <li>Able to create a new setting for the users.</li> <li>On successful, the settings will be listed in the table.</li> </ul>	/	Pass

17	XSE_03	Setting Update	<ul style="list-style-type: none"> <li>• Able to update an existing setting for the users.</li> <li>• Successfully updated the information on save.</li> </ul>	/	Pass
18	XSE_04	Setting Delete	<ul style="list-style-type: none"> <li>• Able to delete an existing setting for the users.</li> </ul>	/	Pass

#### 4. System Tests

No.	ID	Description	Expected Output	Result	Pass/Fail
1	S_SCH	<p>Scheduler</p> <p>Notes: For verifying the scheduler is working properly, simply add the schedule with a notification enabled.</p> <p>You will receive the reminder as soon as it reached the given time thru the Telegram bot.</p>	<ul style="list-style-type: none"> <li>For a schedule with notification enabled, users should receive the reminder from StudyMate's Telegram Bot at the provided timestamp.</li> </ul>	/	Pass
2	S_SCR	<p>Scraping</p> <p>Notes: Scraping happened when the course is added. The timetable for the corresponding course will be retrieved.</p> <p>For determining whether the timetables are being fetched correctly or not, you can navigate to the “Schedule”, and compare them using iCress, an official</p>	<ul style="list-style-type: none"> <li>Successfully fetched the timetable at the course section.</li> </ul>	/	Pass

		<p>UiTM's website for retrieving timetables:</p> <p><a href="https://simsweb4.uitm.edu.my/estudent/class_timetable/index.htm">https://simsweb4.uitm.edu.my/estudent/class_timetable/index.htm</a></p>			
3	S_TEL	<p>Telegram</p> <p>Notes: For verifying whether your account has been linked with your Telegram account, kindly check the message from @studymate_amlxv_bot in Telegram. You will receive the notification when the integration succeeds.</p>	<ul style="list-style-type: none"> <li>• Successfully integrated the account with Telegram.</li> <li>• StudyMate's Telegram Bot able to send message to the users.</li> </ul>	/	Pass

## **Functionality Test Agreement**

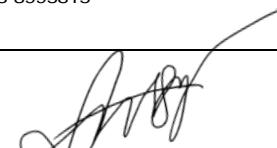
The test to verify the functionality of the system is conducted by the tester and the developer under the terms of this agreement. This agreement includes:

### **Purpose of testing and objective:**

This test's objectives are to ascertain whether the system is operating correctly and to reveal any mistakes or issues that may exist. The system is tested using modules as the basis.

### **Requirements:**

- The tester receives the test agreement and test form.
- The system is tested on a computer or laptop.
- It is necessary to fill in the test results field on the form.
- All the testers information is required.

Information	Tester	Developer
Name	MOHD ALI BIN MOHD ISA  LECTURER	MUHAMMAD AMIRUL BIN MAMAT
Position		STUDENT
Phone Number	6013-3995815	0168000782
Signature		
Date	31/1/2024	24/01/2024

## 1. General Tests

No.	ID	Description	Expected Output	Result	Pass/Fail
1	G_01	Landing Page	<ul style="list-style-type: none"> <li>The Landing Page is accessible. Including the Features &amp; Contact Us sections.</li> </ul>	/	Pass
2	G_02	Contact Us	<ul style="list-style-type: none"> <li>The Contact Us section is loaded.</li> <li>The system will redirect the user to the user's default mailbox with the subject &amp; message they entered.</li> </ul>	/	Pass
3	A_01	<p>Sign Up</p> <p>Notes: You can sign up using any of your email.</p> <p>But alternatively, you can also use a temporary email at,</p> <p><a href="https://tempmail.ac.id">https://tempmail.ac.id</a>.</p> <p>The system will ask for email verification. Check your inbox for verification link.</p>	<ul style="list-style-type: none"> <li>The Sign-Up page is accessible.</li> <li>Successfully created an account. The system redirects the user to the page for verifying the email address.</li> <li>The system sends the verification link to the user's email address.</li> </ul>	/	Pass

			<ul style="list-style-type: none"> <li>• This does not apply for authentication using Social Login.</li> </ul>		
4	A_02	<p>Social Login</p> <p>Notes: Sign in with any of your Google or GitHub account.</p>	<ul style="list-style-type: none"> <li>• The Social Login options are available.</li> <li>• The system logs in the user into the system.</li> <li>• If the user does not yet exist, the system will create a new user.</li> <li>• The system then redirects the users to the Dashboard page.</li> </ul>	/	Pass
5	A_03	<p>Sign In</p> <p>Notes: Sign in using the account you created earlier.</p> <p>OR</p> <p>Use this sample account:</p> <p><u>Student</u></p> <p>Email:</p> <p><a href="mailto:student@amlxv.com">student@amlxv.com</a></p> <p>Password: password</p>	<ul style="list-style-type: none"> <li>• The Sign In page is accessible.</li> <li>• Successfully logged into the system.</li> <li>• The system redirects the user into the Dashboard.</li> </ul>	/	Pass

