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ICT551 – HUMAN COMPUTER INTERACTION

PROJECT PROTOTYPING (30%)

PROJECT TITLE:

PLANORA

[AI App for University Student Study Planning]

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1.0 INTRODUCTION

In the current university environment, students are expected to effectively manage numerous academic loads including assignments, projects, quizzes, presentations, and exams. Academic life has become quite demanding with tight and overlapping deadlines attached to these responsibilities. Consequently, some students are unable to properly manage their time and finish their assignments in a systematic form.

Students are also easily overwhelmed with assignments, deadlines, and study, which can cause stress, confusion, and low concentration. The absence of an adequate planning system will lead students to either memorization or gradual tools that will not help them have a clear picture of their academic load. This situation underscores the necessity of a well-designed and dynamic planning solution that could help students organize academic processes in a more efficient way.

Planora is presented as a smart academic planning tool, which will assist students in structuring their academic work, setting deadlines, and ensuring their overall consistency in studies. With a centralized and flexible platform, Planora is expected to help students plan more efficiently, remain focused, and meet their academic objectives.

1.1 Overview of The Problem

Most students in universities have problems with handling their studies because an increasing number of assignments, deadlines, and ongoing study assignments are being placed on the students. The student is usually overwhelmed with various academic demands that they are required to finish in short periods. Such overloading makes the students unable to organize their work correctly and keep regular progress.

The other significant problem is that there is no central and flexible system to organize academic work. The tools that are widely used by students include notebooks, phone reminders, calendar apps, and messaging systems. When it is not put in one place, it makes every information to be far between, and it is hard to follow up on it. This absence of centralization makes things get chaotic, deadlines get missed and panic at the last moment.

In addition, students struggle to be orderly, focused and structured in fulfilling their school assignments, students will lose focus very easily without a clear structure and guidance. Bad planning habits may lead to poor use of time and performance at university. All these issues highlighted the necessity of the system that not only will organize the tasks but will help students stay focused and focused on their students in a better systematized way.

1.2 Objectives

The Planora app aims at the following objectives:

1. To assist students in overcoming academic overload through planning assignments, deadlines, and study activities.
2. To offer a center stage on which the entire academic affairs can be handled under a single place.
3. To assist the students in planning their activities in a systemic and organized way.
4. To enhance the focus and regularity of students in doing academic tasks.
5. To help the students improve their academic performance by managing their time well.

1.3 Scope

The objective of Planora's design is to provide university students with support for their academic planning and organizational needs. This application is meant to support the student's core academic planning for assignments and deadlines as well as creating a schedule for their study times.

Planora enables users to add tasks, set deadlines, organize schedules, and see their workload both on a daily and weekly basis. The system also reminds and plans to assist students to stay focused on systematic in completing their work. Planora focuses on flexibility, which means that students can modify their plan when the due date is altered or new assignments are implemented.

The system, however lacks functionalities regarding delivery of academic content, grading, or test management. Planora is also supposed to be used as a supplement to the current academic platforms, not to supplant institutional systems, but to emphasize planning organization and management of the study.

1.4 Significance

The importance of Planora is that it directly tackles the problem that is typical of students, especially academic heavy loads, lack of organization, and concentration. Planora allows students to better organize their work and have better control over their academic duties by providing them with a centralized and organized system of planning.

The system facilitated disciplined learning through embracing advance planning and steady development. This eliminates the stress of working at the last minute and enhances the concentration of the students in their work. Planora is also flexible and

enables students to redefine their plans in case of variations in their workload, which is indispensable in a dynamic academic setting.

All in all, Planora assists with better time management, less stress, and better grades, which is why it is worthy of being used by students during their academic process.

1.5 Description

Planora is an intelligent academic planning application that aims at assisting students to manage their academic tasks in a better structured, organized, and flexible way. The system is useful in ensuring that students can cope with various assignments, deadlines, and other study tasks without being overwhelmed.

The users are able to create and manage their academic accounts, add assignments and due dates, and manage their timetables on a centralized system. Planora is an application that is able to display academic activities in a clear and understandable daily and weekly format, enabling students to better understand their workload and organize their time more efficiently.

Also, Planora supports flexibility by enabling students to modify their plans as the deadlines are moved or whenever new activities are introduced. With well-planned organization and smart advice, Planora can assist students to be systematic, focused, and organized, which will eventually result in improved academic results and a healthier study lifestyle.

2.0 DESIGN

2.1 Application Name

Planora is an application name inspired by the objective of supporting students in planning their academic life in a smarter, more structured, and organized manner. The name reflects the integration of planning, organization, and personal growth, which are essential for effective academic management.

The term *Planora* is also represented through an acronym that illustrates the core functions of the application. P stands for *Plan*, referring to the ability to organize study tasks, deadlines, and daily goals. L represents *Learn*, emphasizing continuous learning and academic progress. A denotes *Achieve*, supporting students in accomplishing their academic targets step by step. N refers to *Navigate*, guiding students through complex schedules and multiple responsibilities.

Next, O represents *Organized*, highlighting the centralization of tasks, schedules, and reminders within a single platform. R stands for *Realign*, enabling students to adjust their plans when priorities or deadlines change. Finally, A represents *Adaptable*, reflecting the application's ability to tailor study suggestions based on individual workload and routines.

2.2 Application Logo



Planora

Figure 2.2 Planora Logo

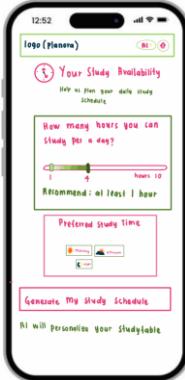
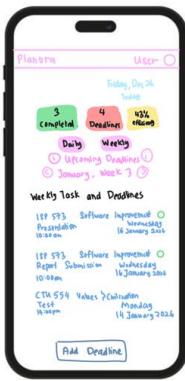
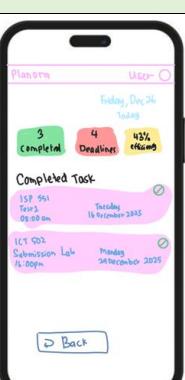
The Planora application logo was designed to visually represent the core values and functionality of the application through meaningful symbols. The owl is used as the main element of the logo, symbolizing wisdom, intelligence, focus, and guidance. It also reflects the reality of student life, where many students adopt a “night owl” routine to complete assignments and revise assessments.

The book element represents learning, knowledge, and the academic journey undertaken by students. It emphasizes Planora’s role as a study support tool that assists users throughout their educational process. The inclusion of a flower symbolizes personal growth, motivation, and positive development, illustrating how Planora helps students improve their study habits and “bloom” academically over time.

Lastly, the sparkling star element represents Planora’s AI-powered features. It signifies smart assistance such as study suggestions, reminders, and intelligent scheduling support that enhance the user experience. Overall, the logo combines visual simplicity with meaningful symbolism to reflect Planora’s purpose as a smart, supportive, and student-centered academic planning application.

