#	Criteria Item	Sub Item		Description		
ROUND 1				**0**	**0.5**	**1**
1.0	Business Requirements Elicitation (10 marks)	1.1 Introduction		Not found	Not clearly written or incorrect.	Clearly written and correct.
		1.2 Objective				
		1.3 Details of Activity: * Date/Time/Venue/ * Primary Stakeholder for Round 1 * Technique & Tools (for the technique used)				
		1.4 Questions	Quality		Contains a few unsuitable/ unrelated questions.	All questions are suitable/ related.
			Sufficiency		Less sufficient questions	Sufficient questions
		1.5 Elicited Info	Quality		Contains a few unrelated info or incorrect category.	All info are related/ correct category.
			Sufficiency		Less sufficient info.	Sufficient info.
			In Suitable Form (pre-analyzed)		Less suitable form.	Suitable form.
ROUND 2				**0**	**0.5**	**1**
2.0	User Requirements Elicitation (10 marks)	2.1 Introduction		Not found	Not clearly written or incorrect.	Clearly written and correct.
		2.2 Objective				
		2.3 Details of Activity * Date/Time/Venue/ * Primary Stakeholder for Round 2 * Technique & Tools (for the technique used)				
		2.4 Questions	Quality		Contains a few unsuitable/ unrelated questions.	All questions are suitable/ related.
			Sufficiency		Less sufficient questions.	Sufficient questions.
		2.5 Elicited Info	Quality		Contains a few unrelated info or incorrect category.	All info are related/ correct category.
			Sufficiency		Less sufficient info.	Sufficient info.
			In Suitable Form (pre-analyzed)		Less suitable form.	Suitable form.
ANALYSIS				**0**	**0.5**	**1**
3.0	Feature	Pain – Pain Reliever Analysis		Low	Moderate	Good

DES 3023 (A)

SOFTWARE REQUIREMENT AND SPECIFICATIONS
(ELICITATION REPORT)
ASSIGNMENT 1

SESSION 2023/2024

GROUP: C

NO.	NAME	MATRIC NUMBER
1	MUHAMMAD AIMAN HAKIMI BIN ABDUL WAHID	D20221101799
2	MUHAMMAD HAIKAL BIN MOHD JAKI	D20221101806
3	MUHAMMAD HAIKAL BIN AZMAN	D20221101846
4	MOHAMMAD AIMAN BIN JUNAIDIH @ JUNAIDI	D20221101857
5	MUHAMAD ALI HANAFIAH BIN SABARUDIN	D20221101859
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LECTURER: DR. AZNIAH BINTI ISMAIL

Table of Content

1.0 Business Requirements Elicitation

1.1 Introduction

DiMaS, which stands for Digital Map and Schedule, is an innovative application that combines navigation and scheduling functions to ease META students' lives. DiMaS makes it easier to navigate lab locations. This is to prevent misplaced classrooms and wasting time looking for the right lab at META Faculty. DiMaS's intuitive digital map component provides a user-friendly interface for easily locating labs which includes the live info about the lab (lecturer in charge, class code and group), live streaming for class situation and show AR to class location. There will be no more worry or confusion for META students, especially new intake students. DiMaS also provides features that help students to know about the lab schedule. The system's emphasis on user experience is heavily weighted towards detecting and resolving specific difficulties reported by users. To ensure DiMaS apps are helpful, issues such as loaded unnecessary information, a lack of instruction, and difficulty to locate the lab are identified and solved.

The use of augmented reality (AR) with a camera to navigate lab locations and get detailed information about the lab at META Faculty is a practical and user-friendly solution. This allows students to find their class location quickly and simply, and it also helps them improve their navigation app experience. The Digital Map and Schedule (DiMaS) application attempts to make the navigator more effective and accessible by including this capability. DiMaS also has a live streaming option in the lab. This function allows students to obtain information about the condition in the lab without interrupting the lecture. Students also will get information about lab info which are lecturer in charge and class code. Furthermore, DiMaS contains features such as a lab schedule at META Faculty. This function seeks to inform META students whether the lab is in use or not, so that they are notified before the start of class.