		<p><u>Admin</u></p> <p>Email:</p> <p><a href="mailto:admin@amlxv.com">admin@amlxv.com</a></p> <p>Password: password</p>			
6	A_04	<p>Verify Email</p> <p>Notes: Check the inbox, there will be an email from StudyMate for verifying the email.</p>	<ul style="list-style-type: none"> <li>• The Verify Email page is accessible using the email verification link sent to the user's email address.</li> <li>• The user received the email verification link in their email inbox.</li> <li>• If the resend button is clicked, the system will again send the email verification link to the user's email address.</li> <li>• Clicking on the "Verify Email Address" or verification link in the email inbox will redirect the user into the Dashboard.</li> </ul>	/	Pass

			<ul style="list-style-type: none"> <li>• This does not apply for authentication using Social Login.</li> </ul>		
7	A_05	Forgot Password	<ul style="list-style-type: none"> <li>• The Forgot Password page is accessible.</li> <li>• A reset password link is sent to the user's email address upon request.</li> <li>• The user received the reset password link.</li> </ul>	/	Pass
8	A_06	<p>Reset Password</p> <p>Notes: Check the inbox, there will be an email from StudyMate for reset the password.</p>	<ul style="list-style-type: none"> <li>• The Reset Password page is accessible using the password reset link sent to the user's email address.</li> <li>• Successfully reset the password.</li> <li>• The system will redirect the users to the Sign In page.</li> <li>• Able to sign in using the new password.</li> </ul>	/	Pass
9	A_07	Sign Out	<ul style="list-style-type: none"> <li>• Terminate the user's current session.</li> <li>• The system will bring the user to the landing page.</li> </ul>	/	Pass

10	NV_01	<p>Navigation</p> <p>Notes: Sign in again to the system.</p>	<ul style="list-style-type: none"> <li>• Able to navigate through the Dashboard, Upcoming, Schedules, Courses, Settings &amp; Profile.</li> </ul>	/	Pass
11	D_01	Dashboard	<ul style="list-style-type: none"> <li>• The Dashboard page is accessible.</li> <li>• The statistics and graph can be seen (but the data may be empty).</li> </ul>	/	Pass

## 2. Student Tests

No.	ID	Description	Expected Output	Result	Pass/Fail
1	P_01	Profile View	<ul style="list-style-type: none"> <li>The Profile page is accessible.</li> <li>Able to see the user's general &amp; student profile information.</li> <li>Toggle click on "Enable Edit" will allow or disallow the users to make changes to the information.</li> </ul>	/	Pass
2	P_02	<p>Profile Update</p> <p>Notes: For student information, which is required for upcoming tests, you can use any of the student's details. But you can also use this sample data:</p> <p><b>Student ID:</b> 2022988117</p> <p><b>Campus:</b> UITM KAMPUS JASIN</p> <p><b>Faculty:</b> COLLEGE OF COMPUTING - INFORMATICS AND</p>	<ul style="list-style-type: none"> <li>All the information except an email address is editable.</li> <li>There is an option for selecting the campus.</li> <li>There is an option for selecting the faculty.</li> <li>Successfully updated the information on save.</li> </ul>	/	Pass

		MATHEMATICS <b>Program:</b> CS251			
3	U_01	Upcoming	<ul style="list-style-type: none"> <li>The Upcoming page is accessible.</li> <li>If there is no upcoming schedule, there will be a button for adding the schedule.</li> <li>Clicking on the “New Schedule” will bring the user to the create schedule page.</li> <li>If there is an upcoming schedule, the card containing the schedule’s information will appear.</li> <li>Clicking on the card will redirect the user to the edit page for the selected schedule.</li> </ul>	/	Pass
4	SC_01	Schedule View	<ul style="list-style-type: none"> <li>The Schedule page is accessible.</li> <li>Able to see a calendar-like interface showing the</li> </ul>	/	Pass

			<p>current schedule in a month.</p> <ul style="list-style-type: none"> <li>• If exist a schedule in the current month, user should be able to click on the schedule to see more details about the schedule, manage &amp; delete the schedule.</li> </ul>		
5	SC_02	Schedule View All	<ul style="list-style-type: none"> <li>• The View All Schedule page is accessible.</li> <li>• Toggle between “Class Timetable” &amp; “Activities” will change the schedules being displayed based on their type.</li> <li>• Able to see all the schedule that has been created.</li> </ul>	/	Pass
6	SC_03	<p>Schedule Create</p> <p>Notes: Enabling notification feature requires Telegram Integration. Refer to Student Test (No. 15) or test ID: T_01</p>	<ul style="list-style-type: none"> <li>• The Create Schedule page is accessible.</li> <li>• Toggle between “Class Timetable” &amp; “Activities” will change the schedule’s type.</li> </ul>	/	Pass

