

**DEPARTMENT OF INFORMATION AND COMMUNICATION
TECHNOLOGY**

**DIPLOMA IN INFORMATION TECHNOLOGY
(DIGITAL TECHNOLOGY)**

DFT50114: INTEGRATED PROJECT

**KRTD HUB
APPLICATION**

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1.0 ABSTRACT

The KRTD Hub is a club application that serves as a central platform for students in the JTMK (Jabatan Teknologi Maklumat dan Komunikasi) department to explore more about KRTD club activities. The app offers various features to enhance the student experience. Users can easily find and join exciting events, receive helpful event reminders, access detailed event information, and browse captivating photos curated by the admin. The KRTD Hub also includes a section dedicated to showcasing the activities of KRTD, helping students feel connected and part of a community. With easy event registration, students can quickly sign up to participate in the club's events. The KRTD Hub aims to empower JTMK students by connecting them to a vibrant digital technology ecosystem and providing valuable networking opportunities.

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2.0 PROJECT PLAN

2.1 PROBLEM STATEMENT

The problem statements of the project are as follows:

- I. JTMK students have difficulty finding information about KRTD club events, which makes it hard for them to join and stay updated.
- II. JTMK students often forget about upcoming events because they do not receive reminders, resulting in low attendance and missed opportunities.
- III. JTMK students face inconvenience and restricted access to KRTD merchandise due to the lack of a specific platform for purchasing KRTD T-shirts and other items.

2.2 PROJECT OBJECTIVE

The objectives of the project are as follows:

- I. To develop a mobile app for JTMK's KRTD club that students can find information about KRTD.
- II. To provide a notification system to remind JTMK students about upcoming events.
- III. To provide a platform for JTMK students to purchase KRTD merchandise.

2.3 PROJECT SCOPE

2.3.0 User Scope

KRTD Advisor & Committee Members

- I. Organize all JTMK Department events into a single app.
- II. Update the newest information about the JTMK department to all JTMK students.
- III. Upload photos of the events.
- IV. Search for the events.
- V. Update, add and delete the program about JTMK department and KRTD program.
- VI. View the reports of KRTD clothing order and payment receipt.

JTMK Student

- I. Receive the latest information about JTMK Department.
- II. Views event moments photos that have been uploaded.
- III. View a photo uploaded by the admin.
- IV. Search for events.
- V. Receive an event notification as a reminder.
- VI. Users can place an order for KRTD clothing and provide payment proof.

2.3.1 System Scope

- I. Send notifications to JTMK students for upcoming events.
- II. Generate a report for the KRTD clothing order.

2.4 LITERATURE REVIEWS

We will analyze and compare the three existing systems to identify their strengths and weaknesses. This evaluation will help us identify the key features and limitations of each project.

Table 2.0 : Literature Review

Project			
Link Resources	BenchApp https://www.benchapp.com/	TeamReach https://www.teamreach.com/	Spond https://www.spond.com/
Description	Allow players to check in or out from the app, via e-mail, from push notifications, or through text messages. Keep track of stats, games played, drinks and even player payments. Take the headache out of managing your players.	Managers and coaches can create teams in seconds, and parents or players can easily join by entering a group code. The team has a central place for all communication, and this eliminates the need for phone calls, emails, and handouts.	Makes it easy to organize groups for either children or adults, and you can invite to events, share posts and pictures. Spond handles sending out invites through either SMS, email or app and collects all the answers to give you a full overview.
Platform Supported	I. Android II. iOS III. Browser	I. Android II. iOS	I. Android II. iOS III. Browser
Fee	I. No Fee	I. Free	I. Transaction Fee
Advantages	I. Email and text message notifications. II. Track and manage fees.	I. Chat group & direct. II. Schedules. III. Availability check.	I. Share pictures, videos & documents. II. Chat function.

	III. Team chat. IV. Calendar sync.	IV. Group gallery for photos and files. V. Sharing of photos, videos, files and location.	I. Create subgroups. II. Payment.
Disadvantages	I. Chat app freezes & does not respond. II. Delay notifications.	I. Not able to delete multiple documents at a time. II. Limited Functionality does not offer the comprehensive functionality you need. III. Not able to communicate with the whole team.	I. Limited customization. II. Limited features. III. Limited interaction options.

Based on our literature analysis, we have identified several shortcomings in existing apps that can be addressed and improved upon in our KRTD Hub app. Here are the identified weaknesses and the corresponding updates we can implement. Firstly, existing apps lack comprehensive functionality. In KRTD HUB, we will introduce to enhance this app by adding a wider range of features and functionalities that needs by users.

Some apps do not provide real-time data, leading to delays in receiving timely updates or information changes. In KRTD HUB, we will ensure that our app delivers real-time data, enabling users to stay informed about any modifications or additions to their events promptly.

Existing apps often overlook the importance of user feedback and satisfaction. In KRTD HUB, we will incorporate surveys and feedback features, allowing users to provide valuable input, suggestions, and ratings. This will help us continuously improve the app based on user preferences and requirements.

Many apps do not offer customization options. In KRTD HUB, we will provide users with more customization options to personalize their experience within the app.

By addressing these identified weaknesses and implementing the suggested updates, KRTD HUB will stand out among existing apps, offering a comprehensive functionality solution that includes features, real-time data updates, surveys, and feedback options. These enhancements will provide a seamless and efficient experience for users and exhibitors alike, setting our app apart from the competition.

2.5 METHODOLOGY

This project's methodology is Agile. The justification for selecting the methodology is that it is suitable for a small project, has a quick development timeline, provides higher customer satisfaction due to client involvement throughout the project, and has a flexible timeline. The agile project management technique entails breaking the project down into phases. Constant improvement, as well as ongoing collaboration with stakeholders, are necessary at all stages.

