



DESIGN THINKING REPORT

Smart Campus Data Solution: Improving Student Experience through Data

Topic 9 : Student Mental Health Insights

GROUP NUMBER : 5 (*ERROR 404*)

SUBJECT : TECHNOLOGY AND INFORMATION SYSTEM (SECP1513)

SECTION : 02

LECTURE NAME : DR. ARYATI BINTI BAKRI

GROUP MEMBER :

| | | |
|-------------------------------|---|-------------|
| | | |
| MUHAMMAD HAFIZ BIN SUHAILI | NUR FARIZA ADLINA BINTI MOHAMMAD FAIZAL | GAN MEI LEE |
| A25CS01006 | A25CS0310 | A25CS0225 |

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1.0 INTRODUCTION

Mental health is an important aspect of one's overall well-being, yet it is often overlooked by many, predominantly by men. It can lead to mental disorders that encompass a wide range of disturbances in thinking, emotions, and behaviors that can impact a person's daily life including their social relationship. These conditions can be caused by various factors, such as lack of proper time management and academic workload including biological factors, such as genetic and life experience, such as trauma or abuse.

Common psychological symptoms of mental health issues are mood disorders that involve persistent feelings of sadness, hopelessness, or irritability. Besides psychological symptoms, mental health issues can also manifest as physical symptoms. These physical symptoms are often overlooked but can provide valuable insights into a person's mental well-being. Changes in appetite or weight and sleep disturbance are the common symptoms to the person who are struggling with their mental health. Panic attack is also one of the common symptoms as it has a feeling of fear or anxiety accompanied by physical symptoms such as shortness of breath or chest pain.

Mental Health insight refers to the crucial awareness and understanding of their own mental health condition, its symptoms, the need for treatment, and how it impacts their lives. This project focuses on students of University Teknologi Malaysia (UTM) to address their current mental health throughout their study.

Throughout these five weeks, our team members collaborated and distributed tasks based on their role, which are the analyst, designer and editor. During these five weeks, we agreed to update our progress via Github Project, enabling us to track real time progress, give comments and ensure the project reaches the optimal result we expected.

1.1 Design Thinking Process

1.1.0 Task Distribution

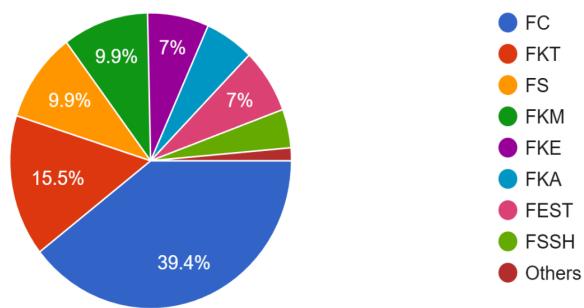
| Team Member | Role | Tasks |
|---|-------------|---|
| Muhammad Hafiz Bin Suhaili | Editor | <ul style="list-style-type: none">• Record interview videos with respondents• Commence video editing via <i>Animaker</i> and <i>Capcut</i>• Improve multimedia aspect to ensure quality work produced• Create Google Docs with appropriate questions in order to complement Phase 1 - Emphasize• Monitor all progress to ensure no loopholes are present during development |
| Nur Fariza Adlina binti Mohammad Faizal | Analyst | <ul style="list-style-type: none">• Initiates the report writing via Google Docs to ease collaboration between group members• Conduct and analyse data obtained through Google Forms and create visual aids• Create user journey map about the process to book an appointment through traditional methods |
| Gan Mei Lee | Designer | <ul style="list-style-type: none">• Creates and enhance UI and UX development through <i>Canva</i>• Construct data flow diagram to ease the understanding on how the data being utilised• Creates a mock-up application for proof-of-concept |

1.1.1 Emphasize

In the beginning of Week 1, we created a Google Form to ease the distribution and surveying process among UTM students. The link to the respondent form are stated: <https://forms.gle/vdtJujk3w6U7twY4A>. The forms consist of three main components, which are User Demographics, Current Mental Wellbeing and Awareness and Barriers. Based on data obtained by 71 respondents, below are the data represented in pie charts and bar charts.