			<ul style="list-style-type: none"> <li>• Able to create a new schedule.</li> </ul>		
7	SC_04	<p>Schedule Update</p> <p>Notes: Enabling notification feature requires Telegram Integration. Refer to Student Test (No. 15) or test ID: T_01</p>	<ul style="list-style-type: none"> <li>• The Update Schedule page is accessible.</li> <li>• Toggle between “Class Timetable” &amp; “Activities” will change the schedule’s type.</li> <li>• Able to save the schedule with the new information.</li> </ul>	/	Pass
8	SC_05	Schedule Delete	<ul style="list-style-type: none"> <li>• Able to delete the schedule.</li> <li>• The schedule should be removed from the lists.</li> </ul>	/	Pass
9	C_01	Course View	<ul style="list-style-type: none"> <li>• The Course page is accessible.</li> <li>• If the course exists, able to see the list of course in a table.</li> </ul>	/	Pass
10	C_02	<p>Course Create</p> <p>Notes: Enabling notification feature requires Telegram Integration. Refer to</p>	<ul style="list-style-type: none"> <li>• Users should be able to add a new course with or without the reminder being turned on.</li> </ul>	/	Pass

	<p>Student Test (No. 15) or test ID: T_01</p> <p>For creating the course, the course details are required. You can use any UiTM's courses information.</p> <p>For UiTM's lecturers, to get to know what subjects that the student taken, you can follow this step:</p> <ul style="list-style-type: none"> <li>- Visit the link to <a href="https://sims-academic.uitm.edu.my/sims/index.htm">https://sims-academic.uitm.edu.my/sims/index.htm</a></li> <li>- Sign in with your credentials.</li> <li>- Click on "Student Details" or "Maklumat Pelajar".</li> <li>- Fill in the student ID.</li> <li>- Click on quick search.</li> <li>- Choose "academic".</li> </ul>	<ul style="list-style-type: none"> <li>• On success, the new course will be added to the courses list.</li> <li>• The schedule that belongs to the course will also being added in the background. Kindly check the schedules page for confirmation.</li> </ul>	
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		<ul style="list-style-type: none"> <li>- Scroll to view the subject has been taken.</li> </ul> <p>But alternatively, you can also use these sample:</p> <p><u>Sample 1</u></p> <p><b>Name:</b> PROJECT</p> <p><b>Code:</b> CSP650</p> <p><b>Group:</b> M3CS2516A</p> <p><u>Sample 2</u></p> <p><b>Name:</b> TECHNOLOGY ENTREPRENEURSHIP</p> <p><b>Code:</b> ENT600</p> <p><b>Group:</b> M3CS2516A</p> <p><u>Sample 3</u></p> <p><b>Name:</b> NETWORK AND SYSTEM ADMINISTRATION</p> <p><b>Code:</b> ITT420</p> <p><b>Group:</b> M3CS2516A</p>		
11	C_03	<p>One Click Timetable Retrieve</p> <p>Notes: This feature requires a student information being setup properly. Refer to</p>	<ul style="list-style-type: none"> <li>• Users should be able to add their courses taken with only a single click.</li> <li>• The system should retrieve all the</li> </ul>	/ Pass

		<p>Student Test (No. 2) for updating the student information.</p> <p>To use this feature, simply click on the button called “Surprise Me!” in the course section.</p>	<p>courses and timetables for the corresponding user and save them into the database.</p> <ul style="list-style-type: none"> <li>• On success, the courses will be shown on the courses list.</li> <li>• The schedules for the courses should also being added.</li> </ul>		
12	C_04	Course Update	<ul style="list-style-type: none"> <li>• Users should be able to update the existing course with or without the reminder being turned on.</li> <li>• On success, the course will be updated and shown on the courses list.</li> <li>• The schedule that belongs to the course will also being updated in the background. Kindly check the schedules page for confirmation.</li> </ul>	/	Pass

13	C_05	Course Delete	<ul style="list-style-type: none"> <li>The users should be able to delete the course.</li> <li>The course will be deleted from the courses list.</li> <li>The schedule that belongs to the corresponding course will also be deleted as well.</li> </ul>	/	Pass
14	SE_01	Setting View	<ul style="list-style-type: none"> <li>The Setting page is accessible.</li> <li>Toggle click on “Enable Edit” will allow or disallow the users to make changes to the information.</li> </ul>	/	Pass
15	SE_02	Setting Update	<ul style="list-style-type: none"> <li>All the information except the telegram username can be manually edited.</li> <li>Successfully updated the information on save.</li> </ul>	/	Pass
16	T_01	Telegram	<ul style="list-style-type: none"> <li>On Setting page, clicking on the</li> </ul>	/	Pass