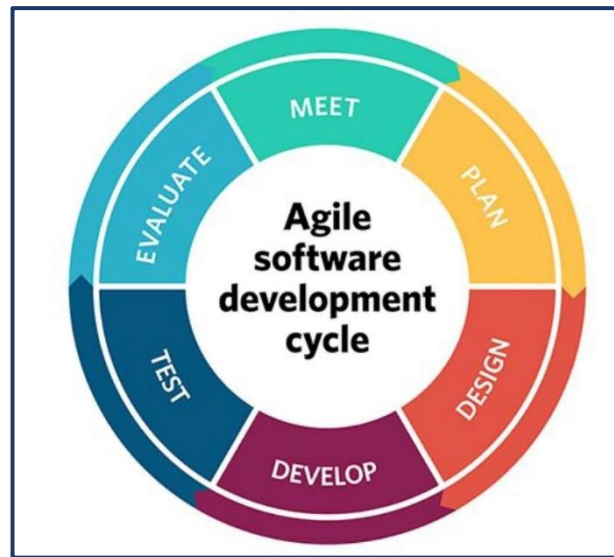


Figure 1.0: Agile Methodology

Table 2.1 : Methodology

x	Phase	Activities
1	Meet	1. Approach client with the project idea. 2. Meet client to perform fact finding and gather requirement. 3. Developing early communication to meet the customer's immediate needs.
2	Plan	1. Perform preliminary research. 2. Examine the preliminary inquiry findings. 3. Sets on user requirements by hearing opinions and needs from client. to reach an agreement on both sides.
3	Design	1. Designing the draft on the application with client's requirements. 2. Envolve client in designing to reach a point of understanding on designs.
4	Develop	1. The product is rolled out incrementally in separate sprints, each designed to improve the current version of the product. 2. Each cycle includes testing, and the final product must also undergo final testing.
5	Test	1. At this point, the product is available to consumers and the team should run tests to ensure it is fully functional. 2. Any potential bugs or bugs are found, the developers will fix them immediately and collect consumer feedback.
6	Evaluate	1. This part is the presentation to the owner of the result achieved. 2. The Agile software development phases can start over with a new iteration or moving to the next stage and scaling.

2.6 GANTT CHART

The following table is referred on our project schedule for the system development.

Table 2.2: Gantt Chart

No	Sprint	Phase / Activities	Duration	Start Date	End Date
1	Sprint 1	1.0 Meet	2 Days	21/6/2023	22/2/2023
2		I. Approach client with the project idea.	1 Day	21/6/2023	21/6/2023
3		II. Meet client to perform fact finding and gather requirement.	1 Day	22/6/2023	22/6/2023
4		III. Developing early communication to meet the customer's immediate needs.	1 Day	22/6/2023	22/6/2023
5		2.0 Plan	2 Days	23/6/2023	26/6/2023
6		I. Perform preliminary research.	1 Day	23/6/2023	23/6/2023
7		II. Examine the preliminary inquiry findings.	1 Day	23/6/2023	23/6/2023
8		III. Sets on user requirements by hearing opinions and needs from client to reach an agreement on both sides.	1 Day	26/6/2023	26/6/2023
9		3.0 Design	14 Days	27/6/2023	14/7/2023
10		I. Designing the draft on the application with client's requirements.	7 Day	27/6/2023	7/7/2023
11		II. Involve client in designing to reach a point of understanding on designs.	7 Day	8/7/2023	14/7/2023
12		4.0 Develop	14 Days	15/7/2023	28/7/2023
13		I. The product is rolled out incrementally in separate sprints, each designed to improve the current version of the product.	5 Day	15/7/2023	19/7/2023
14		II. Each cycle includes testing, and the final product must also undergo final testing	9 Day	20/7/2023	28/7/2023

Continue From Table 2.2

15	Sprint 1	5.0 Test	7 Days	30/7/2023	8/8/2023
16		I. At this point, the product is available to consumers and the team should run tests to ensure it is fully functional.	2 Day	30/7/2023	1/8/2023
17		II. Any potential bugs or bugs are found, the developers will fix them immediately and collect consumer feedback.	5 Day	2/8/2023	8/8/2023
18		6.0 Evaluate	3 Days	9/8/2023	11/8/2023
19		I. This part is the presentation to the owner of the result achieved.	1 Day	9/8/2023	9/8/2023
20		II. The Agile software development phases can start over with a new iteration or move to the next stage and scaling.	2 Day	10/8/2023	11/8/2023

3.0 REQUIREMENT SPECIFICATION

3.1 FUNCTIONAL REQUIREMENT

The functional requirements of this application are as follows:

- I. User shall be able to Register into the application.
- II. User shall be login into the application.
- III. User shall be able to view and delete Register User's Data.
- IV. User shall be able to create, search, update, delete, and upload photos related to program related to the JTMK Department and KRTD program.
- V. User shall be able to fields for event name, date, time, location, description, and any other relevant details.
- VI. User shall be able to view program photos, search and retrieve updated information.
- VII. User shall be able to view reports related to KRTD clothing orders and payment receipts.
- VIII. Users shall be able to place orders for KRTD clothing through the system and upload payment proofs for their clothing orders.
- IX. Users shall be able to view program moment photos uploaded by the admin.
- X. System shall be able to user authentication to differentiate between KRTD Advisor & Committee Members and JTMK Students.
- XI. System shall be able to send event notifications to JTMK students as reminders for upcoming program.
- XII. System shall be able to display the report related to KRTD clothing orders and payment receipts.

3.2 NON-FUNCTIONAL REQUIREMENT

The non-functional requirements of this application are as follows:

- I. Security - The program must implement strong safeguards to ensure user privacy and allowed system usage, including user identity verification and access control.
- II. Performance - The system should be built to operate effectively, with quick reaction times to user input and efficient data management to support several users at once.
- III. Reliability - The application must continue to operate without interruption, stay accessible whenever users need it, and avoid crashes. Additionally, it must ensure data consistency and correctness to avoid losing any important information.