2.3 Example Design Screens

Welcome	Register	Log In
		
User Profile	Forgot Password	Homescreen
		
Daily Tasks	Add New Daily Task	Study Schedule
		

Add Subject	Available Study Time	Progress Tracking
		
Daily Deadlines	Weekly Deadlines	Add Deadlines
		
Completed Tasks	AI Prompts	AI Suggestion
		

2.4 20 HCI Principles Applied in Design

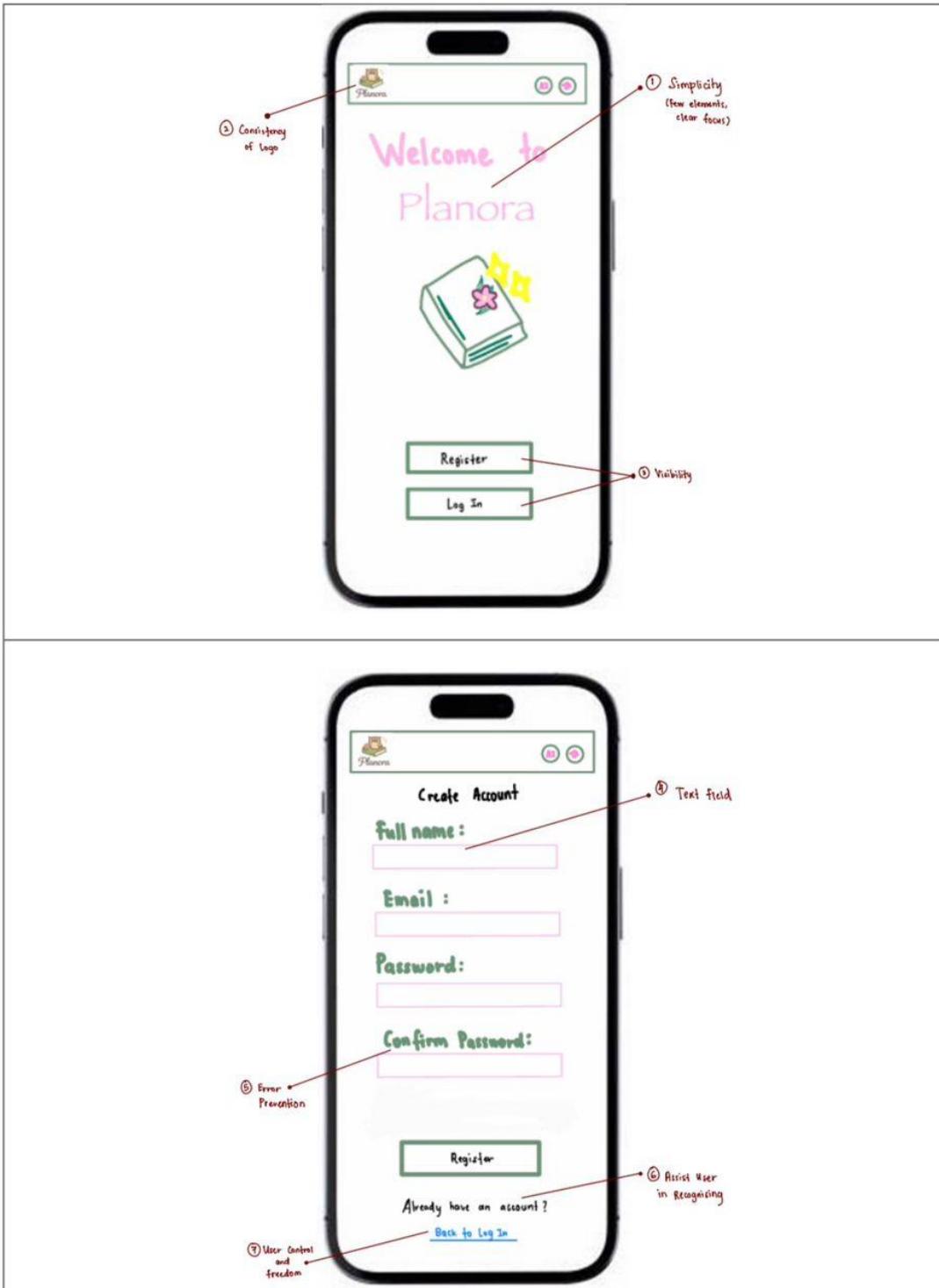


Figure 2.4.1 HCI Principles Applied in Welcome and Register Screen

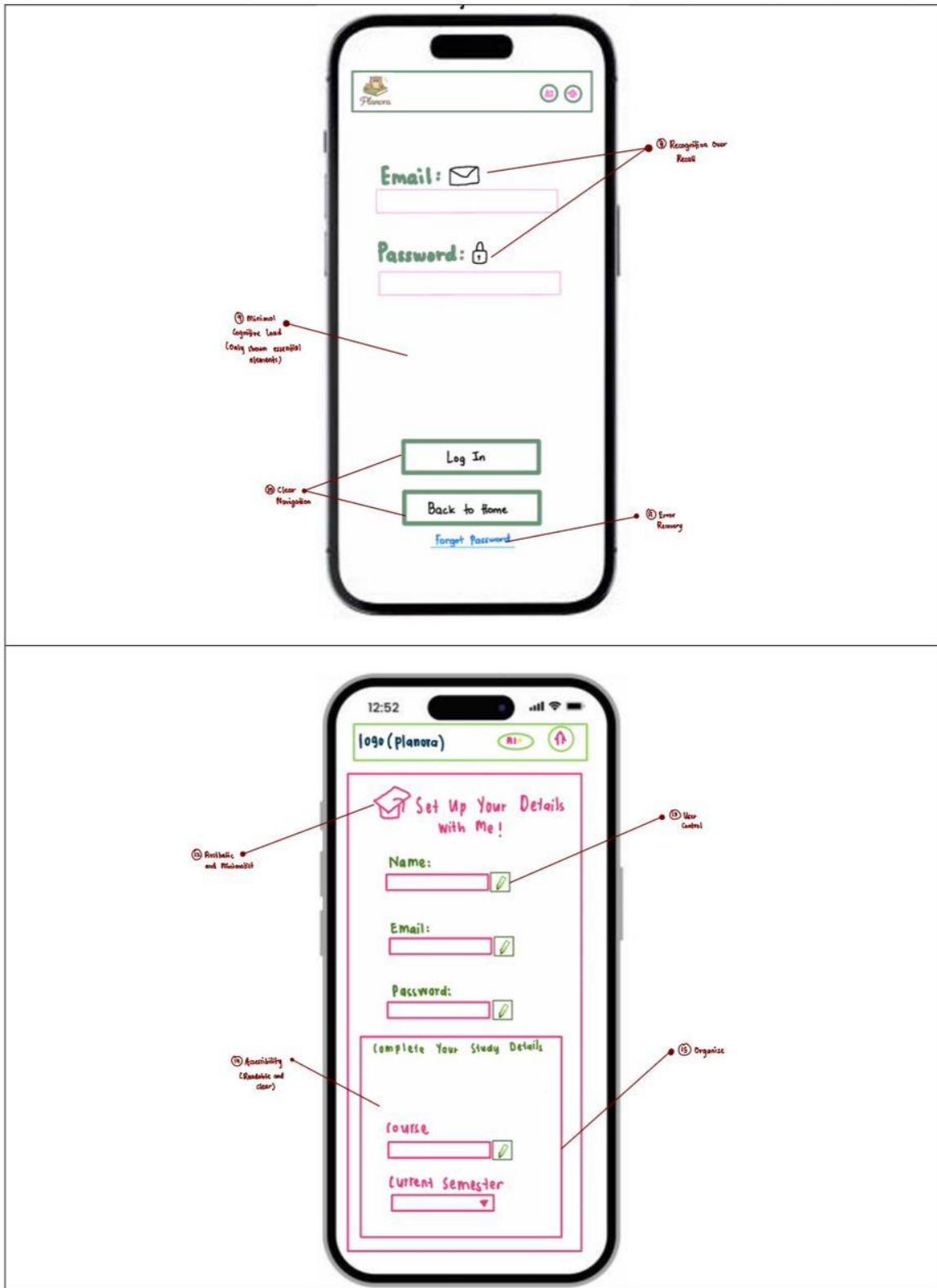


Figure 2.4.2 HCI Principles Applied in Log In and User Profile Screen

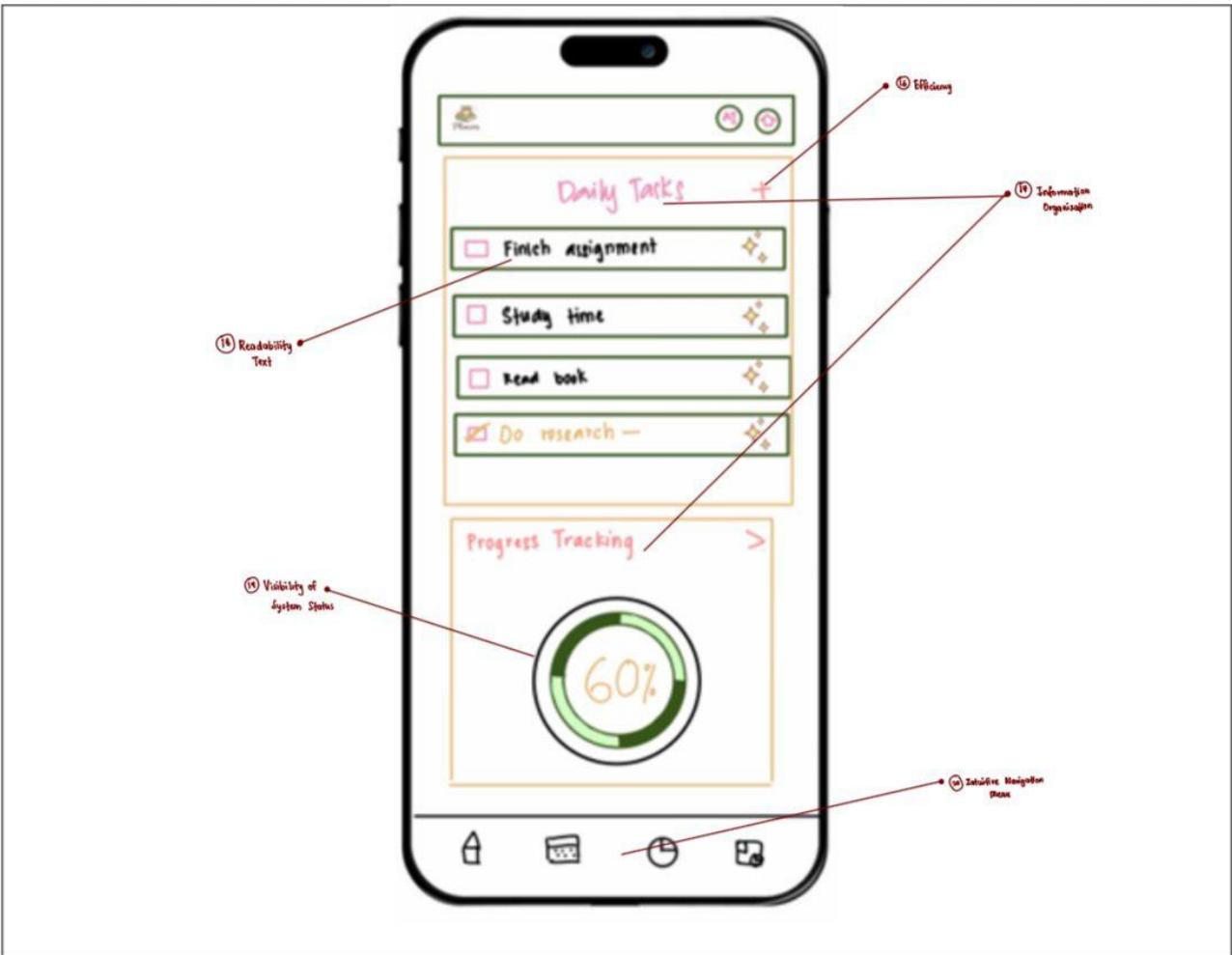


Figure 2.4.3 HCI Principles Applied in Homescreen

3.0 DEVELOPMENT PROCESS

3.1 Methodology

The preliminary study was conducted to gain an initial understanding of the problem domain, target users, and system requirements before designing the Planora application. This stage is essential in Human-Computer Interaction (HCI) as it helps ensure that the proposed system is user-centered and addresses real user needs.