Overall, With DiMaS, it simplifies META students' university experience, improves their time management skills, and stays on top of the game - because success begins with a well-organized schedule.

1.2 Objective

1. To ensure that users can access and interact with digital maps on various devices,determine requirements for mobile accessibility.
2. To provide users with accuracy in digital maps so that users can allocate the desired location and classes.
3. To develop a scheduling system with enjoyable features, and database to the users' various class schedules.

1.3 Details of Activity

Date	:	20 November 2023
Time	:	2.00 p.m. - 5.00 p.m.
Venue	:	Lab 9, Oktagon, Sultan Abdul Jalil Shah Campus, Sultan Idris Education University
Primary Stakeholders	:	Group C5
Techniques	:	Interview and brainstorming
Tools	:	Notebook, laptop and tablet.

1.4 Questions

The questions presented are questions for customers and key stakeholders to get answers for each aspect before developing this application.

1. Who are the primary stakeholders?
2.What are the real objectives for them to use the app?
3. Is there any limitation of clients in the app?
4. What are the problems the client faced? (Pains)
5. What is the problem they usually face when using a digital map and schedule app? (Pains)
6. If they use a new app, what features will they need? (Gains)
7. Does the client want to impose any new rule? (Gains)

1.5 Elicited Info

No.	Question	Answers
1.	Who are the primary stakeholders?	Group C5
2.	What are the real objectives for them to use the app?	1. To ensure students can access and interact with digital map and schedule app on various devices. 2. To provide accuracy in digital map and schedule app.
3.	Is there any limitation of clients in the app?	1. Some students have slow internet connection in certain areas. 2. Some students' devices might have insufficient storage for loading the digital map. 3. Some students do not know how to identify location on map 4. Students prefer visual rather than reading
4.	What are the problems the client faced?	1. Clients need to ask random people about the direction to the class. 2. Clients need to check the lab if the class is available. 3. Operating systems in clients' devices might be unavailable for new updates. 4. Class location last minute changed by lecturer or lab.
5.	What is the problem they usually face when using a digital map and schedule app?	1. Overload unnecessary information. 2. Data Accuracy and Updates - Outdated maps or inaccurate

		real-time data can lead to navigation errors. 3. Overload clients cause lagging. 4. Battery Consumption - continuous use of GPS and data services can drain device batteries quickly
6.	What students can get from DiMaS application?	1. A user-friendly application that can be used in need. 2. Get the live info about lab (lecturer, class code and group) 3. Get live streaming for class situations. 4. Show AR to class location. 5. Portable (used is mobile phone) 6. Free of ads.
7.	Does the client want to impose any new rule?	1. Always updated from time to time. To prevent the apps from becoming outdated and hard to use. 2. More information in animated design. Easy to understand rather than words.

2.0 User Requirement Elicitation

2.1 Introduction

DiMaS is a digital map and schedule applications are innovative tools that leverage technology to enhance navigation and efficiency in various aspects of META students' daily lives. These applications combine the power of digital mapping with scheduling features, providing users with a comprehensive solution to manage their timetable and navigate their surroundings to find a classroom or lab.

The digital map aspect of DiMaS relies on advanced Geographic Information System (GIS) technology and the integration of the camera-based feature AR. It allows users to visualize and interact with maps in real-time, offering dynamic and customizable views of geographical areas. Users can access detailed street maps of the Faculty of Computing and Meta-Technology with satellite imagery and even 3D representations, enabling them to navigate with precision. The schedule management aspect of DiMaS enables users to organize and optimize their class timetable. Users can input and manage appointments, meetings, tasks, and events, creating a digital schedule that aligns with their priorities. These applications often come equipped with reminders and notifications to ensure users stay on track and never miss the class and other events. Additionally, they may offer features like collaboration, allowing users to share schedules with colleagues.