		<p>Notes: This requires you to have a Telegram account. The Telegram widget will pop-up for a verification.</p>	<p>Telegram button will integrate the StudyMate with user's Telegram account.</p> <ul style="list-style-type: none"> <li>• Users should be able to see their username on the Telegram Username on the setting page.</li> <li>• Users should receive a message from StudyMate Telegram Bot.</li> </ul>		
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### 3. Admin Tests

\* Sign in with the “Admin” test account. Email: [admin@amlxv.com](mailto:admin@amlxv.com) | Password: password

No.	ID	Description	Expected Output	Result	Pass/Fail
1	XP_01	Profile View	<ul style="list-style-type: none"> <li>The Profile page is accessible.</li> <li>Able to see the user's profile information.</li> <li>Toggle click on “Enable Edit” will allow or disallow the users to make changes to the information.</li> </ul>	/	Pass
2	XP_02	Profile Update	<ul style="list-style-type: none"> <li>All the information except an email address is editable.</li> <li>Successfully updated the information on save.</li> </ul>	/	Pass
3	XSC_01	Schedule View	<ul style="list-style-type: none"> <li>The Schedule page is accessible.</li> <li>Able to see all schedules in a table.</li> </ul>	/	Pass
4	XSC_02	Schedule Create  Notes: Enabling notification feature	<ul style="list-style-type: none"> <li>The Create Schedule page is accessible.</li> </ul>	/	Pass

		requires Telegram Integration. Refer to Student Test (No. 15) or test ID: T_01	<ul style="list-style-type: none"> <li>• Toggle between “Class Timetable” &amp; “Activities” will change the schedule’s type.</li> <li>• Able to create a new schedule.</li> </ul>		
5	XSC_03	Schedule Update  Notes: Enabling notification feature requires Telegram Integration. Refer to Student Test (No. 15) or test ID: T_01	<ul style="list-style-type: none"> <li>• The Update Schedule page is accessible.</li> <li>• Toggle between “Class Timetable” &amp; “Activities” will change the schedule’s type.</li> <li>• Able to save the schedule with the new information.</li> </ul>	/	Pass
6	XSC_04	Schedule Delete	<ul style="list-style-type: none"> <li>• Able to delete the schedule.</li> <li>• The schedule should be removed from the lists.</li> </ul>	/	Pass
7	XC_01	Course View	<ul style="list-style-type: none"> <li>• The Course page is accessible.</li> <li>• Able to see all courses in a table.</li> </ul>	/	Pass
8	XC_02	Course Create	<ul style="list-style-type: none"> <li>• Able to create a new course with or</li> </ul>	/	Pass

		<p>Notes: Enabling notification feature requires Telegram Integration. Refer to Student Test (No. 15) or test ID: T_01</p> <p>For creating the course, the course details are required.</p> <p>For UiTM's lecturers, to get to know what subjects that the student taken, you can follow this step:</p> <ul style="list-style-type: none"> <li>- Visit the link to <a href="https://sims-academic.uitm.edu.my/sims/index.htm">https://sims-academic.uitm.edu.my/sims/index.htm</a></li> <li>- Sign in with your credentials.</li> <li>- Click on “Student Details” or “Maklumat Pelajar”.</li> <li>- Fill in the student ID.</li> </ul>	<p>without the reminder being turned on.</p> <ul style="list-style-type: none"> <li>• On success, the new course will be added to the courses list.</li> <li>• The schedule that belongs to the course and student will also being added in the background.</li> </ul>	
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		<ul style="list-style-type: none"> <li>- Click on quick search.</li> <li>- Choose “academic”.</li> <li>- Scroll to view the subject has been taken.</li> </ul> <p>But alternatively, you can also use these sample:</p> <p><u>Sample 1</u></p> <p><b>Student ID:</b> 2022988117</p> <p><b>Name:</b> ETHICAL IN ICT</p> <p><b>Code:</b> ICT652</p> <p><b>Group:</b> M3CS2516A</p> <p><u>Sample 2</u></p> <p><b>Student ID:</b> 2022988117</p> <p><b>Name:</b> MOBILE CLOUD COMPUTING</p> <p><b>Code:</b> ITT632</p> <p><b>Group:</b> M3CS2516A</p>		
9	XC_03	Course Update  Notes: Enabling notification feature	<ul style="list-style-type: none"> <li>• Able to update an existing course with or without the</li> </ul>	/ Pass