In this phase, several HCI approaches learned in ICT551 were applied, including **user analysis, task understanding, and requirement identification**. The study focused on identifying common challenges faced by university students in managing their study schedules, such as poor time management, overlapping deadlines, and difficulty maintaining consistent study habits.

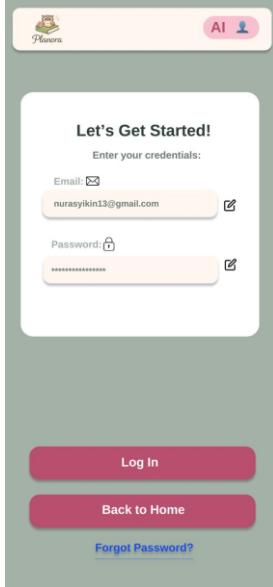
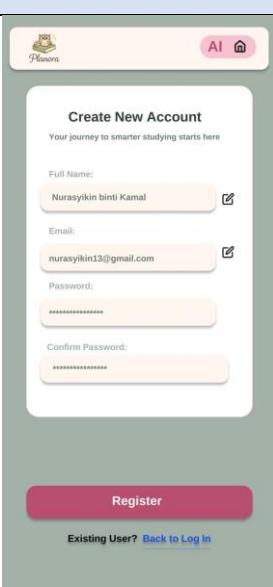
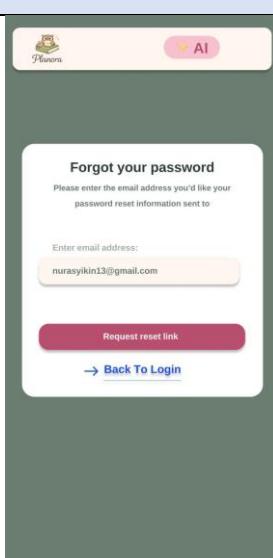
To support this preliminary understanding, the **5W1H concept** was used to clearly define the purpose, users, context, and functionality of the system. This approach helped the development team analyze the problem from multiple perspectives, including who the users are, what the system should do, when and where it will be used, why it is needed, and how it will operate.