3.3 HARDWARE AND SOFTWARE REQUIREMENTS

The following tables show the hardware and software specifications and price used in developing and implementing the application.

Table 3.0 : Hardware Requirement

No.	HARDWARE	SPECIFICATION	PRICE
1.	Laptop Dell Inspiron 15 3000	I. AMD Dual-Core Ryzen 3 II. 3.4 GHz III. AMD Radeon Vega 3 Graphics. IV. 8GB DDR4 SDRAM. V. 256GB Solid State Drive.	RM 1 996.00
2	Lenovo IdeaPad Gaming 3	I. Ryzen 5 5600H II. 3.3 GHz III. AMD Radeon R5 IV. 8 GB DDR4 SDRAM V. 512 GB SSD	RM 3 032.00
3	HP 14,10 th	I. Core i3 Family II. 1.20 GHz III. Intel IV. 4 GB DDR4 SDRAM V. 128 GB SSD	RM 1 032.00
	TOTAL		RM 6060.00

Table 3.1 : Software Requirement

No.	SOFTWARE/ WEBSITE	SPECIFICATION	PRICE
1.	Software - Android Studio	FREE	FREE
2.	Website - Firebase	FREE	FREE

3.4 SYSTEM CONFIGURATION

3.4.1 APK installation

I. Setting For Device

Download the APK file from a reliable source before you begin installing it on your Android smartphone. Open the "Unknown Sources" setting on your device. Find the APK in your file manager or downloads section, tap to install it, and then confirm the installation. The app will be installed shortly after that, and you may access it from your home screen or app Home Screen. To guarantee device security, use caution and only download APKs from reputable websites.

II. Requirement For Android Version

Before installing an APK on your Android device, ensure it meets the minimum requirements, such as Android 4.1 (Jelly Bean) or higher, sufficient storage space, compatible RAM and processor, and appropriate screen resolution.

3.5 SECURITY REQUIREMENT

The security requirement and exceptional handling applied in this application are:

3.5.0 Registration

- I. Users are required to Sign Up and create an account before accessing the KRTD HUB Application.
- II. Users can register to the system by providing their Email, Name, Username, and Password.
- III. Users are required to fill in all the fields otherwise, the system will pop up an error validation message.
- IV. Account Information will be stored in the database to ensure that only registered users can log in to the system.
- V. Users can only sign up one time using the same account.

3.5.1 Login

- I. To Log in Successfully, users must provide their registered username and password.
- II. Admin were accessible to login into the Application just by inserting the username and password that has been set up.

4.0 FINAL DESIGN

4.1 LOGICAL DESIGN

This section will provide the logical design that was prepared during the system analysis phase to give an in-depth understanding of the logical interaction of data and the process involved before designing and development of the system start.