Which faculty do you belong to?

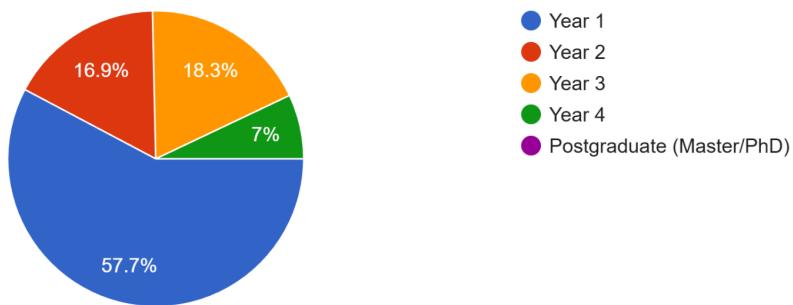
71 responses



Section 1 Question 1: Which faculty do you belong to?

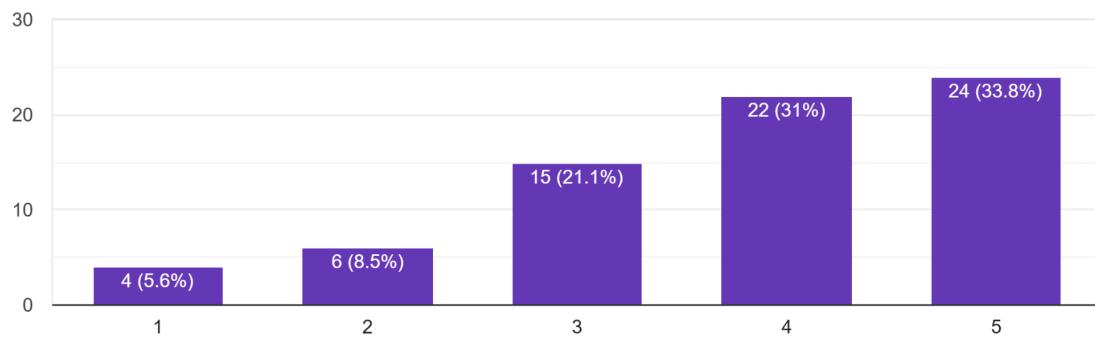
What is your current year of study?

71 responses



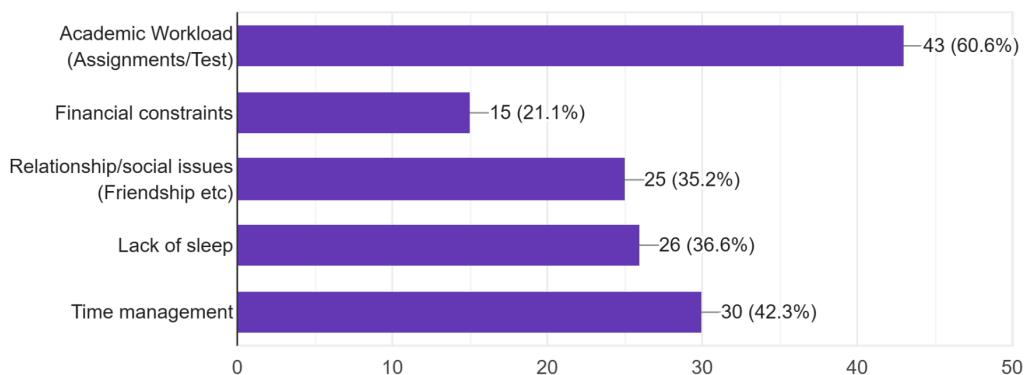
Section 1 Question 2: What is your current year of study?