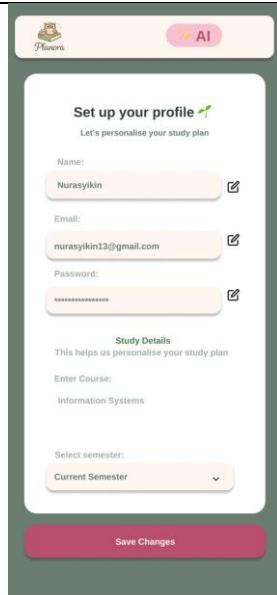
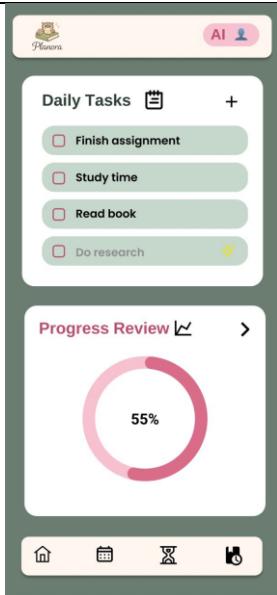
In addition, a **user requirement survey** was conducted to collect initial feedback and expectations from potential users. The survey provided insights into user preferences, study behaviors, and difficulties encountered during academic planning. The findings from this survey were used to guide design decisions and ensure that the system aligns with user needs and usability principles emphasized in ICT551.

Overall, the preliminary study served as the foundation for the design and development of the Planora prototype by ensuring that all design decisions were informed by user needs and Human-Computer Interaction principles.

3.2 Usability Testing Process

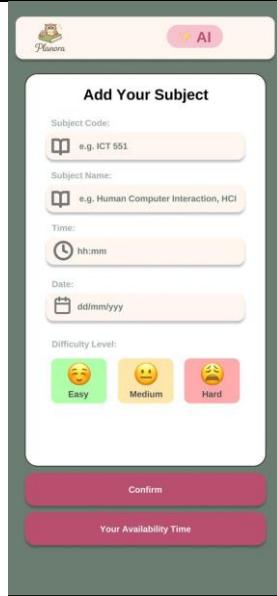
3.2.1 Usability Testing Method (5W1H)

Page	Login Page
	
Register Page	Forgot Password Page
	
Homescreen Page	Setup Profile Page



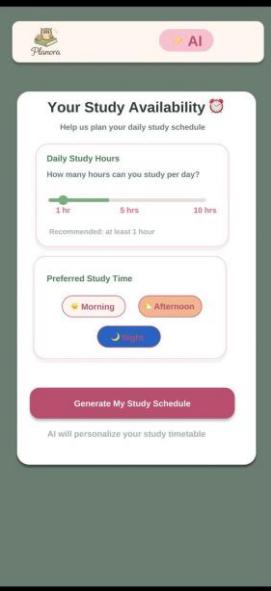
Study Schedule Page

Add subject Page



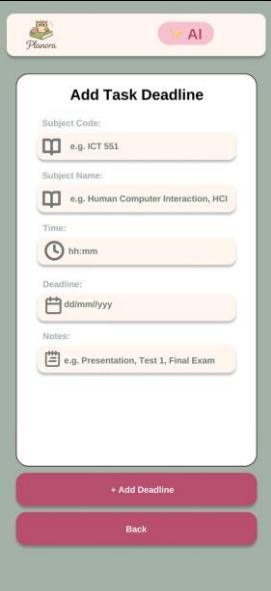
Setup Study Availability Page

Deadlines Page



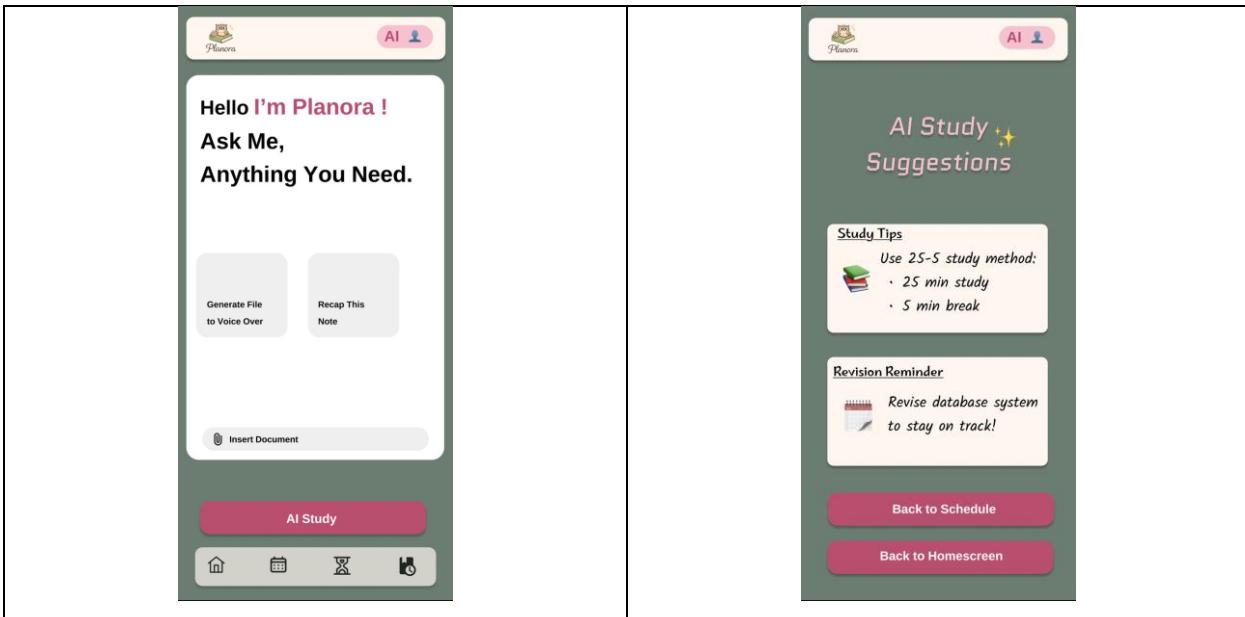
Add Deadline Task Page

Progress Page



AI Prompt Page

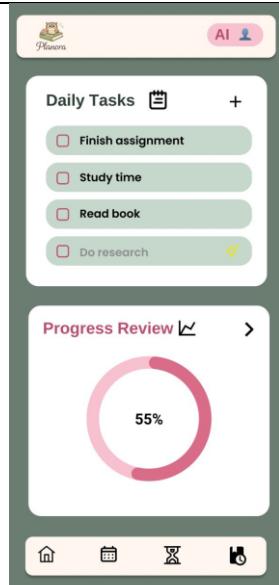
AI Study Suggestion Page



In this project, we are using 5W1H as a reference to design our prototype. These questions can help us plan the project path from different perspectives.

Who?	<p>The target users of the Planora application are university students, particularly those who struggle with time management, study planning, and tracking academic progress. These students often manage multiple subjects, assignments, and deadlines within a limited timeframe. Planora is designed to support students from various academic backgrounds who require a structured yet flexible study planning tool to improve productivity and academic performance.</p>
What?	

Planora is an AI-powered study planning application that assists students in organizing their study schedules, managing subjects, setting deadlines, and monitoring progress. Users can input their study availability, subjects, difficulty levels, and deadlines. Based on this information, the system generates personalized study schedules and AI-based study suggestions. The application also provides progress tracking features to help students visualize completed and pending tasks.



When?

The application can be used at any time, depending on the user's personal schedule. Students may update their study availability daily, weekly, or monthly, and review their progress whenever needed. There are no fixed time constraints imposed by the system, allowing users to manage their study plans at their own pace and according to their academic workload.



Where?

Planora can be accessed anywhere using a mobile device such as a smartphone. Since it is designed as a mobile application prototype, users can use it at home, on campus, in libraries, or while traveling. This allows students to plan and review their study schedules conveniently without being restricted to a specific location.