		requires Telegram Integration. Refer to Student Test (No. 15) or test ID: T_01	<p>reminder being turned on.</p> <ul style="list-style-type: none"> <li>On success, the course will be updated and shown on the courses list.</li> <li>The schedule that belongs to the course and student will also be updated in the background.</li> </ul>		
10	XC_04	Course Delete	<ul style="list-style-type: none"> <li>Able to delete the course.</li> <li>The course will be deleted from the courses list.</li> <li>The schedule that belongs to the corresponding course will also be deleted as well.</li> </ul>	/	Pass
11	XST_01	Student View	<ul style="list-style-type: none"> <li>The Student page is accessible.</li> <li>Able to see all the students in a table.</li> </ul>	/	Pass
12	XST_02	Student Create  Notes: You can create using any student's	<ul style="list-style-type: none"> <li>Able to create new students.</li> </ul>	/	Pass

		<p>information. But alternatively, you can also use this sample data:</p> <p><u>Sample 1</u></p> <p><b>Name:</b> Ahmad</p> <p><b>Email:</b> <a href="mailto:ahmad@test.com">ahmad@test.com</a></p> <p><b>Password:</b> 123456</p> <p><u>Sample 2</u></p> <p><b>Name:</b> Siti</p> <p><b>Email:</b> <a href="mailto:siti@test.com">siti@test.com</a></p> <p><b>Password:</b> 123456</p>	<ul style="list-style-type: none"> <li>On successful, the new students will be listed in the table.</li> </ul>		
13	XST_03	Student Update	<ul style="list-style-type: none"> <li>Able to update an existing student.</li> <li>Successfully updated the information on save.</li> </ul>	/	Pass
14	XST_04	<p>Student Delete</p> <p>Notes: If you're adding the student using the sample data included, find the user with name "Siti" and delete this user. If not, try to delete any user.</p>	<ul style="list-style-type: none"> <li>Able to delete the existing student.</li> </ul>	/	Pass

15	XSE_01	Setting View	<ul style="list-style-type: none"> <li>The Setting page is accessible.</li> <li>Able to see all the user's setting in a table.</li> </ul>		
16	XSE_02	<p>Setting Create</p> <p>Notes: If you're not using the included sample data for creating the student, you can find any student to create the setting for them. But if yes, you can use this sample data:</p> <p><b>Email:</b> <a href="mailto:ahmad@test.com">ahmad@test.com</a></p> <p><b>Time Before:</b> 10</p> <p><b>Custom Message:</b> Hi, there! {title} will start soon.</p> <p>The sample data for custom message may look terrifying, but you can simply copy and paste to the relevant input. However, you can also customize the message as you want.</p>	<ul style="list-style-type: none"> <li>Able to create a new setting for the users.</li> <li>On successful, the settings will be listed in the table.</li> </ul>	/	Pass

17	XSE_03	Setting Update	<ul style="list-style-type: none"> <li>• Able to update an existing setting for the users.</li> <li>• Successfully updated the information on save.</li> </ul>	/	Pass
18	XSE_04	Setting Delete	<ul style="list-style-type: none"> <li>• Able to delete an existing setting for the users.</li> </ul>	/	Pass

#### 4. System Tests

No.	ID	Description	Expected Output	Result	Pass/Fail
1	S_SCH	<p>Scheduler</p> <p>Notes: For verifying the scheduler is working properly, simply add the schedule with a notification enabled.</p> <p>You will receive the reminder as soon as it reached the given time thru the Telegram bot.</p>	<ul style="list-style-type: none"> <li>For a schedule with notification enabled, users should receive the reminder from StudyMate's Telegram Bot at the provided timestamp.</li> </ul>	/	Pass
2	S_SCR	<p>Scraping</p> <p>Notes: Scraping happened when the course is added. The timetable for the corresponding course will be retrieved.</p> <p>For determining whether the timetables are being fetched correctly or not, you can navigate to the “Schedule”, and compare them using iCress, an official</p>	<ul style="list-style-type: none"> <li>Successfully fetched the timetable at the course section.</li> </ul>	/	Pass

		<p>UiTM's website for retrieving timetables:</p> <p><a href="https://simsweb4.uitm.edu.my/estudent/class_timetable/index.htm">https://simsweb4.uitm.edu.my/estudent/class_timetable/index.htm</a></p>			
3	S_TEL	<p>Telegram</p> <p>Notes: For verifying whether your account has been linked with your Telegram account, kindly check the message from @studymate_amlxv_bot in Telegram. You will receive the notification when the integration succeeds.</p>	<ul style="list-style-type: none"> <li>• Successfully integrated the account with Telegram.</li> <li>• StudyMate's Telegram Bot able to send message to the users.</li> </ul>	/	Pass

