



SECP 1513- SECTION 07

TECHNOLOGY AND INFORMATION SYSTEM

Design Thinking Report

Information System

Name	Matric Number
LING LEE HOM	A23CS0105
LEE XUAN YING	A23CS0235
ISMAIL BIN ESA	A23CS0086
NICHOLAS YEK EI ZHE	A23CS0150
JUSTIN FAUZADANI AZKA	A23CS4012

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Introduction:

According to Interaction Design Foundation, design thinking is the totally not-linear, do-it-again-and-again process teams use to get what users are about, question everything, rethink problems, and whip up cool solutions to try out with prototypes and tests. It's like the go-to move for those problems that are all vague or totally unknown. And get this, there are five steps in the game: first, you try to feel what's going on (Empathize), then you figure out what the deal is (Define), after that, you let your creative side run wild (Ideate), make a rough version (Prototype), and finally, you give it a spin (Test).

Details of Design Thinking Process

1. Empathy

The team endeavors to comprehend the issue, primarily through rigorous user research. The significance of empathy in the context of design thinking cannot be overstated, as it empowers designers to dispense with their preconceived notions about the world, fostering a profound understanding of users and their respective needs.

2. Define

Upon gathering pertinent information, the team systematically analyzes the observations, synthesizing them to articulate the fundamental problems. These articulations are formally termed problem statements. Subsequently, the team may opt to develop personas as a strategic tool to maintain a human-centered focus throughout their endeavors.

Problem:

3. Ideate

Having laid the groundwork, teams prepare to engage in creative thinking. They initiate brainstorming sessions to explore unconventional perspectives on the problem and devise innovative solutions aligned with the defined problem statement.

4. Prototype

Entering the experimental phase, the objective is to pinpoint optimal solutions for each identified problem. The team generates cost-effective, scaled-down iterations of the product or its specific features for thorough exploration of ideas. This could be as straightforward as utilizing paper prototypes.

5. Testing

Putting these prototypes to the test with actual users becomes the next step in the process to assess their effectiveness in solving the identified problem. The testing phase may yield fresh insights, prompting the team to iterate and refine the prototype or, in some cases, return to the Define stage to reassess the problem.

Problem & Solution:

The aim of improvement in this project is UTM PORTAL. UTM PORTAL is an essential website for UTM, however, it is bothered with some significance cons for the users. Such as the messy user interface and not user-friendly .To solve the problem, we have to create a new version of UTM PORTAL which have an user-friendly interface. Besides, a video tutorials is needed in order to guide our user to browse through our website. Also, to enhance the user-experience, we enhance the design of the webpage.

Design Thinking



Emphasize



Define



Ideate



Prototype



Test

Design Thinking

1. Empathy

When we first started this research, we were primarily concerned with assessing the UTM system's efficacy, which included UTM Portal and UTMSmart. We carried out an extensive investigation and spoke with UTM students in order to have an idea of how the systems were received by the students.

The question, "What do you think about this utmsystem? Is it easy to access as a beginner?" was one of the main ones asked throughout these interviews. Fascinatingly, we noticed that student replies to both UTMSmart and the UTM Portal were remarkably comparable. Their feedback's recurring theme brought attention to the difficulties experienced by individuals who were not familiar with the system. It appears that new users face this difficulty more acutely since they might not fully comprehend how these system.

It's crucial to remember that users' inexperience with the system is the main cause of these issues. These problems should go away as students get more comfortable using the platforms. But given the early challenges faced by newcomers, it is necessary that we address this issue and put plans in place to improve the onboarding process for new students. The focus should be on developing extensive support mechanisms, such as tutorials, userfriendly manuals, and maybe orientation sessions, to make the transition for individuals who are new to these technologies easier. By doing this, we can proactively lessen the difficulties encountered by novices and guarantee that everyone using the UTM system has a favorable and easy-to-use experience.



Video Interview : <https://youtu.be/x3DO0ZZNjus?feature=shared>

2. Define

Having gathered essential data, our team systematically analyzes observations, distilling them into clear problem statements. We recognize challenges such as a cluttered user interface and a lack of user-friendliness in the current UTM PORTAL. To address these issues, our proposed solution involves crafting a new user-friendly version, integrating video tutorials for user guidance, and enhancing the overall webpage design. In order to maintain a user-centered focus, we will create personas representing our diverse user base, guiding our design decisions throughout the process.