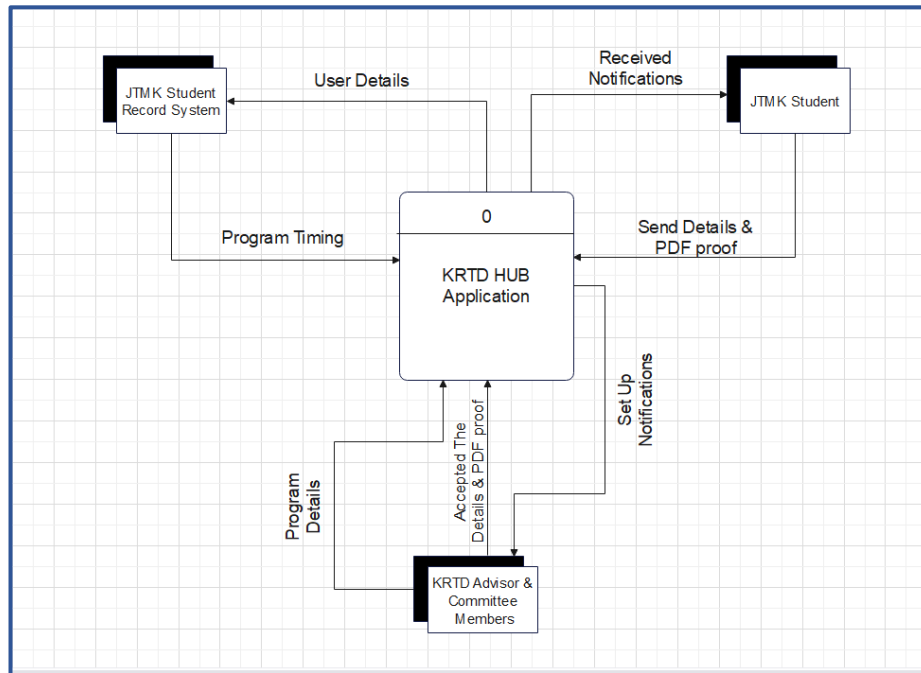


Figure 4.0 Data Flow Diagram : Context Diagram

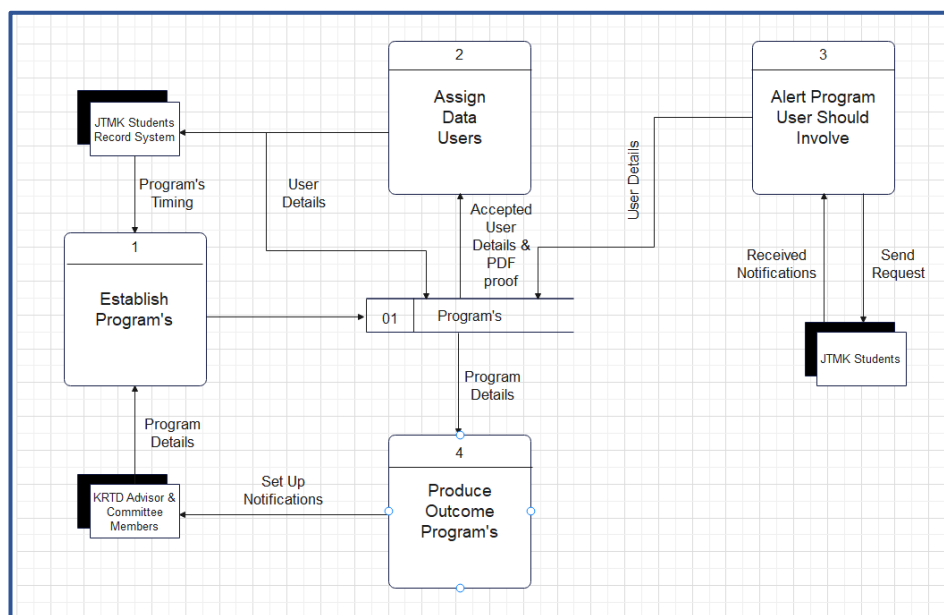


Figure 4.1 Data Flow Diagram : Diagram 0

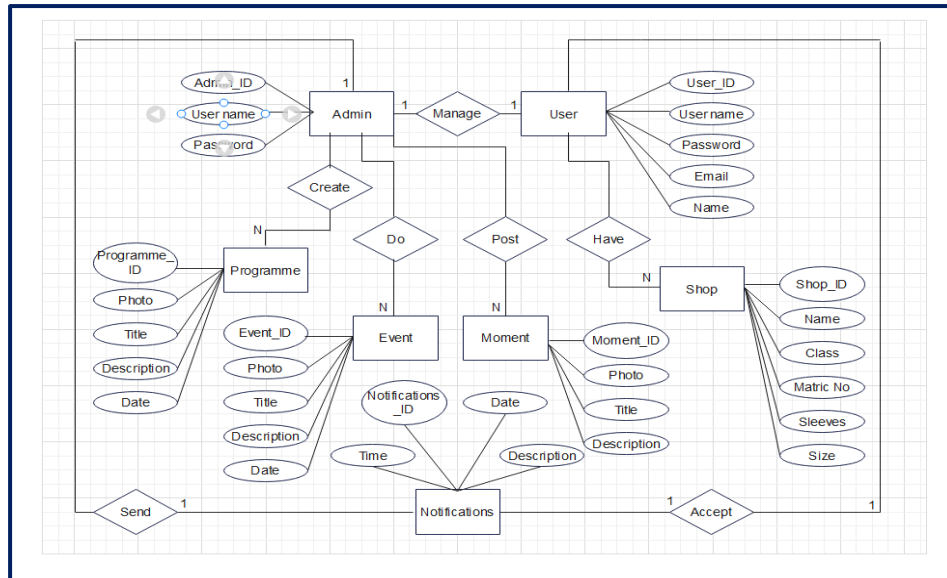


Figure 4.2 Entity Relationship Diagram

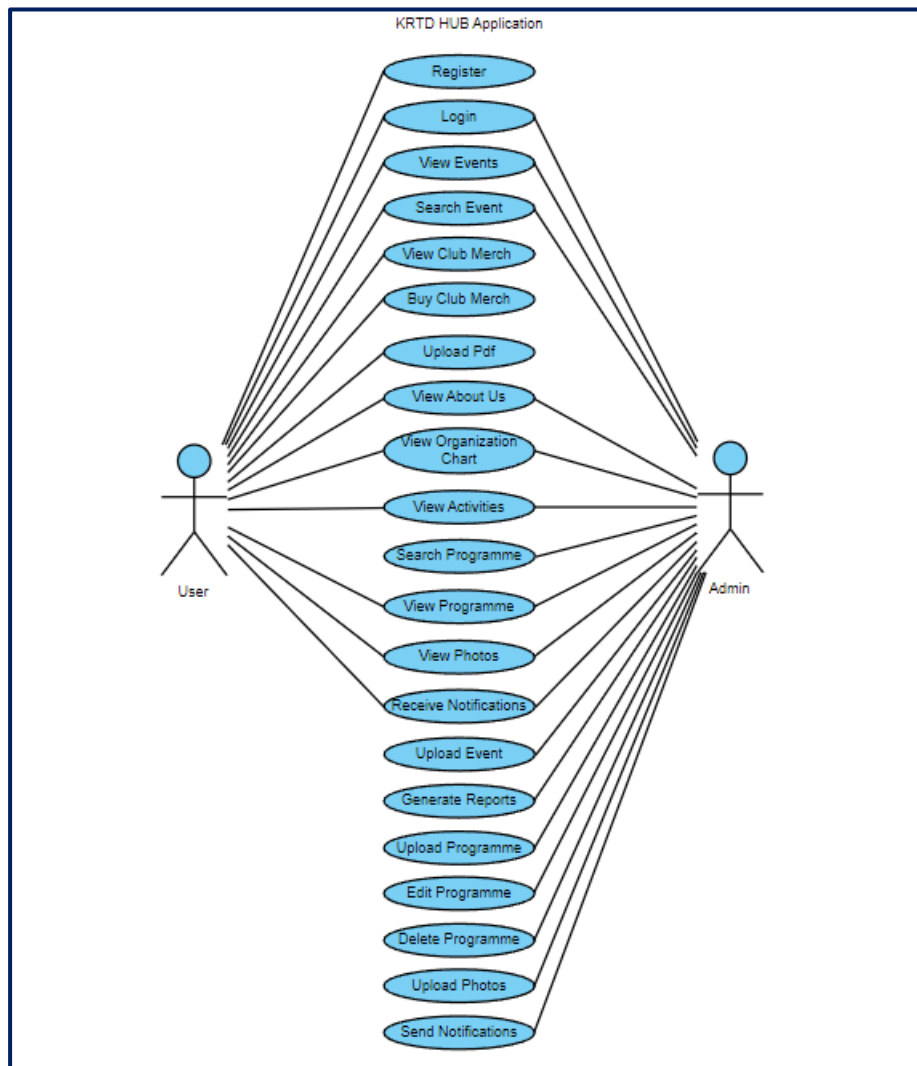


Figure 4.3 Use Case Diagram

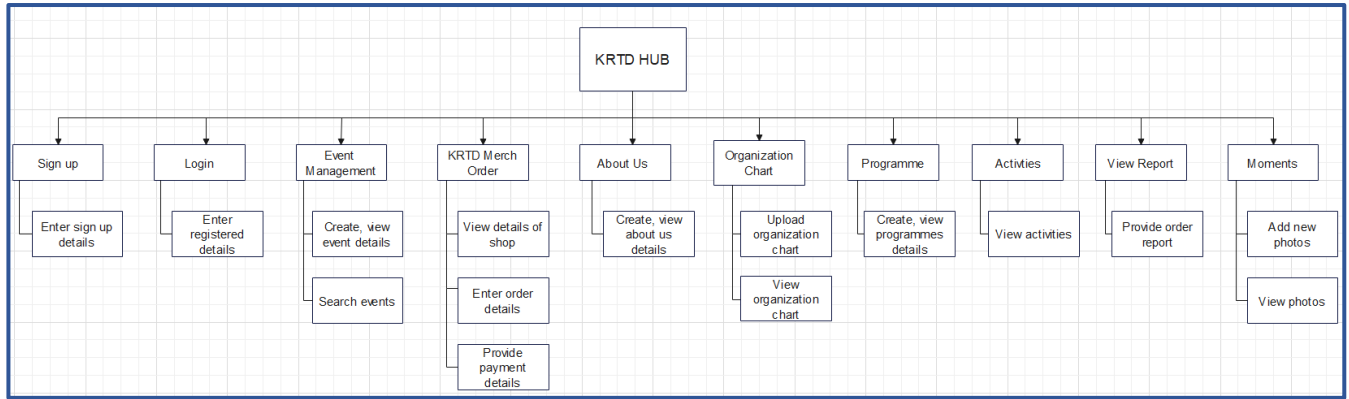


Figure 4.4 Functional Decomposition Diagram

4.2 PHYSICAL DESIGN [GUI]

This section provides the actual design of the developed system.

1.2.1 Register

The Register interface allows new students to sign up by providing their name, email, username, and password. Existing students can access their accounts through the login link.

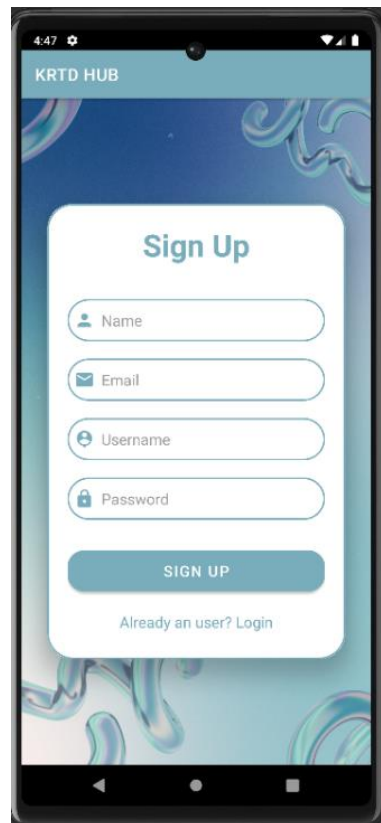


Figure 4.5 Register Interface

1.2.2 Login