2.2 Objective

1. To determine a beneficial feature that can help Meta students to guide them to navigate them to their desired place at the Pentagon
2. To help student to get the latest information about their class and any changes about their class by utilizing feature that we had had at the lab class like cctv
3. To ensure users have a smooth experience while using our apps by using a simple UI.

2.3 Details of Activity

Date	:	27 November 2023
Time	:	2.00 p.m. - 5.00 p.m.
Venue	:	Lab 9, Oktagon, Sultan Abdul Jalil Shah Campus, Sultan Idris Education University
Primary Stakeholders	:	Staff and student of FKMT
Techniques	:	Surveys, questionnaire and observations
Tools	:	Google form

2.4 Questions

The questions presented below are for users to answer and provide their opinion about the Metapedia Assistant. The users we target are students and staff of Sultan Idris Education University.

- Are you currently using a Digital Map & Schedule Application or any similar functional apps?
- Do you experience any problems when using the apps?
- If yes, what is the problem that you faced?
- Do you have any experience with Digital Map & Schedule Application ?
- If yes, are the apps useful to guide you to locate your destination.
- Do you prefer to use a map application about your destination rather than ask people around ?
- Do you prefer the Digital Map to be on a website or in an app?
- Do you like it if DiMaS can show live info about certain labs such as lecturer , class code and group?
- Would you like it if DiMaS can show live streaming about the class situation to see whether the class has started or not?

- Do you like it if DiMaS app gives you reminder notification about your incoming class for the next day?
- Would you like it if you can use the app to confirm your attendance in daily class? (require location info)
- How do you feel if the schedule system did not update about the class is going to be face to face or online?
- Can you state any feature or the things that you expect from the DiMaS - Digital Map & Schedule Application
- Can you please state a problem that you might see coming from the Digital Map function
- Do you have any additional suggestions for enhancing the user experience?
- Will you use the DiMaS - Digital Map & Schedule Application

2.5 Elicited Info

No	Questions	Answers
1.	**What problems do they (client, users) face?** Do you prefer to use a map application about your destination rather than ask people around ?	81.3 percent of users prefer to use a map application to reach the destination rather than ask people around.
2.	**If they have an existing system/app what problems do they have with it?** Are you currently using a Digital Map & Schedule Application or any similar functional apps? Do you experience any problems when using the apps? **(Pain)**	68.8 percent of users agreed that they are currently using a Digital Map & Schedule Application or any similar functional apps and 68.8 percent of users had experienced problems when using the apps. 1. Not easy to use or we call it as 'not user-friendly' 2. Some applications are not up to date about the new location and some features are easier for people to use. 3. Inaccurate information
3.	**If they can have a new app, what features should not be in the app, or should be removed from the app? Why?** Do you prefer the Digital Map to be on a website or in an app? Do you like it if DiMaS can show live info about certain labs such as lecturer class code and group?	81.3 percent of users agreed that DiMaS should be in the app. 81.3 percent of users like if DiMaS can show live info about certain labs such as lecturer class code and group. 81.3 percent of users like if DiMaS can show live streaming of the class situation to see whether the class has started or not.

	Would you like it if DiMaS can show live streaming about the class situation to see whether the class has started or not? What would you feel if you only could see the class live vision , but not with the audio? **(Pain)**	Some users might feel not satisfied at all and frustrated if they only could see the class live vision without an audio.
4.	**If they can have a new app, what do they expect to get, or to solve?** Do you like it if DiMaS app gives you reminder notification about your incoming class for the next day? Would you like it if you could use the app to confirm your attendance in daily class? (require location info)	100 percent of users agreed if the DiMaS app gives the reminder notification about incoming class and uses the app to confirm their attendance requires the location of the user.
5.	**Does the client want to impose any new rule?** How do you feel if the schedule system did not update about the class going to be face to face or online?(Pain)	1. Disappointed 2. Using other apps to update about classes 3. Leading to confusion
6.	**What are the features they will need? Why?** Can you state any feature or the things that you expect from the DiMaS - Digital Map &	1. reminder or notification about class schedule 2. Give an update information time to time 3. can chat with other user that