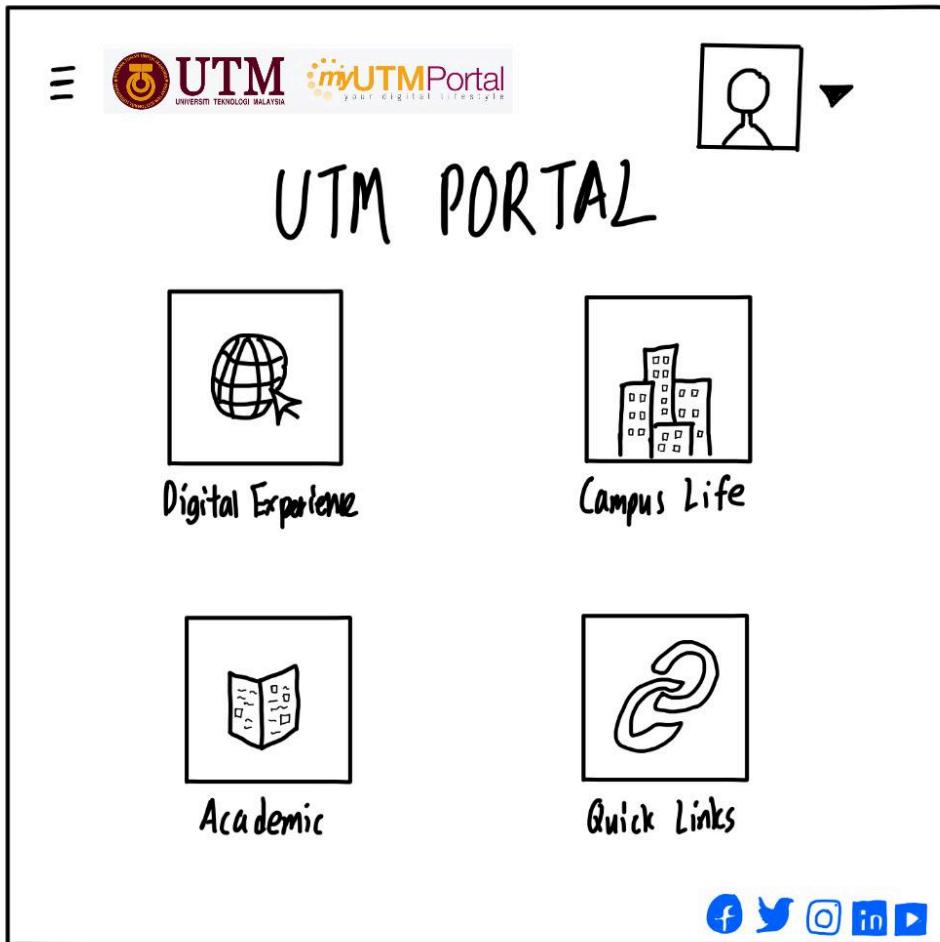
3. Ideate

With the groundwork laid, our team delves into creative thinking to address the challenges posed by the current state of the UTM PORTAL. Initiating brainstorming sessions, we explore unconventional perspectives on the issues identified, particularly the messy user interface and lack of user-friendliness.