Before selecting the "Login" button, students must enter their registered username and password. Students obtain access to the platform's functionalities if their credentials match those in the system's database. Those who have not registered are unable to log in until they create an account and get valid login credentials, providing secure access and the protection of student's data.

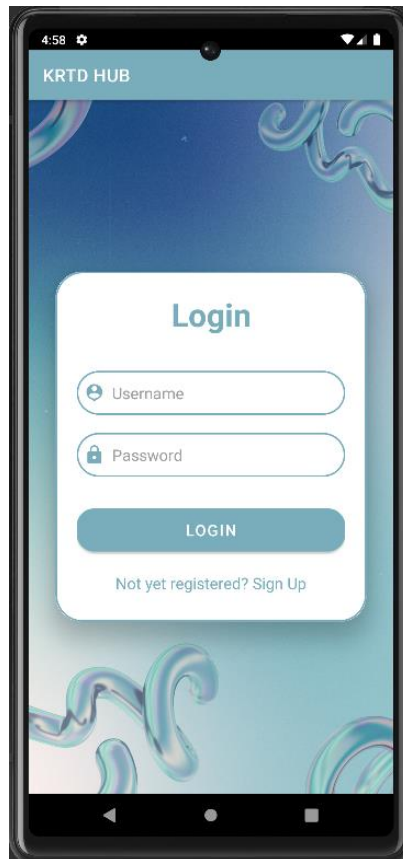


Figure 4.6 Register Interface

1.2.3 Home Page [Students]

The KRTD home page is the central hub for users, offering easy access to essential sections like the "About Us" section, , "KrtD Merch," "Organization Chart," "Our Activities" and "Our Programme," and "Our Moments" button. It provides information in about the club's mission, mission, history, and organization, while also keeping users updated on activities and upcoming events.