	Schedule Application Do you like it if DiMaS app gives you reminder notification about your incoming class for the next day?	use the apps like WAZE 4. 3D map 5. give notification about changing class location
7.	**What are the features they would like to have? Why?** Do you have any additional suggestions for enhancing the user experience? (gain) Would you like it if you could use the app to confirm your attendance in daily class? (require location info)(gain)	1. 62.5% of the users suggest that no suggestion is needed to add. 2. 6.3% of the users suggest that we need to show instructions for the app on how to use it. 3. 6.3% of the users want it to make the app more animated.
8.	**What are the qualities they expect for each feature? Why?** What qualities that will be expected from each feature that will have in DiMaS application.	1. Accuracy of giving direction. 2. The notification is on time 3. Simple and on point, no main information is missing. 4. App has an attractive interface for users. 5. Give notification about changing class notification. 6. Provide a clear instructions
9.	**What constraints/ rules should be created for each feature? Why?** What constraints or rules do you think that could be considered for each feature? For example for navigation , for lab schedule,	1. Constraint - location services on mobile phone must be enable when using the apps - To ensure that the location can be shown precisely and the app can give the correct

	lab live streaming.	direction. 2. Constraint- provides accurate information about the lab such as lecturer, class code and group. If lab is used for any program , the program name , time , date ,etc - To ensure the lab information is aligned with the lab schedule. 3. Constraint- stable internet connection for lab live streaming. - To ensure that there is no delay in showing the live stream to make sure that there is no mistake in showing the lab environment. 4. Constraint- when searching a lab for booking, users need to enter the name of the lab using code provided - To make sure that there is no mistake in booking lab.