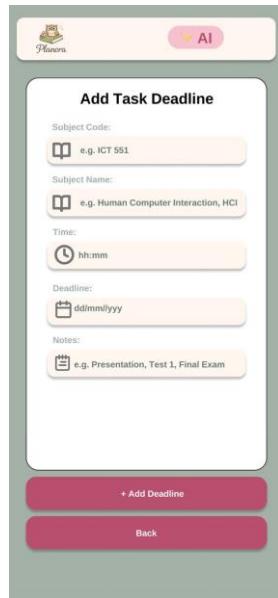
Why?

Planora was developed to address common issues faced by university students, such as poor time management, missed deadlines, lack of study structure, and difficulty maintaining consistent study habits. By providing AI-assisted scheduling and visual progress tracking, the application aims to reduce stress, improve study efficiency, and help students maintain a balanced academic routine.



How?

- Users begin by registering an account and logging into the system.
- Users set up their profile by entering personal and academic details such as course and semester.
- Users input their study availability, preferred study time, subjects, deadlines, and difficulty levels.
- The system processes the input and generates a personalized study schedule using AI assistance.
- Users can view daily study schedules, upcoming deadlines, and AI study suggestions.
- Progress is tracked through visual indicators that show completed and pending tasks.
- Users can update tasks, add new subjects, and review progress to continuously improve their study planning experience.



Planora Medium- Fidelity Prototype:

<https://www.figma.com/proto/6RpzemwSDAdGBOIA3UsNmZ/ict551-project?node-id=1-2&t=nIGL0nqszlglH2bZm-1&scaling=scale-down&content-scaling=fixed&page-id=0%3A1&starting-point-node-id=1%3A2&show-proto-sidebar=1>

3.2.2 Participant Selections

The participants involved in this usability testing were university students, as they represent the target users of the Planora application. A total of seven to eight participants were selected for the study. The participants came from computer science and non-computer science students who typically handle multiple subjects and tight academic deadlines. This group was chosen because they often face challenges in managing their study schedules and tracking assignments, making them suitable users for evaluating the effectiveness and usability of the proposed system.

3.2.3 Test Environment

The usability testing was conducted in a controlled and quiet environment to minimize distractions. The testing employed a medium-fidelity usability testing approach, where a medium-fidelity digital prototype designed using Figma was presented to participants. The prototype was accessed using devices such as smartphones to simulate real usage conditions. Each testing session was conducted individually to ensure accurate observation of user interactions.

3.2.4 Testing Method and Task-Based Testing

The task-based testing involved the participants performing a set of tasks which represent the normal usage of the Planora system as performed by the students. The set of tasks performed includes seven tasks.

- Registering and logging into the application.
- Updating profile information.
- Adding subjects and deadlines.
- Generating a study schedule.
- View daily and weekly tasks.
- Marking tasks as completed.
- Viewing AI study suggestions

These tasks were designed to evaluate navigation clarity, interaction flow, and efficiency of core features.

3.2.5 Data Collection Instruments.

Multiple data collection methods were employed during the usability testing:

- Observation, recording user behavior, difficulties, and comments during task execution.
- Task completion time, to evaluate efficiency and identify tasks that require more effort.
- System Usability Scale (SUS) questionnaire, to quantitatively measure users' perceived usability, confidence, and satisfaction with the system

3.2.6 Testing Procedure.

Prior to the beginning of the usability test, participants were informed about the purpose of conducting the test and made aware of the fact that the test was meant to assess the system and not their personal skills. It was made sure that there were no correct and incorrect responses and they were able to provide frank feedback. The participants were made aware of the tasks so that they knew what they were supposed to perform. Logistic preparation was done to ensure the participants feel comfortable before embarking on the test.

3.2.7 Result and Analysis

- **Questionnaire Based Evaluation (System Usability Scale)**

A questionnaire-based evaluation was carried out to examine the usability of the Planora system using the System Usability Scale (SUS). Once participants completed all the assigned tasks, they were asked to provide feedback by responding to 10 SUS statements using a five-point Likert scale ranging from strongly disagree (1) to strongly agree (5). This evaluation aimed to capture users' overall perceptions of the system,

particularly in terms of ease of use, consistency of features, and confidence when interacting with the application.

No	Question	Strongly Disagree		Agree	Strongly Agree	
		1	2	3	4	5
1	I think that I would like to use Planora frequently.					
2	I found Planora unnecessarily complex.					
3	I thought Planora was easy to use.					
4	I think that I would need the support of a technical person to be able to use Planora .					
5	I found that the various functions in Planora were well integrated.					
6	I thought there was too much inconsistency in Planora .					
7	I would imagine that most people would learn to use Planora very quickly.					
8	I found Planora very cumbersome to use.					
9	I felt very confident using Planora .					
10	I needed to learn a lot of things before I could get going with Planora .					

→ X = (sum of the points for all odd numbered question) - 5

→ Y = 25 - (sum of points of all even numbered question)

→ SUS Score $[(X + Y) * 2.5]$

- **SUS testing result and average SUS score calculation**

Task	R1	R2	R3	R4	R5	R6	R7	R8
1	5	5	5	5	4	5	4	5
2	2	5	1	2	4	2	3	5
3	4	5	5	4	4	5	4	5
4	1	3	1	3	2	1	4	5
5	3	5	5	5	4	5	4	5
6	1	4	1	1	3	1	4	5
7	5	5	5	4	4	5	4	5

8	3	1	1	1	2	1	4	5
9	5	5	5	4	4	5	4	5
10	5	2	3	2	2	1	4	5
X = (Sum of Odd) - 5	17	20	20	17	15	20	15	20
Y = 25 - (Sum of Even)	13	10	18	16	12	19	6	0
SUS Score [(X+Y) *2.5]	75	75	95	82.5	67.5	97.5	52.5	50
Average SUS Score (SUS Score/Number of Respondent)	74.38							



Figure 3.3.7.1 SUS Evaluation Techniques

Based on the result of the System Usability Scale (SUS) test, the system received an average score of 74.38. This is rated under the category “Acceptable,” showing that the system is of high usability. Most participants were satisfied with the system, especially with regards to ease of use and functionality. Although minor areas can be identified for improvement, it can be seen that overall, users find themselves satisfied and comfortable with using the system.

- **Test Duration Results**

No	Respondent Task	1	2	3	4	5	6	7	8
Seconds (s)									
1	Register and login in to the mobile application	15	25	23	17	16	19	21	16
2	Update Profile Information	7	8	10	8	7	9	8	8
3	Add New Daily Task	24	27	22	25	22	23	26	25
4	Mark a task as completed	3	2	3	3	2	2	2	3
5	Add subject screen	15	17	14	16	16	17	19	18
6	Select study availability for study	8	7	9	8	8	7	9	7
7	Add a deadline	4	6	5	4	6	5	4	4
8	Use AI prompt assistance	13	15	17	14	18	14	15	16
	Total Duration	89s	107s	103s	95s	95s	96s	104s	97s
	Average Duration	11.13	13.38	12.88	11.88	11.88	12	13	12.13

Task	Average Per Task	Maximum Duration Per Task	Minimum Duration Per Task
T1	19.00	25	15
T2	8.13	10	7
T3	24.25	27	22
T4	2.50	3	2
T5	16.50	19	14
T6	7.88	9	7
T7	4.75	6	4
T8	15.25	18	13

Based on the usability test results, the total task completion time for all respondents ranged from 89 seconds to 107 seconds, and the average task duration per respondent ranged from 11.13 seconds to 13.38 seconds. This indicates a consistency of performance from all the respondents, and it is clear that the application interface is stable for different users. For instance, the total task completion time for respondent 2 was the highest, at 107 seconds, while respondent 1 had the shortest total task completion time, at 89 seconds.