On a scale of 1 to 5, how would you rate your average stress level this semester
71 responses



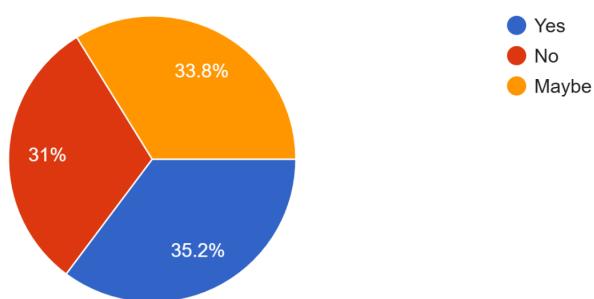
Section 2 Question 1: Average stress level throughout this semester

What are your primary sources of stress at UTM? (Select up to 3)
71 responses



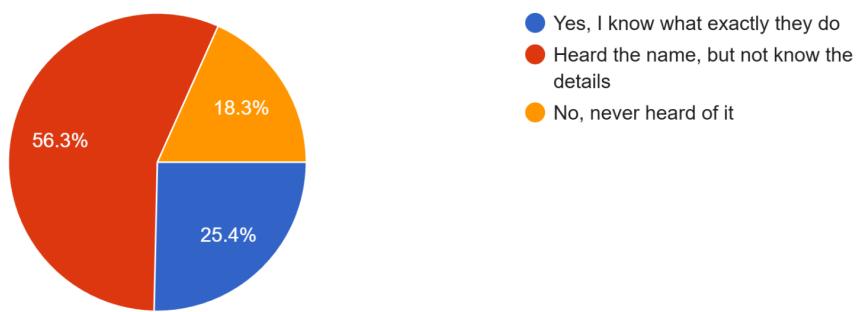
Section 2 Question 2: Primary sources of stress at UTM

Have you ever felt the need to seek professional mental health support while at university?
71 responses



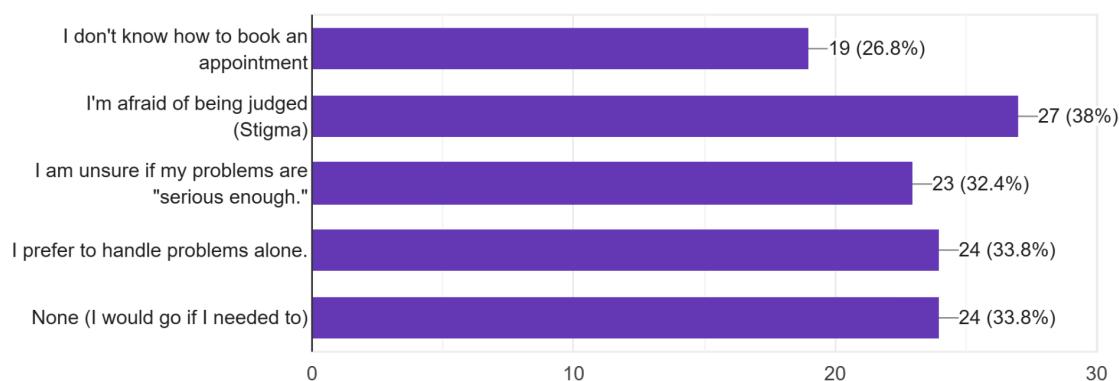
Section 2 Question 3: Need to seek professional mental health support

Are you aware that UTM provides professional counseling services through "UTM Psycare"
71 responses



Section 3 Question 1: Awareness counseling services through UTM Psycare

What would stop you from visiting the counseling center (Psycare)? (Select all that apply)
71 responses