## **APPENDIX C**

### **USER ACCEPTANCE TEST**

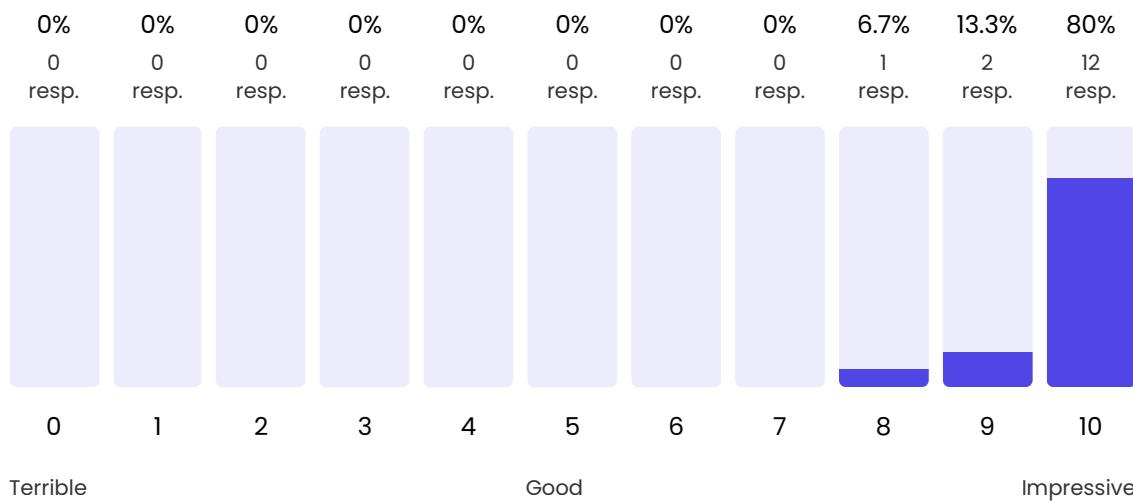
# StudyMate Feedback Form

15 responses

What is your overall experience with StudyMate?

15 out of 15 answered

## 9.7 Average rating



Are you a student from Universiti Teknologi MARA (UiTM)?

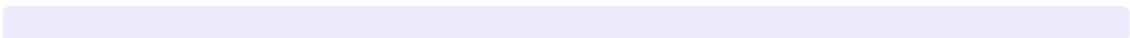
15 out of 15 answered

Yes

15 resp. 100%

No

0 resp. 0%



---

Do you think it is easy to navigate through the StudyMate?

15 out of 15 answered

Yes

15 resp. 100%



No

0 resp. 0%



---

Did you find that the StudyMate features function well?

15 out of 15 answered

Yes

15 resp. 100%



No

0 resp. 0%



---

Did you find that obtaining and managing your class timetable in StudyMate is easier than do it manually?

15 out of 15 answered

Yes

14 resp. 93.3%



No

1 resp. 6.7%



---

Did you find StudyMate's reminder system is helpful?

15 out of 15 answered

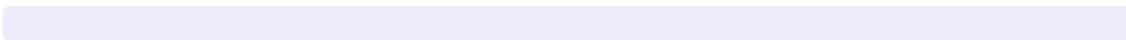
Yes

15 resp. 100%



No

0 resp. 0%



Did you find that StudyMate can help you manage your time wisely?

15 out of 15 answered

Yes

15 resp. 100%



No

0 resp. 0%



Have you ever encountered difficulty when using StudyMate?

15 out of 15 answered

Yes

2 resp. 13.3%



No

13 resp. 86.7%



---

Are you satisfied with the features provided by StudyMate?

15 out of 15 answered

Yes

15 resp. 100%



No

0 resp. 0%



---

How likely are you to recommend StudyMate to a friend or colleague?

15 out of 15 answered

Net Promoter Score® (?)

80

Detractors

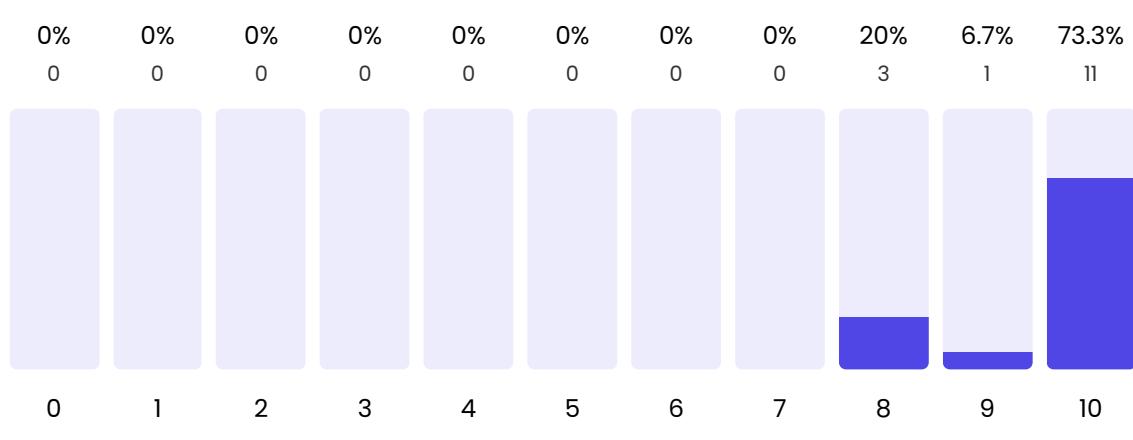
0% (0)