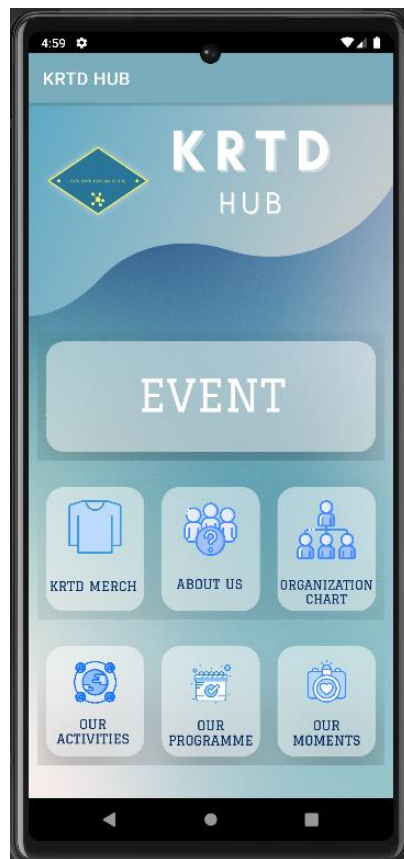


Figure 4.7 Home Page Interface

1.2.4 Event Page [Students]

The event page is a dedicated section on an app that showcases upcoming events, allowing users to easily search and view details. It provides a convenient platform for staying informed about the latest happenings and planning participation accordingly. The page ensures quick access to essential information, making it easy to engage with and attend events of interest.

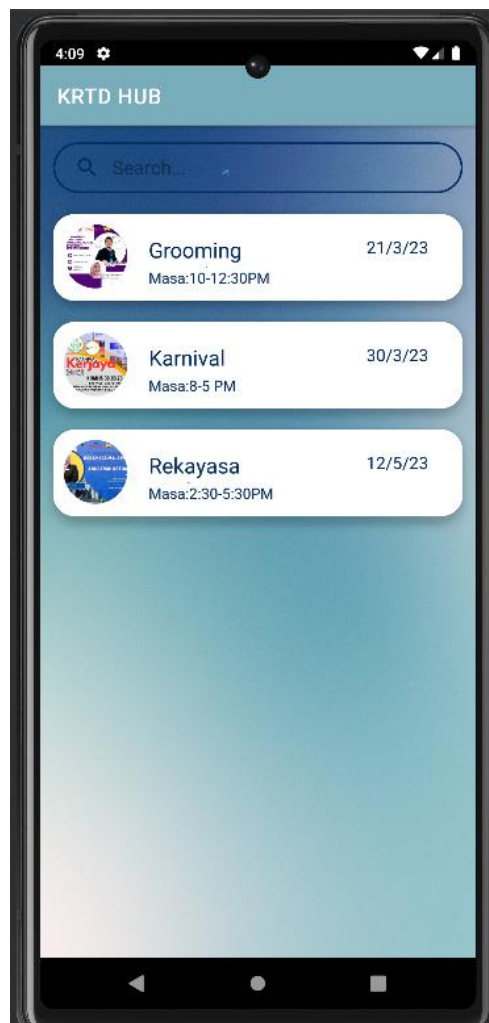


Figure 4.8 Event Page Interface

1.2.5 Shop Page [Students]

The shop page on the KRTD application allows users to explore and purchase t-shirts, including size charts and designs. Users can enter their name, class, and matriculation number, and select their desired length, size, and QR code. The shop page ensures a shopping experience for KRTD supporters to proudly represent the club in stylish apparel.



Figure 4.9 Shop Page Interface

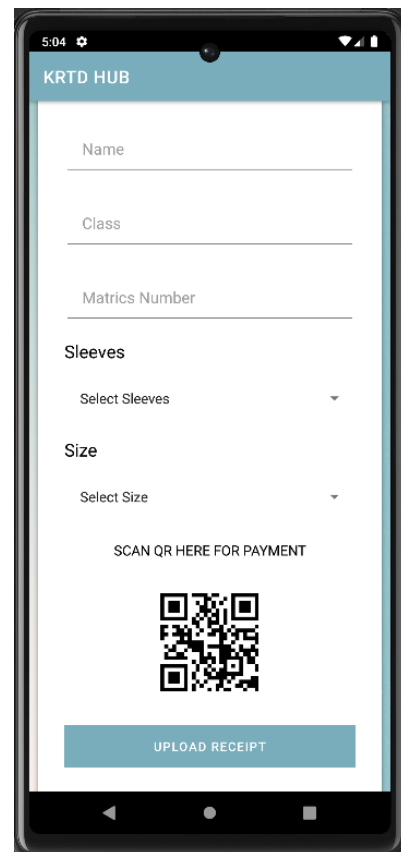


Figure 5.0 Shop Page Interface That Users Need To Insert Their Detail

1.2.6 About Us [Students]

The About Us page on the KRTD club app provides users with insights into its vision, mission, and history, fostering a deeper understanding of its goals and values. It ensures that students and members are well-informed about KRTD's mission and aligns with their interests and aspirations.



Figure 5.About Us Page Interface

1.2.7 Organization Chart [Students]

The organization chart page on the KRTD club website or app provides a visual representation of its organizational structure, allowing users to understand hierarchical roles and roles. The interactive feature allows for zooming in and out.



Figure 5.2 Organization Chart Page Interface

1.2.8 Our Activities [Students]

The "Our Activities" page on the app provides information on Bilik KRTD, a designated activity space for JTMK students. It highlights its role as a hub for engagement, community-building, and collaboration. Students can attend club meetings, play carrom, congkak, use pc and interactive sessions.



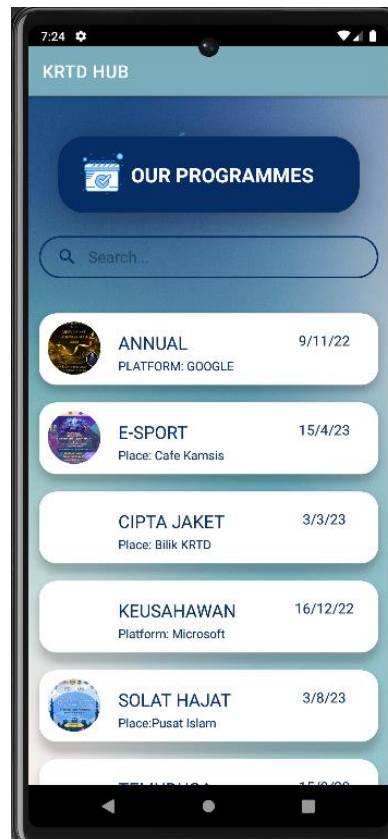
Figure 5.3 Our Activities Page Interface



Figure 5.4 Our Activities Page Interface That List Of Activities Can Do

1.2.9 Our Programme [Students]

The "Our Program" page on the KRTD club app allows students to view detailed information about the programs organized by the KRTD club. This page keeps students informed and engaged, allowing them to participate in the diverse range of programs organized by the KRTD club.