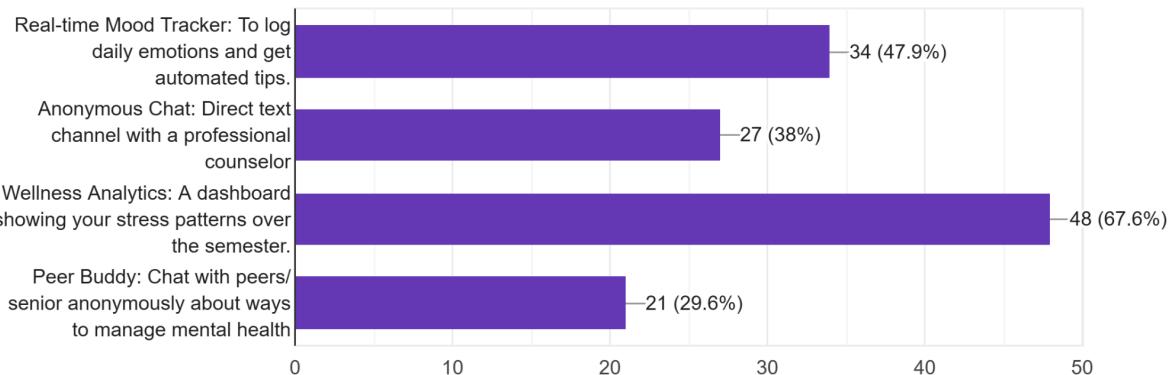


Section 3 Question 2: Reason for NOT visiting UTM Psycare

If there was a "Smart Wellness App" for UTM students, which features would you find most useful?

(Choose 2 max)

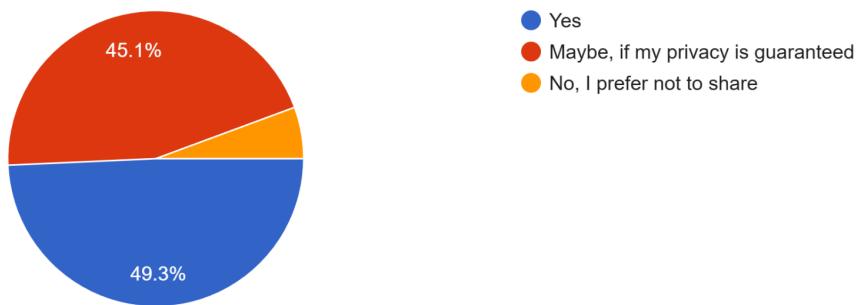
71 responses



Section 3 Question 3: Features of "Smart Wellness App"

Would you be willing to share anonymized mood data (e.g., "I feel sad today") if it helped the university allocate more resources to mental health programs?

71 responses



Section 3 Question 4: Anonymous data sharing to UTM in order to improve services

Above were the quantitative results from surveys shared through Google Forms. To obtain a much more authentic and qualitative response, we have conducted an interview with two consensual students to find out their opinion about UTM Psycare and mental health issues. The transcript of the interview are shown in the table below:

Name : MUHAMMAD HARIZ SYAHMI BIN MAHATHIR
Faculty : Computing
Gender : Male
Year & Programme : 1/SECPH

| Question | Answers |
|--|---|
| 1. Do you think men are more inclined to reject professional counselling services? Why? | I think men are more likely to reject counselling services because society forces them not to engage to not be seen as weak |
| 2. What are the contributing factors of stress based on your own experience studying in UTM? | Studying in UTM is very stressful because we don't have easy access to counselling services without complicated procedure |
| 3. What improvement would you like in order for you to use UTM Psycare services in the future to manage your stress and mental health? | Those services should be integrated with UTM Smart and they should promote more mental-health related programme in the future |



Picture 1: Interview with Hariz at Dewan Seminar Kejora, N28a, FC, UTM

Name : HUMAYRA' BINTI ZULQARNAIN

Faculty : Computing

Gender : Female

Year & Programme : 1/SECPH

| Question | Answers |
|---|--|
| 1. Do you find it hard, as a first year student, to seek professional counselling help, booking appointments etc? | I am still finding myself adjusting to university life and I find that the system is pretty hard to find out how to book sessions. |
| 2. How often do you feel stressed? What are the primary sources that contribute to it? | Basically as usual, the academic overload, and especially at the end of the semester. Other than that, I also having trouble managing my time because I join so many activities |
| 3. Who do you trust the most to confess your emotions? What should UTM Psycare do to earn your trust? | I would tell my trusted friends. I would read counselor reviews on their website and also promote outreach programmes to other students to make sure they feel more comfortable, ensuring secrecy between counselor and students |



Picture 2: Interview with Humayra' at Dewan Seminar Kejora, N28a, FC, UTM

1.1.2 Define

In week 4, we discussed problem statements, video and user journey maps. Make a problem statement based on the data that has been obtained from the Google Form.