Further analysis of the individual tasks indicates that the task with the longest average completion time was Task 3, or "Add New Daily Task," with a completion time of 24.25 seconds, a maximum completion time of 27 seconds, and a minimum completion time of 22 seconds. This indicates that, for the application interface, Task 3 may have required a longer user input and interface interaction compared to other tasks. Task 4, or

"Mark for a task as completed," had the shortest completion time, at 2.50 seconds, indicating that it is easy to use the application interface for this particular task.

The average duration for Task 1, which is Register and login to the mobile application, is 19.00 seconds, and it is a bit high compared to other tasks. This could have been caused by the number of steps involved during the authentication process. Task 2, Update Profile Information, had an average duration of 8.13 seconds, and it is clear the application is efficient in terms of user interface and interaction flow. Based on the test results, most of the application features can be performed with a high degree of efficiency, although a few tasks could also benefit from interface improvement to enhance user efficiency and experience.

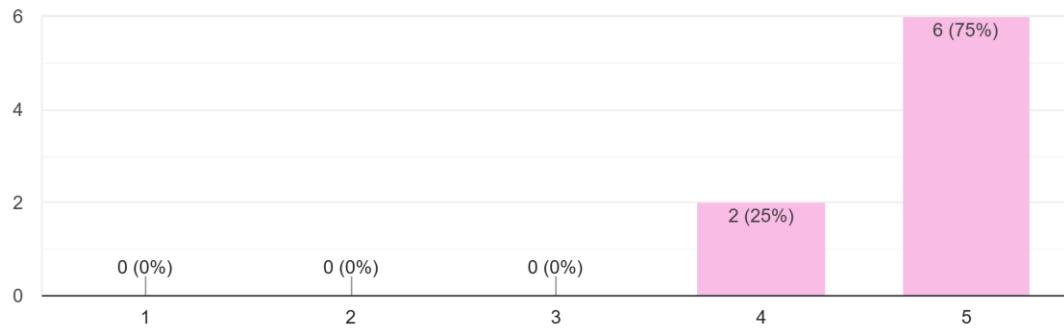
In conclusion, the test results have proven that the application is efficient and effective for task performance, and most tasks are performed within a short period of time, although a few tasks could also benefit from interface improvement to enhance user experience and efficiency.

3.3.8 Data Collection and Analysis

Data collection for the usability evaluation of the Planora application was conducted using a **Google Form questionnaire** after participants completed the task-based testing sessions. The questionnaire was based on the **standard System Usability Scale (SUS)**, which consists of 10 statements designed to evaluate users' overall perception of the system in terms of usability, learnability, consistency, and confidence when interacting with the application.

I think that I would like to use Planora frequently

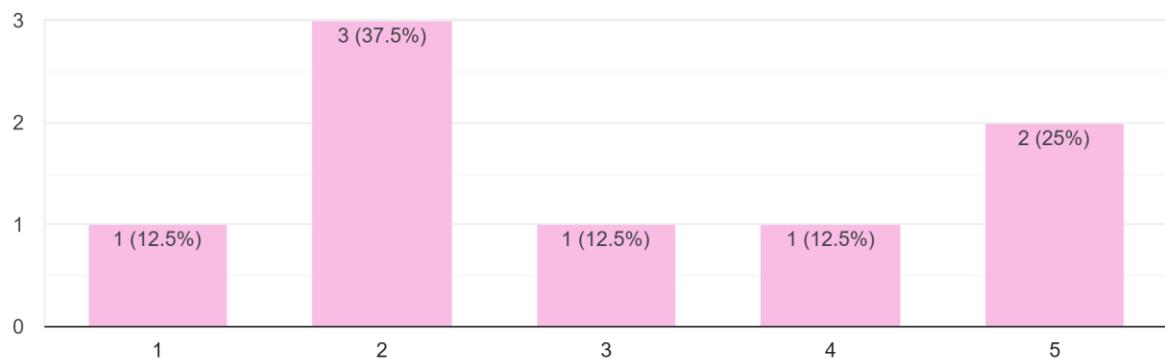
8 responses



Based on the first SUS statement (“*I think that I would like to use Planora frequently*”), as shown in the corresponding chart, most respondents selected **Agree** and **Strongly Agree**. This indicates that users showed a strong interest in using the application regularly, suggesting that Planora is perceived as useful and relevant to their academic planning needs.

I found Planora unnecessarily complex.

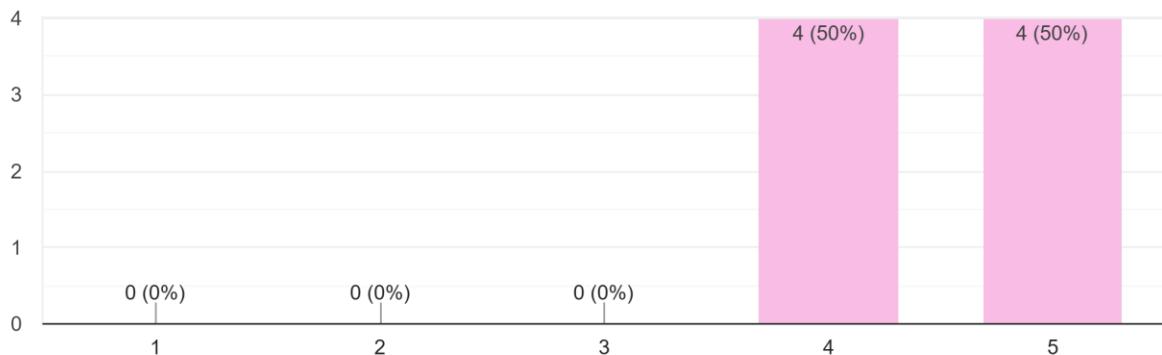
8 responses



For the statement related to system complexity (“*I found Planora unnecessarily complex*”), the chart shows that most users disagreed with the statement. This suggests that the majority of participants did not find the system complicated, indicating that the interface design is relatively simple and easy to understand.

I thought Planora was easy to use.

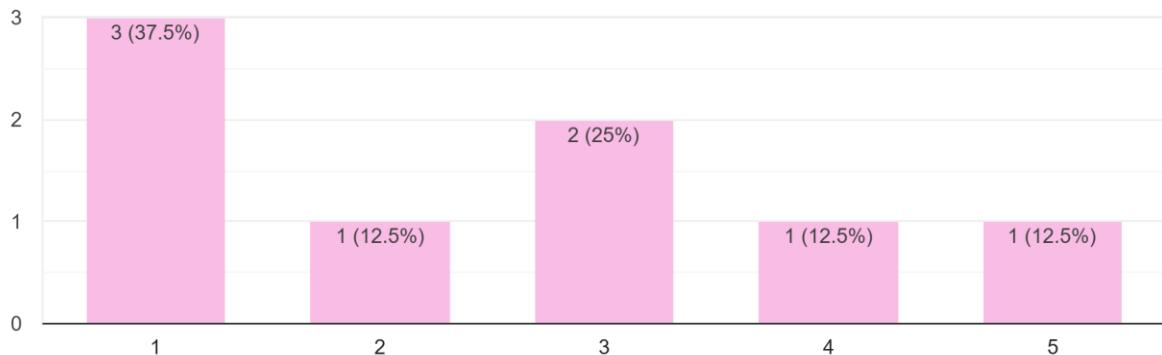
8 responses



The chart for the statement (“I thought Planora was easy to use”) shows a high number of positive responses, with most participants agreeing or strongly agreeing. This reflects that users were able to interact with the system smoothly and complete tasks without significant difficulty.