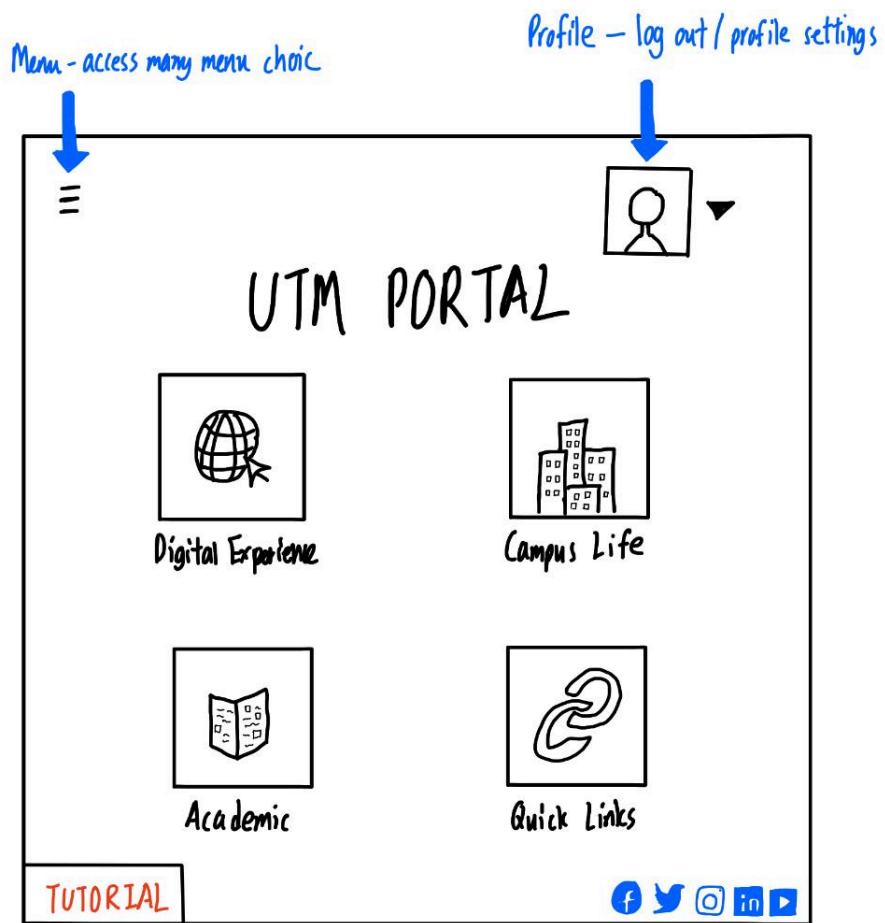
Our goal is to devise innovative solutions in line with the defined problem statement. This involves considering alternative approaches beyond creating a new user-friendly version. Brainstorming encompasses ideas such as gamifying the website for enhanced user engagement, implementing voice-guided navigation, and integrating cutting-edge design elements.

By fostering an environment of creative exploration, our team seeks to uncover inventive solutions that go beyond conventional redesign, ensuring a comprehensive and forward-thinking approach to improving the UTM PORTAL.