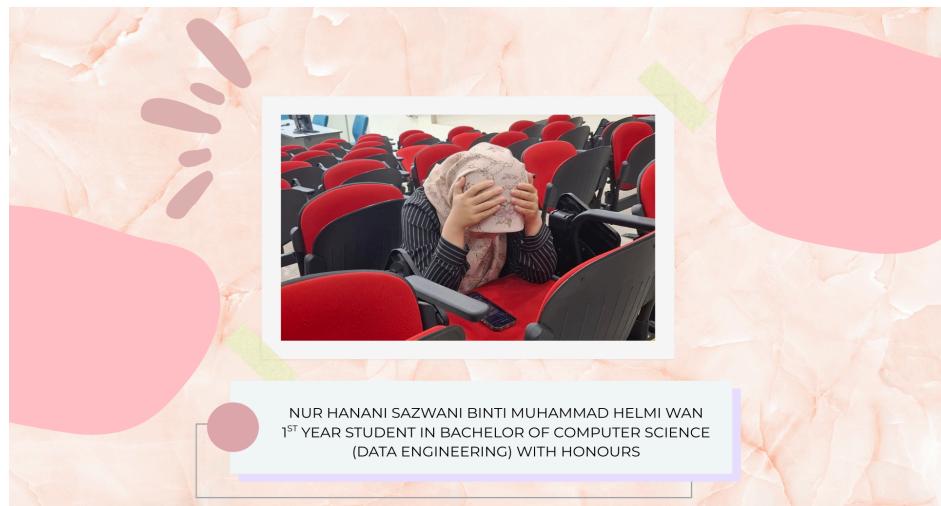
Problem statement :-

- Most students were stressed due to academic workload and time management.
We believe that the source of stress was due to curriculum and academic activities that prevent students from managing their time efficiently.
- The majority of students want to seek professional mental health support while at university.
- The majority of students are aware that UTM provides a professional counselling service on UTM Psycare but do not know the purpose or details of the platform.
- Students stop from visiting the counseling centre as they are afraid of being judged as they confessed their feelings will make the counselor see them differently from other students. Other than that, students prefer to handle their problem independently as they do not want to bother others with their problem.

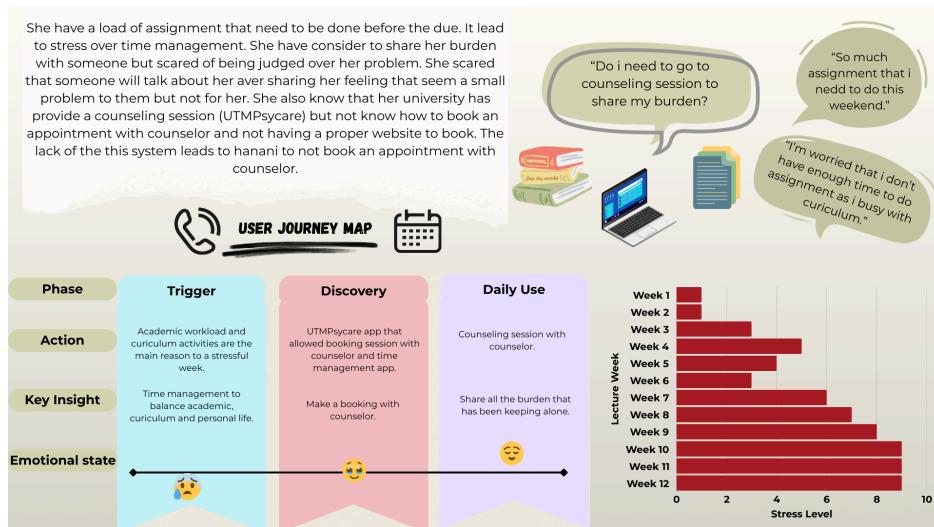


Picture 3: Brainstorm the problem statement at K01, KTR

User journey map:-



Picture 4: Persona Hanani Syazwani experiencing mental crisis



Picture 5: Hanani's Journey Map

1.1.3 Ideate

During week 4, we brainstorm the solution based on the problem statement that has been brainstorming during the define phase.

Solution :-

We brainstorm the solution with 7 solutions and choose the most suitable solution.