I think that I would need the support of a technical person to be able to use Planora.

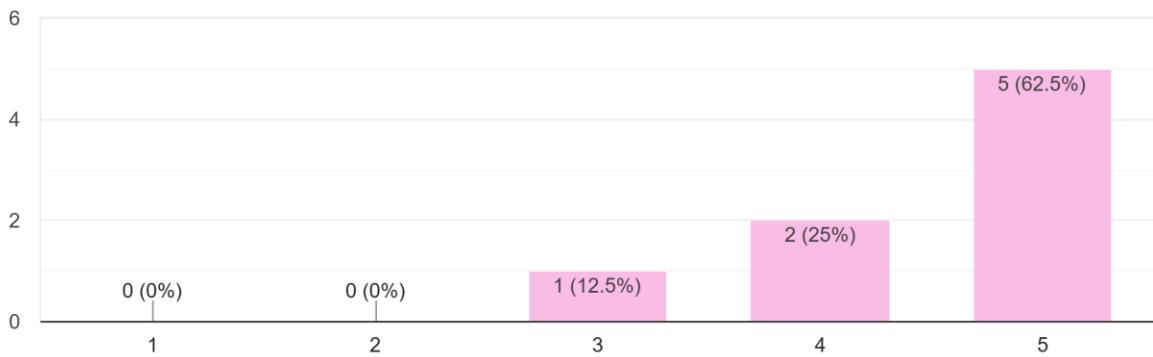
8 responses



In addition, the results for (“I think that I would need the support of a technical person to be able to use Planora”) indicate that most users disagreed with this statement. This implies that users felt capable of using the application independently without requiring external assistance, demonstrating good learnability.

I found that the various functions in Planora were well integrated.

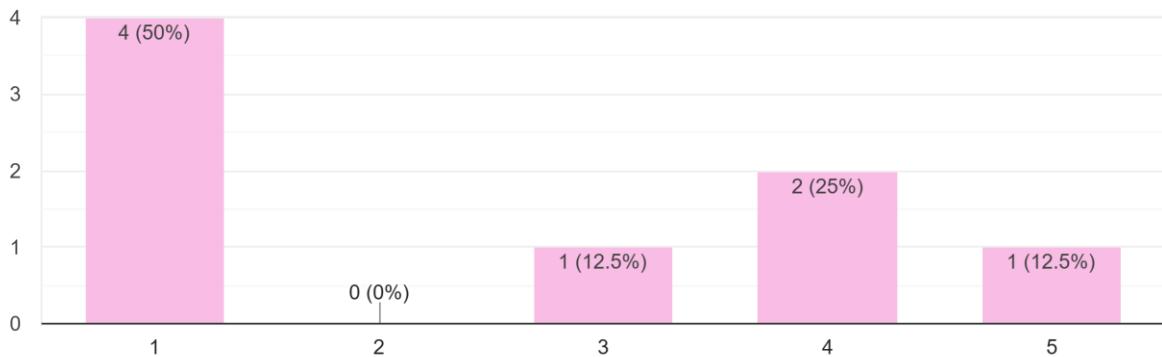
8 responses



For system integration (“I found that the various functions in Planora were well integrated”), the majority of responses were positive, as illustrated in the chart. This shows that users perceived the features of Planora as well connected and logically organized within the application.

I thought there was too much inconsistency in Planora.

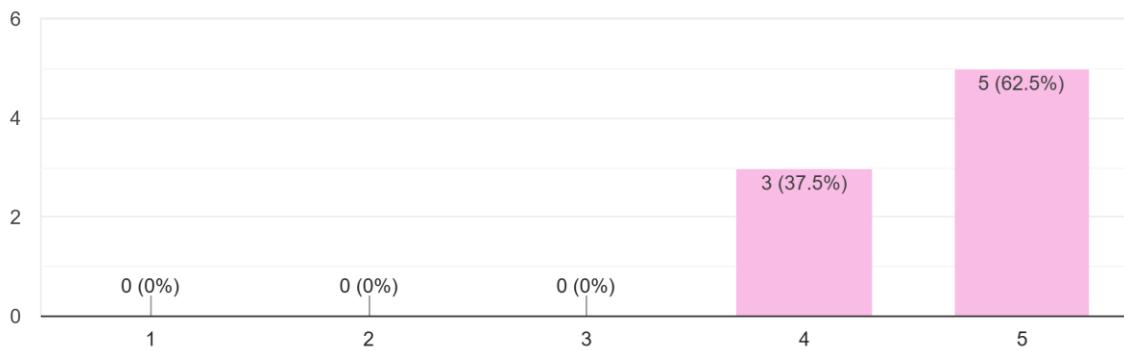
8 responses



Regarding consistency (“I thought there was too much inconsistency in Planora”), most users selected lower agreement levels. This indicates that the interface elements, navigation flow, and interactions were generally consistent throughout the system.

I would imagine that most people would learn to use Planora very quickly.

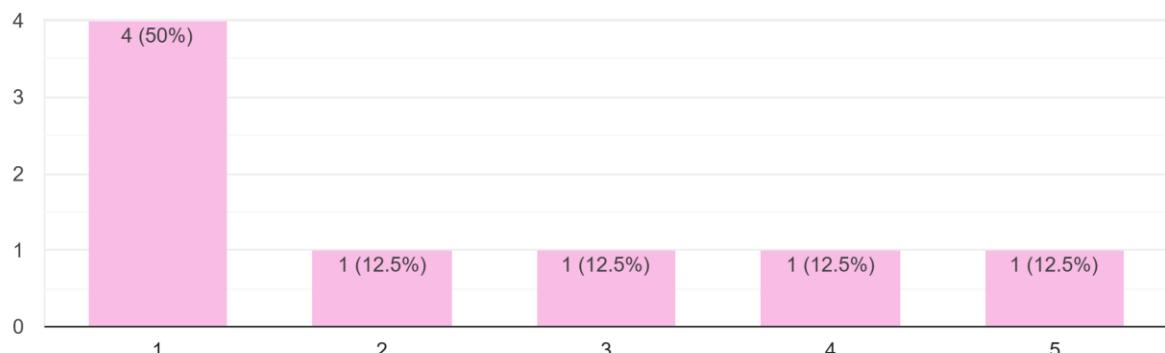
8 responses



The chart for ("I would imagine that most people would learn to use Planora very quickly") shows strong agreement among participants. This suggests that Planora has a short learning curve and is suitable for a wide range of users, including first-time users.

I found Planora very cumbersome to use.