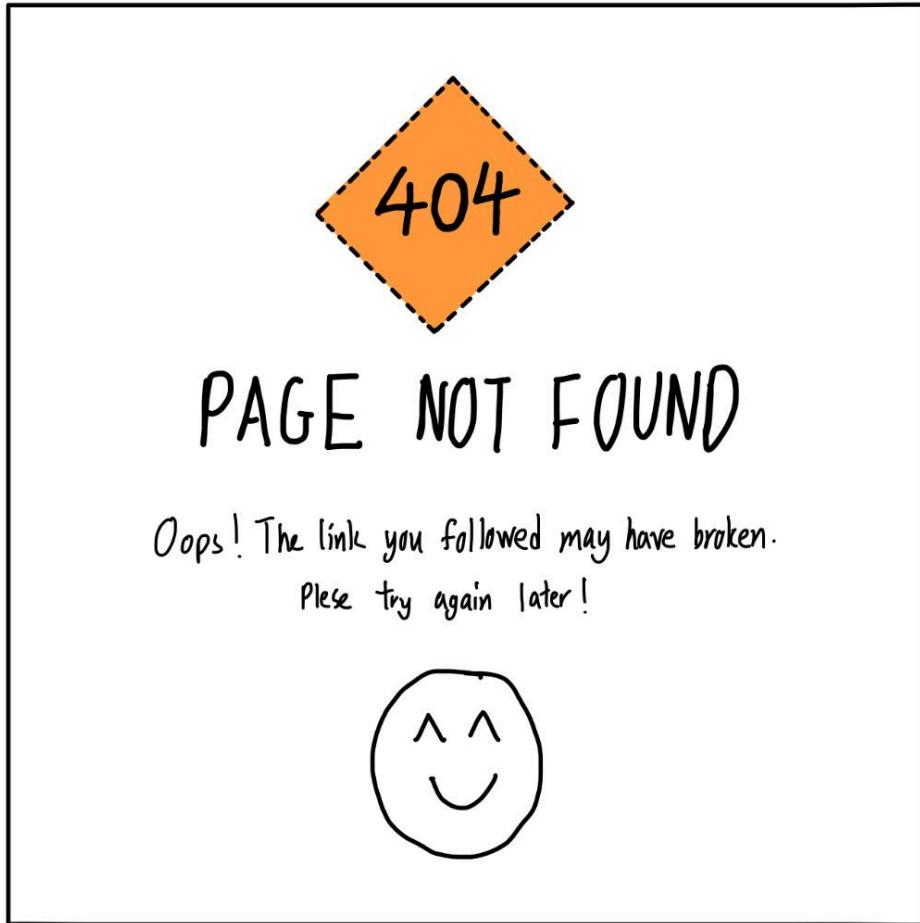
4. Prototyping



1. The UI of UTM portal main page has been modified to be cleaner and more user-friendly.

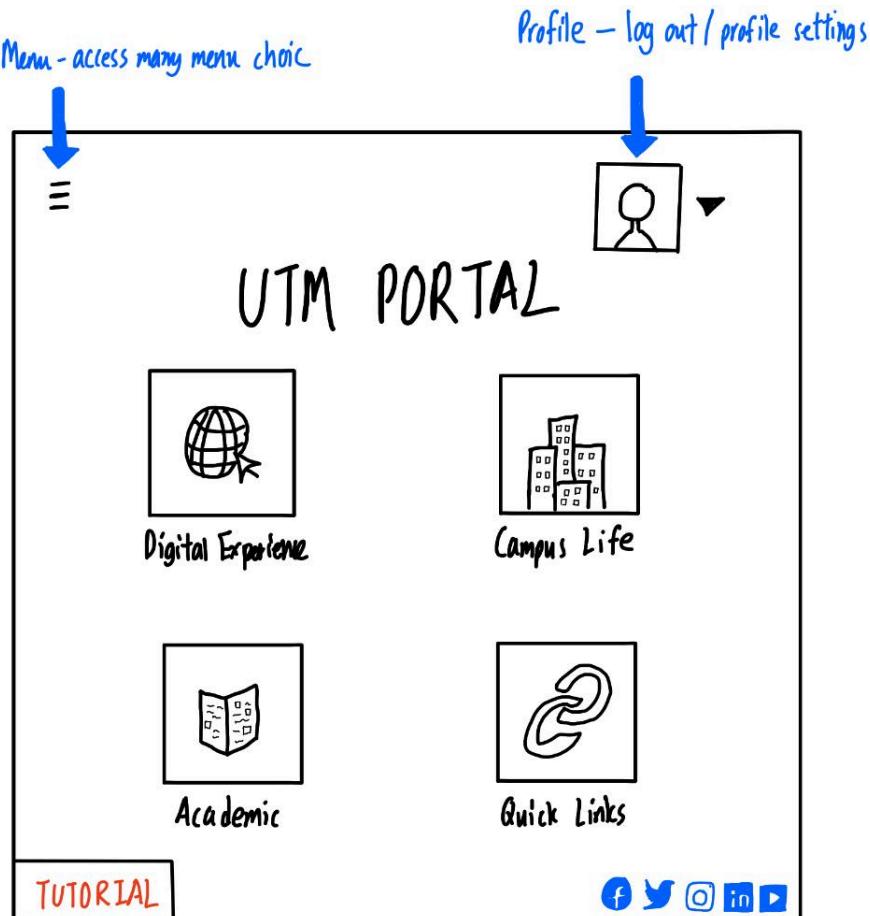


2. We add a “TUTORIAL” button at the left corner below for the new user so that they can clearly understand what all the button in the page mean. The “TUTORIAL” also will guide the user to explore the UTM portal.



3. The error page show up is clear and the user can follow the instruction to go back to the main page to try again.

5. Deploy



1. Clicking the Menu bring out a menu that allow the user to quick select different choices
2. Clicking the Digital Experience, Campus Life, Academic, Quick Links bring up respective menus

Digital Experience



UTMFleet Reservation



ICT Services



Software Centre



Ez Proxy Library

Campus Life



Activity List



Community Trans



UTMi Programs



Job on Campus



Hostel

Academic	Quick Links
 Course Registration	 UTM Mail
 Amendment	 Health Declaration
 E-Learning	 Kad Prihatin Siswa
 ePortfolio	 PayHub
 Student Portal	 B40 Data Plan
	 Central UserID

3. Clicking on profile bring out the menu for detail of the profile

Dashboard Undergraduate Student

LEE XUAN YING |

Student Info

Achievement

N/A

CGPA

29

Activity

0

Award

Contact Us

Any Inquiry, directly contact us :

SRAdS **AMD** **SPS** **UTMI** **BURSAR**

Student Recruitment & Admission Section (SRAdS),
Level 2, Block F54,
Universiti Teknologi Malaysia
UTM Johor Bahru,
81310 Jonor
Malaysia.