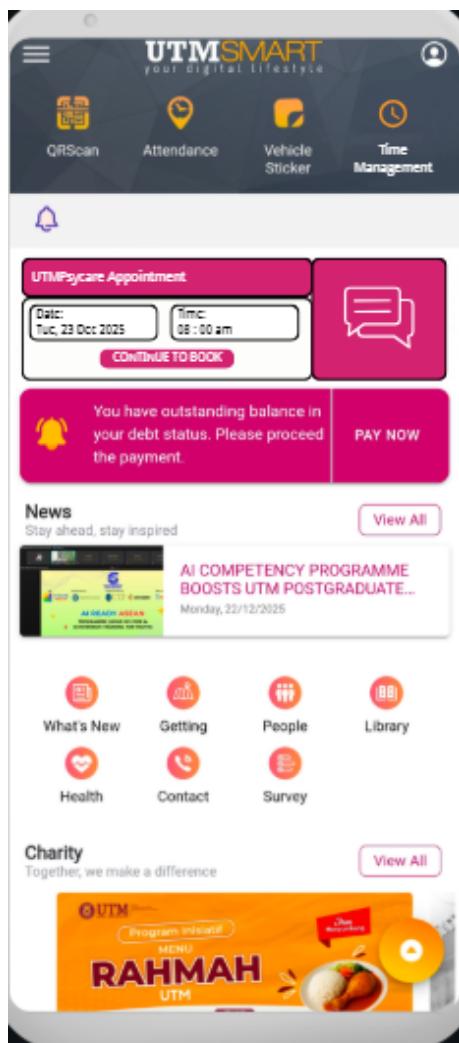
1. Time management widget integrated in UTMSmart app.
2. Anonymous chat with a professional counselor during the office hour.
3. Integrate easier booking system for counseling via UTMSmart and official websites.



Picture 6: Brainstorm the solution at K01, KTR

1.1.4 Prototype

In week 5, making a prototype based on the problem statement and solution that has been discussed during a meeting at K01, KTR. We have decided to make two prototypes. First, integrate UTMPsycare and time management widget into UTMSmart as the current app does not provide the section where we can find information about UTM Psycare. Second, the UTM Psycare website for better booking sessions.



Picture 7: Integrate time widget in UTMSmart (Prototype 1)



Picture 8: UTM Psycare Website for booking and anonymous chat (Prototype 2)

Based on user demands and practicality, we decided to use Prototype 1 as the primary solution. We believe that the integration of the widgets into UTM Smart app reduces redundancy for students to download new apps, as this app serves as 'SuperApp' to ease students' everyday life. A data flow diagram is made to visualise how the data is being used from the user end to the admin end.

UTMPsycare - UTMSmart (Data Flow Diagram)