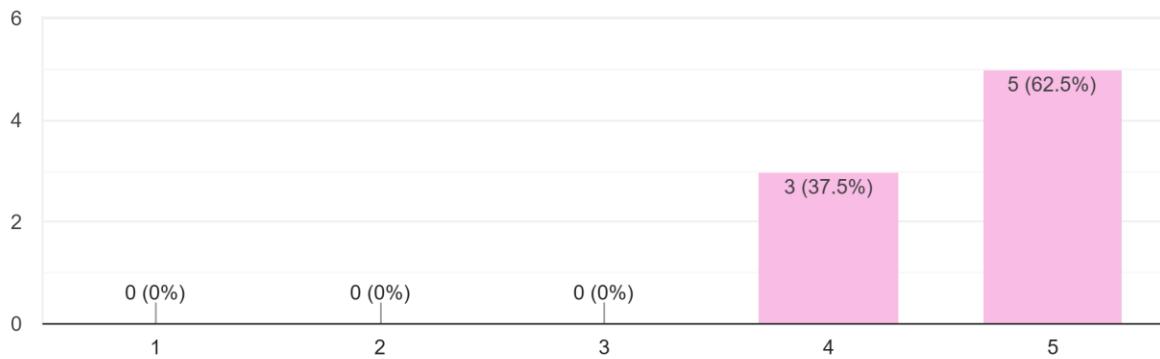
8 responses



For the statement ("I found Planora very cumbersome to use"), the majority of participants disagreed. This indicates that users did not find the system tedious or difficult to navigate, supporting the overall usability of the application.

I felt very confident using Planora.

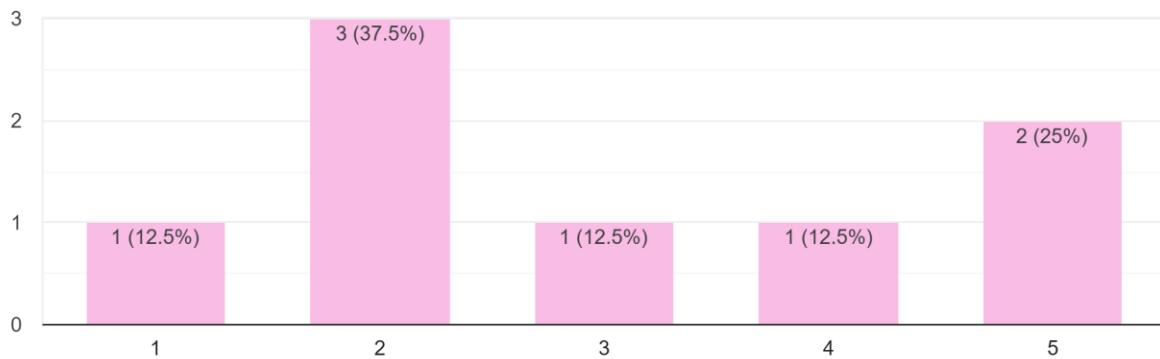
8 responses



The chart for ("I felt very confident using Planora") shows that most users agreed or strongly agreed. This demonstrates that the application design successfully builds user confidence during interaction.

I needed to learn a lot of things before I could get going with Planora.

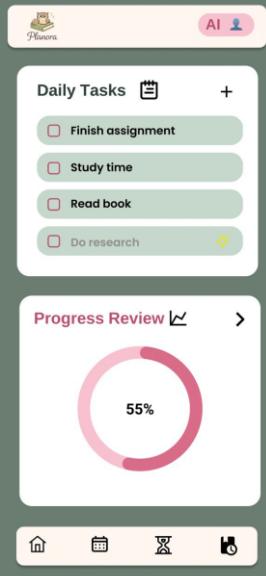
8 responses



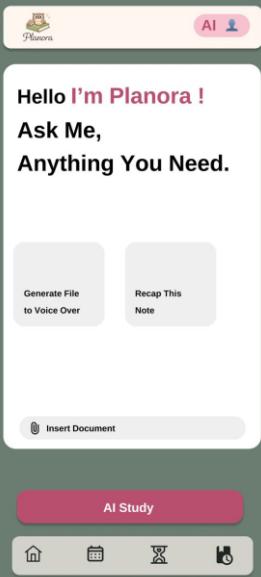
For the statement "I needed to learn a lot of things before I could get going with Planora," the chart shows that most respondents selected Disagree or Slightly Disagree, while only a small number agreed with the statement. This indicates that the majority of users felt they could start using the application without requiring extensive learning or prior instruction. However, the

presence of a few users who agreed suggests that first-time users may still benefit from additional guidance. This highlights an opportunity for future improvement, such as introducing a brief onboarding tutorial or contextual help to further enhance the learnability of the application.

3.3.9 Usability Problems

Prototype Design	Description
 A screenshot of the application's home screen. At the top, there is a header with a profile icon and an AI icon. Below the header, there is a section titled "Daily Tasks" with four items: "Finish assignment", "Study time", "Read book", and "Do research". Each item has a small checkbox icon. Below this section is a "Progress Review" card with a circular progress bar showing "55%" completion. At the bottom of the screen are four navigation icons: a house, a calendar, a magnifying glass, and a gear.	For our application home screen page, we have reorganized the layout to clearly display daily tasks and progress tracking in a single view. This improvement allows users to quickly check their current tasks and overall study progress, helping them stay focused and manage their time more effectively.

	<p>For our application study schedule page, we have refined the layout by organizing study sessions into clear time blocks with subject labels. This improvement allows users to easily view and understand their study timetable, helping them plan their study time more effectively.</p>
	<p>For our application progress tracking page, we have added a visual progress indicator and weekly progress summary. This improvement helps users better understand their performance over time and motivates them to maintain consistent study habits.</p>



The screenshot shows the AI prompt page of the Planora application. At the top, there is a header with the Planora logo and an 'AI' button. The main content area displays a welcome message: "Hello I'm Planora ! Ask Me, Anything You Need." Below this message are two buttons: "Generate File to Voice Over" and "Recap This Note". A "Insert Document" button is located at the bottom of this section. A prominent pink "AI Study" button is centered below the document insertion area. At the very bottom, there is a navigation bar with four icons: a house (Home), a calendar (Schedule), a document (File), and a gear (Settings).

For our application AI prompt page, we have added guiding text and predefined prompt options to assist users in interacting with the AI feature. This improvement helps users feel more confident when using the AI and ensures they can fully benefit from the smart assistance provided.

4.0 REFLECTION AND CONCLUSION

This project provided a meaningful learning experience by allowing us to explore real academic challenges faced by university students and translate those challenges into a practical system design. From the early stages of analysis, it became clear that many students struggle to manage assignments, deadlines, and study schedules due to academic overload and the use of scattered planning tools. These issues often result in stress, confusion, and last-minute work, highlighting the need for a more structured and centralized planning solution.

The development of Planora encouraged us to apply Human–Computer Interaction (HCI) principles throughout the design process. By focusing on user-centered design, the interface was kept simple, clear, and easy to navigate so that students would not feel overwhelmed when using the system. Features such as daily task lists, progress tracking, reminders, and AI study suggestions were designed to reduce cognitive load, support better focus, and help users manage their time more effectively. These design decisions reflect important HCI concepts such as usability, learnability, consistency, and user control.

Designing the low and medium-fidelity prototypes helped us understand how users interact with the system before full development that allowed us to visualize the user flow, identify potential usability issues, and improve the layout and navigation early on. In conclusion, Planora demonstrates how a well-designed academic planning application can support students in managing their studies more effectively. Although Planora is currently presented as a prototype, it shows strong potential to improve students' academic experiences through thoughtful design and HCI principles. Overall, Planora aims to support students in developing healthier study habits by helping them plan smarter, study calmer, and achieve better results.

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APPENDIX

1. Google Form Survey Questionnaire for User Requirements:
<https://forms.gle/AgACLGWuVNY7VYmt7>
2. Google Form User Feedback for Mid-Fidelity Design:
<https://forms.gle/iuLQPZzrytgEMLP5A>