General Inquiry
Phone : +607 – 5537639/ 37777 / +60197061748
(Whatsapp Only)
Email : admission@utm.my

Undergraduate
Phone : +607 – 5537573 / 37632 / +606 – 9742805
Email : ugrad@utm.my

Postgraduate
Phone : +607 – 5537900
Email : pgrad@utm.my

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4. Clicking on the tutorial button will lead the page to a FAQ / tutorial page

5. Clicking on the social media icon will bring the user to the respective social media page

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Reflection:

By LING LEE HOM:

Learning this course helps me to learn more about technology. After finishing this course, I hope I can get a well-paid IT related job in the future. Learning design thinking is an important step to realize my goal. Design thinking is essentially a critical skill that will be useful for future workplace. In the future, I might need this technique to get a better job. The world is changing rapidly, new technology is invented every day, so I have to have a strong desire to learn. As a beginner, I would first start to grasp the basic of IT, such as programming language like C++ and Python. Also, learning how to maintain my personal mental health is a key to improve my potential industry. Learning how to deal with pressure help me to keep going toward my goal in my lifetime

By LEE XUAN YING:

From this course, I wish to be more proficient in various technological knowledge, as to let myself be more adaptable in all fields of computer science. With the competitiveness of modern day society, being proficient in technology and information systems allow one to have general knowledge in the general computer science field, and can focus on any one of the branches within said field easier. The computer science field is clear with potential development in the future, as shown by the advancement of technology in modern days. I wish to contribute to the technology field someday to let new technology I was able to contribute to make the world better. From this design thinking assignment, I was able to grasp the various aspects within the technological fields and able to think better about my future. Making a prototype of an existing problem within a certain field is able to give me experience or simulation in working in the field. I was able to take small steps and experience to build up my confidence toward my goal. It also gives me communication ability that allows me to cooperate with team members better. For the future, I plan to work on more prototypes on existing projects within computer science fields as a way to

explore and challenge myself more. A successful prototype is able to help my resume for better chances in the future, and a failed prototype serves as experience despite the failure. I also decided to look up for more guides from experts in the industry to gain more insight and knowledge. I also will study more materials from published articles or magazines to get knowledge from those materials about the industry and get a new perspective.

By ISMAIL BIN ESA:

In the initial phase of the research focused on evaluating the effectiveness of the UTM system, especially the UTM Portal and UTMSmart. In the investigation, these two things got almost the same response. The recognition that the lack of user experience is the root cause of these challenges is an important insight. Therefore, we need to take proactive steps to improve this system. With this, we can ensure a positive and user-friendly experience with the UTM system. This approach not only recognizes existing challenges but also demonstrates a commitment to continuous improvement. In reflection, research not only identifies problems but also suggests practical solutions. With this project implemented, we found that many students had a hard time understanding the system.

By NICHOLAS YEK EI ZHE:

From this design thinking project, I have learnt how to identify a problem and cooperate with my teammate to work on the solution of the problem. Take our project as an example, we found that the UTM Portal system of our school is not that effective as it is supposed to be. So we have tried to apply a bit of modification for it to be more user-friendly and accessible. Although the result may not be too promising but we sure have learnt a lot from it.

By JUSTIN FAUZADANI AZKA:

I aspire to enhance my proficiency in various technological domains to adapt to the ever-evolving landscape of computer science. In today's competitive society, a solid foundation in technology and information systems provides a versatile understanding, enabling specialization in any branch of computer science. Given the continuous advancements in technology, I aim to contribute to the field and create impactful solutions.

The design thinking assignment has provided valuable insights into different aspects of technology, fostering a strategic mindset for the future. Prototyping existing problems allows me to gain practical experience, build confidence, and improve communication skills within a team setting. Moving forward, I plan to focus on developing prototypes in computer science projects, viewing both successes and failures as valuable experiences. Seeking guidance from industry experts and exploring materials from articles and magazines will further enrich my knowledge and perspectives.