Passives

20% (3)

Promoters

80% (12)



Not likely at all

Extremely likely

## **APPENDIX D**

### **ACCURACY TEST**

  Administrator

### Students

Manage all registered student in this section.

Create

Name	Student ID	Program	Campus	Gender	Status
Mohamad Afiq Affifi afiqaffifi0609@gmail.com	2022970393	CS253 FACULTY OF COMPUTER AND MATHEMATICAL SCIENCES	SELANGOR CAMPUS - (Please Select a Faculty)	Male	<span>Active</span> <span>Delete</span> <span>Edit</span>
Mohamad Usamah Thani usamahsamarah@gmail.com	2022907921	CS240 FACULTY OF COMPUTER AND MATHEMATICAL SCIENCES	UITM KAMPUS MACHANG	Male	<span>Active</span> <span>Delete</span> <span>Edit</span>
Yamin yamin.multi09@gmail.com	2022987975	CS251 FACULTY OF COMPUTER AND MATHEMATICAL SCIENCES	UITM KAMPUS JASIN		<span>Active</span> <span>Delete</span> <span>Edit</span>
Ali Isa tengkorak@gmail.com					<span>Pending</span> <span>Delete</span> <span>Edit</span>
Muhammad Syafiq syafiqcr7fs7@gmail.com	2022930735	CS240 FACULTY OF COMPUTER AND MATHEMATICAL SCIENCES	UITM KAMPUS MACHANG	Male	<span>Active</span> <span>Delete</span> <span>Edit</span>
Mohd Ashraff mohdashr77@gmail.com	2022937689	CS251 FACULTY OF COMPUTER AND MATHEMATICAL SCIENCES	UITM KAMPUS JASIN	Male	<span>Active</span> <span>Delete</span> <span>Edit</span>
Wan	2022772035@student.uitm.edu.my				<span>Pending</span> <span>Delete</span> <span>Edit</span>
Amirul amirufcso@gmail.com	2022988117	CS251 COLLEGE OF COMPUTING - INFORMATICS AND MATHEMATICS	UITM KAMPUS JASIN		<span>Active</span> <span>Delete</span> <span>Edit</span>

Settings

  Administrator

### Schedules

Manage the schedules in this section.

Create

Class Timetable Activities All

ID	Title	Student Name	Email	Description	Day	Start	End	Reminder	
207	CSC536	MUHAMAD AKIF IQBAL BIN ABDULLAH	akifiqbal72@gmail.com	CSC536 - REKABENTUK PENGAJARAN DAN	Wednesday	08:00	10:00	Yes	<span>Edit</span>
200	CSC567	MUHAMAD AKIF IQBAL BIN ABDULLAH	akifiqbal72@gmail.com	CSC567 - PEMPROSESAN MEDIA TEMPORAL	Monday	08:00	10:00	Yes	<span>Edit</span>
201	CSC567	MUHAMAD AKIF IQBAL BIN ABDULLAH	akifiqbal72@gmail.com	CSC567 - PEMPROSESAN MEDIA TEMPORAL	Monday	14:00	16:00	Yes	<span>Edit</span>
202	CSP650	MUHAMAD AKIF IQBAL BIN ABDULLAH	akifiqbal72@gmail.com	CSP650 - PROJEK Venue: - Start: 10	Monday	10:00	12:00	Yes	<span>Edit</span>
203	CSP650	MUHAMAD AKIF IQBAL BIN ABDULLAH	akifiqbal72@gmail.com	CSP650 - PROJEK Venue: Makmal MK20	Tuesday	10:00	12:00	Yes	<span>Edit</span>
205	ICT652	MUHAMAD AKIF IQBAL BIN ABDULLAH	akifiqbal72@gmail.com	ICT652 - ISU ETIKA, SOSIAL, DAN PRO	Wednesday	12:00	14:00	Yes	<span>Edit</span>
206	CSC536	MUHAMAD AKIF IQBAL BIN ABDULLAH	akifiqbal72@gmail.com	CSC536 - REKABENTUK PENGAJARAN DAN	Tuesday	14:00	16:00	Yes	<span>Edit</span>
204	ICT652	MUHAMAD AKIF IQBAL BIN ABDULLAH	akifiqbal72@gmail.com	ICT652 - ISU ETIKA, SOSIAL, DAN PRO	Tuesday	12:00	14:00	Yes	<span>Edit</span>
189	CSP650	Yamin	yamin.multi09@gmail.com	CSP650 - Final Year : Venue: DEWA	Thursday	08:00	10:00	No	<span>Edit</span>
188	CSP650	Yamin	yamin.multi09@gmail.com	CSP650 - Final Year : Venue: BILI	Wednesday	14:00	16:00	No	<span>Edit</span>
184	Present FYP	Muhammad Syafiq	syafiqcr7fs7@gmail.com	Final Presentation	Monday	08:00	-	Yes	<span>Edit</span>
176	DSC650	Muhammad Syafiq	syafiqcr7fs7@gmail.com	DSC650 - TEKNOLOGI DAN PERKEMBANGAN	Monday	10:00	12:00	Yes	<span>Edit</span>