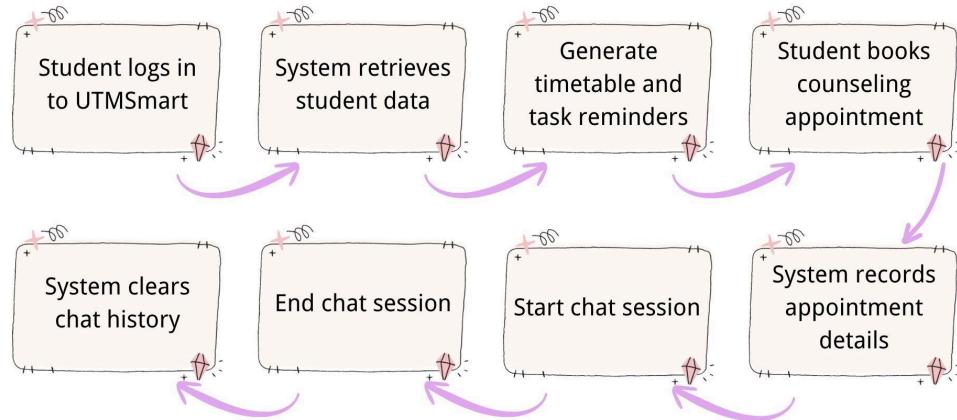


Diagram 9: Flow of booking system

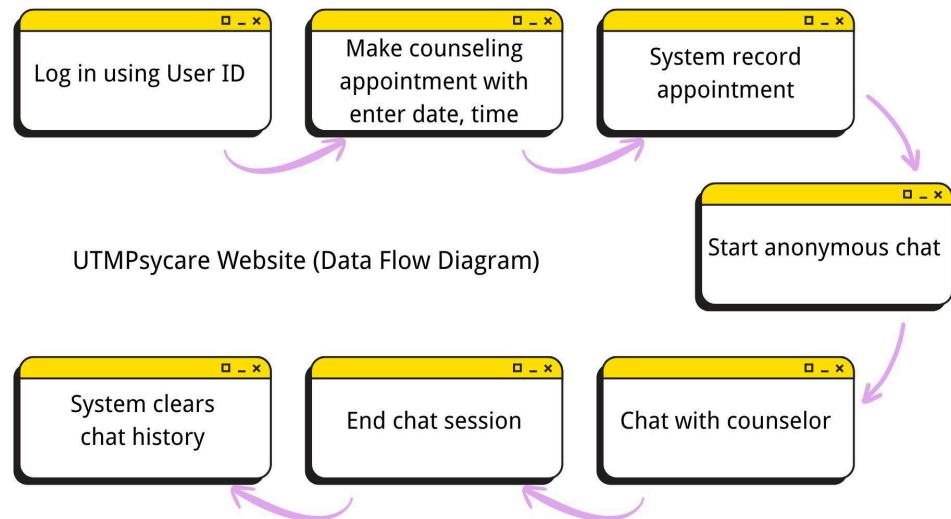


Diagram 10: Flow of chat anonymous in UTM Psycare website

1.1.5 Testing

In week 6, we tested the program and got feedback from the users and suggestions for improvement.



Picture 1: Feedback from user 1



Picture 2: Feedback from user 2



Picture 3: Feedback from user

2.0 REFLECTION

Muhammad Hafiz Bin Suhaili

Throughout the arduous journey of completing TIS assignments, it is undeniable that I'm aiming to master the vast knowledge of this subject, to give. Based on this project, it shed light to me that even exemplary students are haunted by mental health crises, waiting for an open hand to assist them, especially utilising UTM Psycare professional counseling services. In my humble opinion, the most impactful task in this project is Phase 1- Emphasize. It allows me to conduct interviews with other UTM students, to listen, synthesize and see their opinion from their point of view, ultimately leading to a much more understanding about the viable methods and ways to improve the existing UTM Psycare services. I believe that my time management skill especially in Agile methodology should be improved in order to ensure highest quality assignments can be produced in a nick of time

Nur Fariza Adlina Binti Mohammad Faizal

My goal is to enhance my critical thinking by learning how to create an app, program or website that is useful for people as programs or websites these days have a lot of cons. By doing this project, I can know what kind of steps I need to take and enhance my social skills along with my knowledge. Not to forget, I need to build a portfolio by documenting the design thinking process or updating my commitment to this course to improve my potential in the industry.

Gan Mei Lee

My dream is to become a data engineer that can build and manage data systems and can work in the technology industry in the future. Design thinking helps me improve my problem solving skills by solving the problem according to the user needs and improving the solution through rigorous testing and constructive feedback. To improve my potential in the industry, I want to strengthen my basic skills through practice with more projects, learning from my teammates. I also need to improve my team work to ensure the project can complete smoothly

3.0 CONCLUSION

Mental health is crucial among the students as it disrupts their mental well-being and can be harmful to their body as it absorbs their energy to overcome their stress. Based on this project, we have found the solution to overcome the problem that UTM students face during their studies. It can help them to make a decision to manage their time and also make the process of booking counseling sessions far easier as it has integrated in UTM Smart and the making of UTM Psycare website.

The making of this project has enhanced the accessibility and reach to UTM Psycare as the current website only has access for the staff and not for the students. Now, students can now book counseling sessions 24/7 using their mobile devices, especially for those who may feel hesitant to visit a counseling centre because of the stigma.

Video link:

https://drive.google.com/drive/folders/1C5ZGtGp_phNOASKv_is6ifP2vMHVsOqJ?usp=drive_link

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