**Figure 5.5 Our Programme
Page Interface**

1.2.10 Our Moments [Students]

The "Our Moments" page on the KRTD Hub club app show memorable moments from programs and events. It provides a visual journey for students to relive and cherish their experiences among members.



**Figure 5.6 Moment Page
Admin Interface**

1.2.11 Home Page [Admin]

The KRTD Home Page for Admin is the central hub for admin, providing easy access to essential sections like "About Us," "KrtD Merch," "Organization Chart," "Our Activities," "Our Programme," and "Our Moments" button. Admins have powerful tools, including viewing a pie chart of t-shirt orders, uploading program details with photo management, and adding photos to any program for the "Our Moments" page.

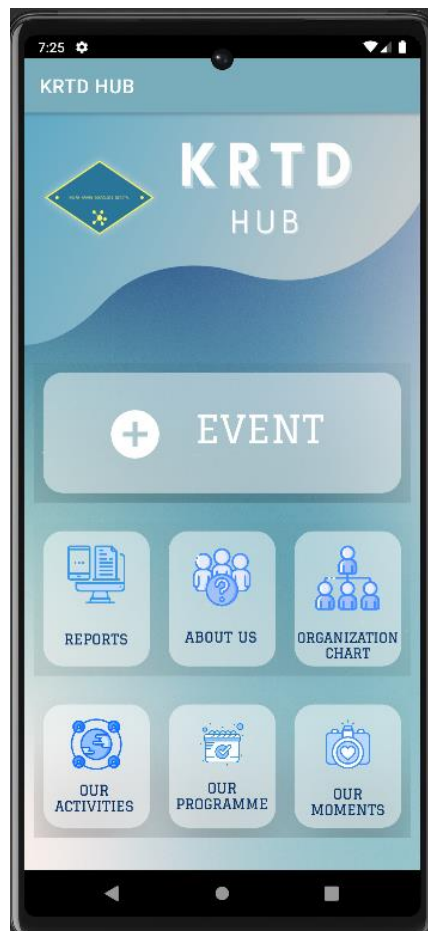
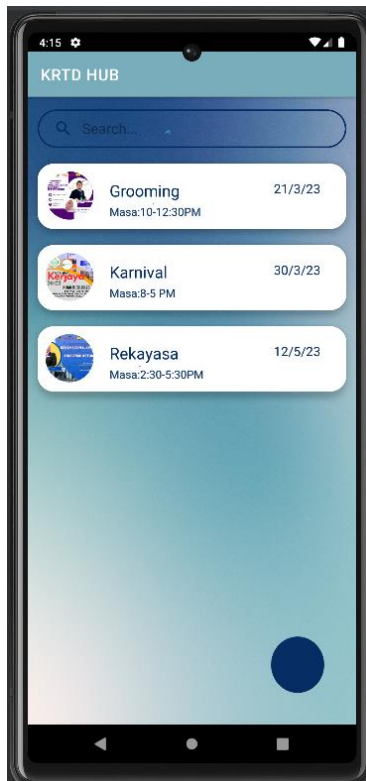


Figure 5.7 Home Page Admin Interface

1.2.12 Event Page [Admin]

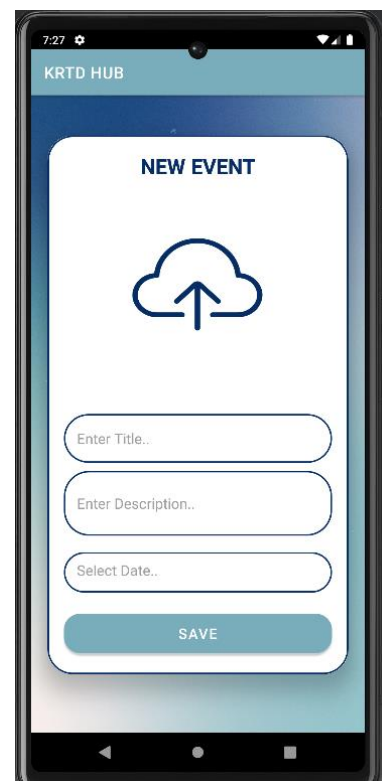
The "Event Admin" page on the KRTD club website or app enables seamless communication between admins and students. It allows admins to upload images and details of upcoming events, while students can easily access and retrieve this information. This interactive feature promotes engagement and community within the club, ensuring users stay informed about the latest happenings.



**Figure 5.8 Event Admin
Page Interface**



**Figure 5.9 Detail Event
Page Interface**



**Figure 6.0 Upload Event
Page Interface**

1.2.13 Reports Shop Page [Admin]

The "Our Reports" page on the KRTD club app provides admins with valuable insights into club activities. It features a visually appealing pie chart displaying the percentage of t-shirt orders received, allowing them to make informed decisions about future orders and inventory management.



**Figure 6.1 Report
Admin Page Interface**

1.2.14 About Us [Admin]

The About Us Admin page on the KRTD club app provides users with insights into its vision, mission, and history, fostering a deeper understanding of its goals and values. It ensures that students and members are well-informed about KRTD's mission and aligns with their interests and aspirations.