3.0 Feature

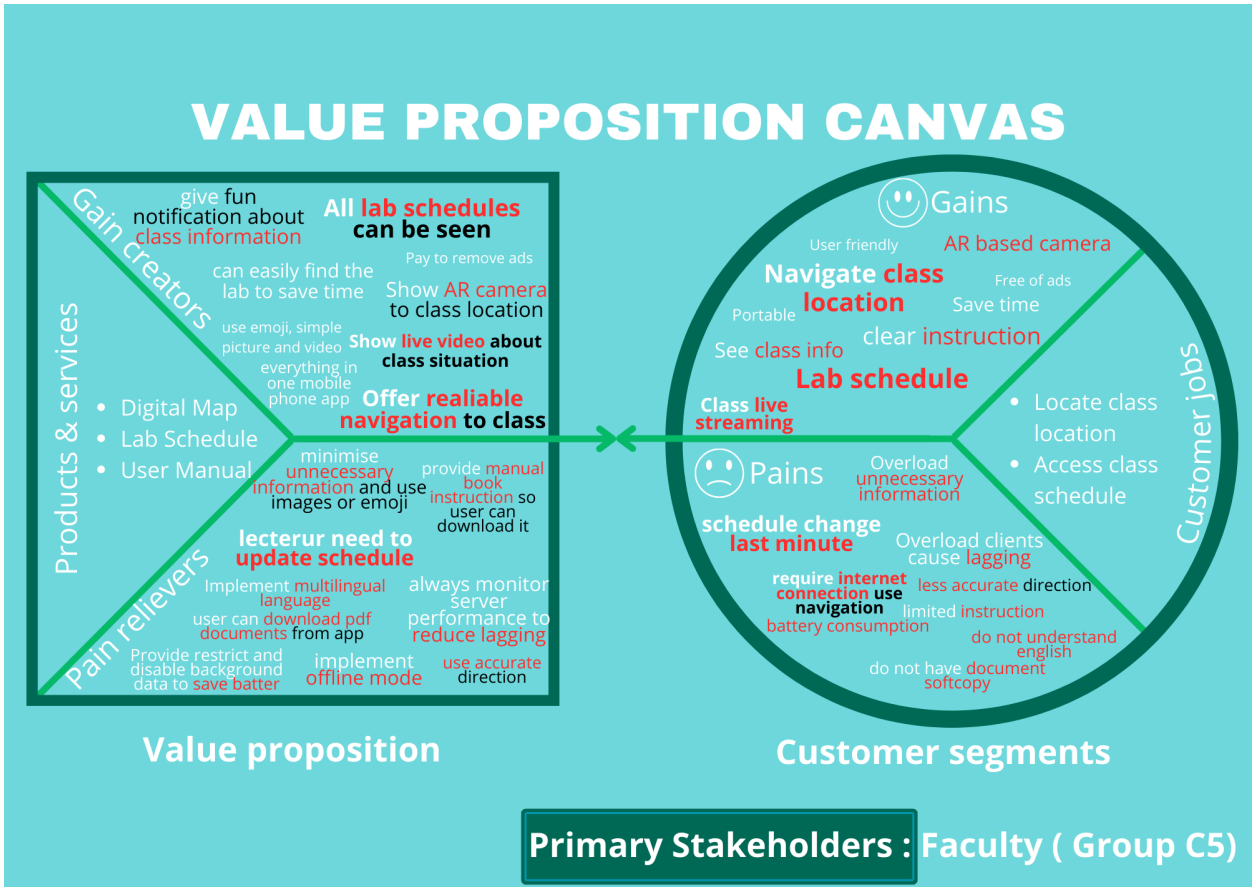
3.1 Pain Reliever Analysis

Pain	Features
Require internet connection to use navigation.	Offline and online mode.
Less accurate.	Use accurate direction.
Lagging due to overload of clients.	Do monitor server performance to ensure it has best performance, and consider scaling the infrastructure if needed.
Give the wrong direction	Provide service/software direction to ensure the direction is correct.
Limited instructions.	Provide manual instructions booklet and users can download it.
Battery consumption.	Provide restrict and disable background data on the application to reduce battery consumption.
Overload unnecessary information.	Minimize information and consider using images and emoji for certain information.
Outdated maps	Update the maps from time to time.
Do not have softcopy documents	Users can download documents like paperwork for the booking process as pdf.
Schedule last minute change	Every lecturer need to update their class schedule at least 2 hours before class start

3.2 Gain Receiver Analysis

Gain	Features
User friendly	Use emoji , simple pictures and videos. Direct and understanding interface so users can easily use it.
Free of ads	Provide a high plan for the user to lock ads.
Provide all lab schedule	All lab schedules can be seen using the application so they can know if a certain lab is available.
AR based	Using the application camera, it will show directions to certain labs that they choose to go to.
Live streaming	Provide live streaming for all labs to know whether the class has started or not.
Live info	Get the live info about certain lab , which is lecturer , class code and group
Clear instructions	Provide a chatbot so users can ask and get information immediately.
Saving time	Do not need to walk all the way in META Faculty to search for any lab.
Have a guide	Provide clear guidance on how to book a lab and give clear instructions on how to do it step by step.
Portable	Use an application on a mobile phone which means it's easy to use.

4.0 Vp canvas


VALUE PROPOSITION CANVAS
Products & services
Digital Map
Lab Schedule
User Manual
Gain creators
give fun notification about class information
All lab schedules can be seen
Pay to remove ads
can easily find the lab to save time
Show AR camera to class location
use emoji, simple picture and video
Show live video about class situation
everything in one mobile phone app
Offer realiable navigation to class
Pain relievers
minimise unnecessary information and use images or emoji
provide manual book instruction so user can download it
lecterur need to update schedule
Implement multilingual language
always monitor server performance to reduce lagging
user can download pdf documents from app
Provide restrict and disable background data to save batter
implement offline mode
use accurate direction
Value proposition
Gains
User friendly
AR based camera
Navigate class location
Free of ads
Portable
Save time
See class info
clear instruction
Lab schedule
Class live streaming
Pains
Overload unnecessary information
schedule change last minute
Overload clients cause lagging
require internet connection use navigation
less accurate direction
battery consumption
limited instruction
do not understand english
do not have document softcopy
Customer jobs
Locate class location
Access class schedule
Customer segments
Primary Stakeholders : Faculty (Group C5)