Settings

The screenshot shows the StudyMate application interface. On the left is a dark blue sidebar with icons for Dashboard, Schedules, Courses, Students, and Settings. The main area has a white header with the StudyMate logo and an Administrator account. Below the header is a section titled "Setting" with a sub-section "Student Setting". A tip message says "Tips: Read how to modify the custom message." A table lists student information:

No.	Student Name	Email	Telegram Username	Time Before	Custom Message
1	Amirul	amirufcso@gmail.com	amitxv	15	
2	Asrol Arshad	asrol.arshad@gmail.com	asrolarshad		
3	Mohd Ashraff	mohdashr77@gmail.com	Anaria40		
4	Muhammad Syafiq	syafiqcr7fs7@gmail.com	FSyafiq23		
5	Wan	2022772035@student.ultra.edu.my	amriewans		
6	Mohamad Usamah Thani	usamahsahmah@gmail.com	usamah50		
7	MUHAMAD AKIF IQBAL BIN ABDULLAH	akifiqbal72@gmail.com	akihhhhhh		

The screenshot shows the StudyMate application interface. On the left is a dark blue sidebar with icons for Dashboard, Schedules, Courses, Students, and Settings. The main area has a white header with the StudyMate logo and an Administrator account. Below the header is a table listing course details:

Course ID	Student Name	Registration Number	Course Title	Code	Section	Action
8	Amirul	2022988117	PENTADBIRAN SISTEM DAN RANGKAIAN	ITT420	M3CS2516A	
9	Amirul	2022988117	PROJEK	CSP650	M3CS2516A	
10	Amirul	2022988117	KEUSAHAWANAN TEKNOLOGI	ENT600	M3CS2516A	
11	Amirul	2022988117	PENGKOMPUTERAN AWAN MUDAH ALIH	ITT632	M3CS2516A	
12	Amirul	2022988117	ENGLISH EXIT TEST	EET699	M3CS2516A	
13	Mohd Ashraff	2022937689	PENGKOMPUTERAN AWAN MUDAH ALIH	ITT632	M3CS2516A	
14	Mohd Ashraff	2022937689	KEUSAHAWANAN TEKNOLOGI	ENT600	M3CS2516A	
15	Mohd Ashraff	2022937689	ISU ETIKA, SOSIAL, DAN PROFESIONAL DALAM ICT	ICT652	M3CS2516A	
16	Mohd Ashraff	2022937689	PENTADBIRAN SISTEM DAN RANGKAIAN	ITT420	M3CS2516A	
17	Mohd Ashraff	2022937689	PROJEK	CSP650	M3CS2516A	
18	Mohd Ashraff	2022937689	ENGLISH EXIT TEST	EET699	M3CS2516A	
19	Muhammad Syafiq	2022930735	TEKNOLOGI UNTUK SISTEM FUTURISTIK	ICT653	D1CS2406A	
20	Muhammad Syafiq	2022930735	TEKNOLOGI DAN PERKEMBANGAN MASA DEPAN DATA	DSC650	D1CS2406A	
21	Muhammad Syafiq	2022930735	KEUSAHAWANAN TEKNOLOGI	ENT600	D1CS2406A	
22	Muhammad Syafiq	2022930735	ISU ETIKA, SOSIAL, DAN PROFESIONAL DALAM ICT	ICT652	D1CS2406A	
23	Muhammad Syafiq	2022930735	PROJEK	CSP650	D1CS2406A	
24	Yamin	2022987975	Final Year :(	CSP650	M3CS2516A	