**Figure 6.2 About Us
Admin Page Interface**

1.2.15 Organization Chart [Admin]

The organization chart page on the KRTD club website or app provides a visual representation of its organizational structure, allowing users to understand hierarchical roles and roles. The interactive feature allows for zooming in and out.

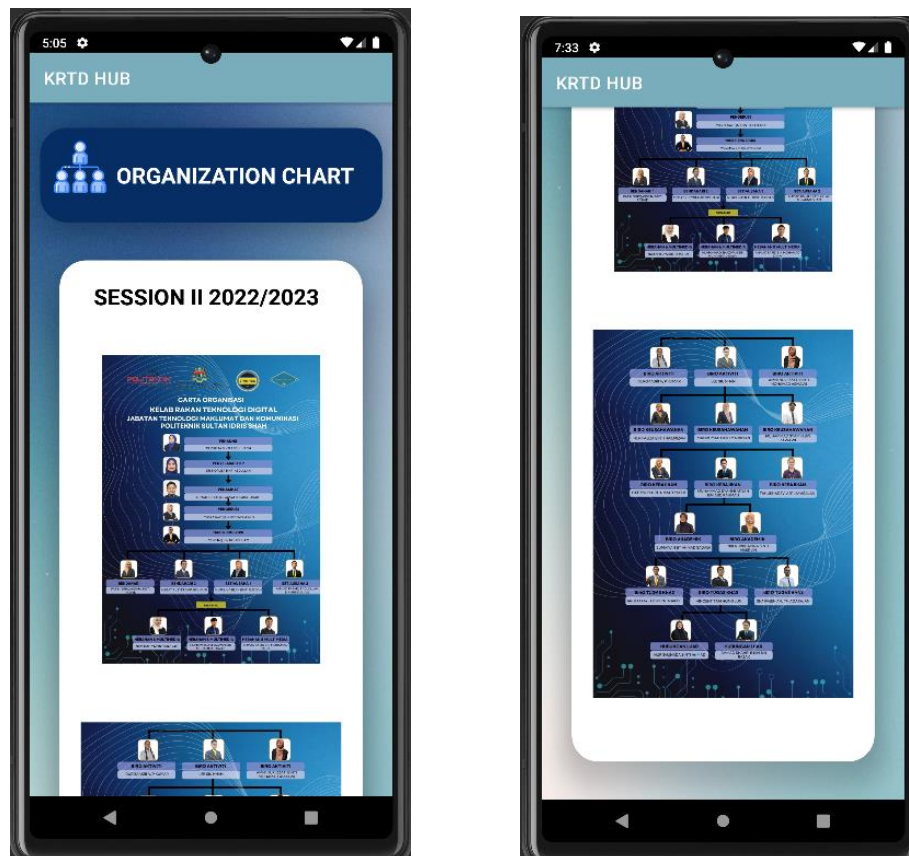


Figure 6.3 Organization Chart Page Interface

1.2.16 Our Activities [Admin]

The "Our Activities Admin " page on the app provides information on Bilik KRTD, a designated activity space for JTMK students. It highlights its role as a hub for engagement, community-building, and collaboration. Students can attend club meetings, play carrom, congkak, use pc and interactive sessions.

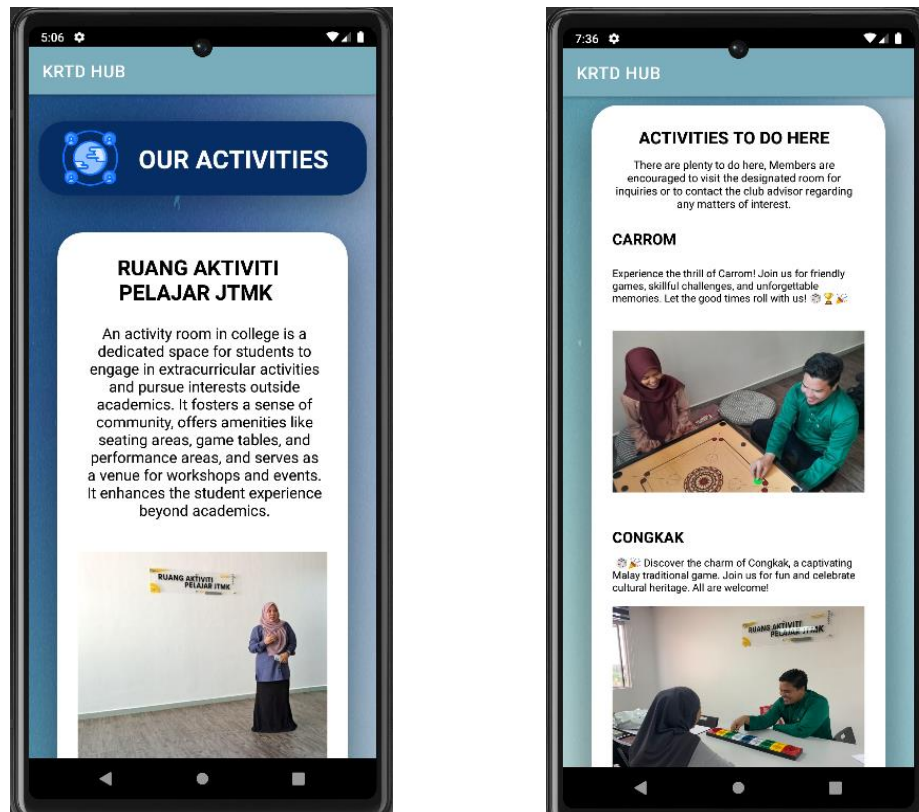


Figure 6.4 Our Activities
Page Interface

1.2.17 Our Programme [Admin]

The "Our Programme Admin" page is a dedicated platform for club admin to manage updated programs. It allows easy uploading of images and detailed descriptions, providing students with information about upcoming programs. Admins can edit program details and remove outdated or completed programs, ensuring students access the latest information about club activities, promoting engagement and participation within the KRTD community.

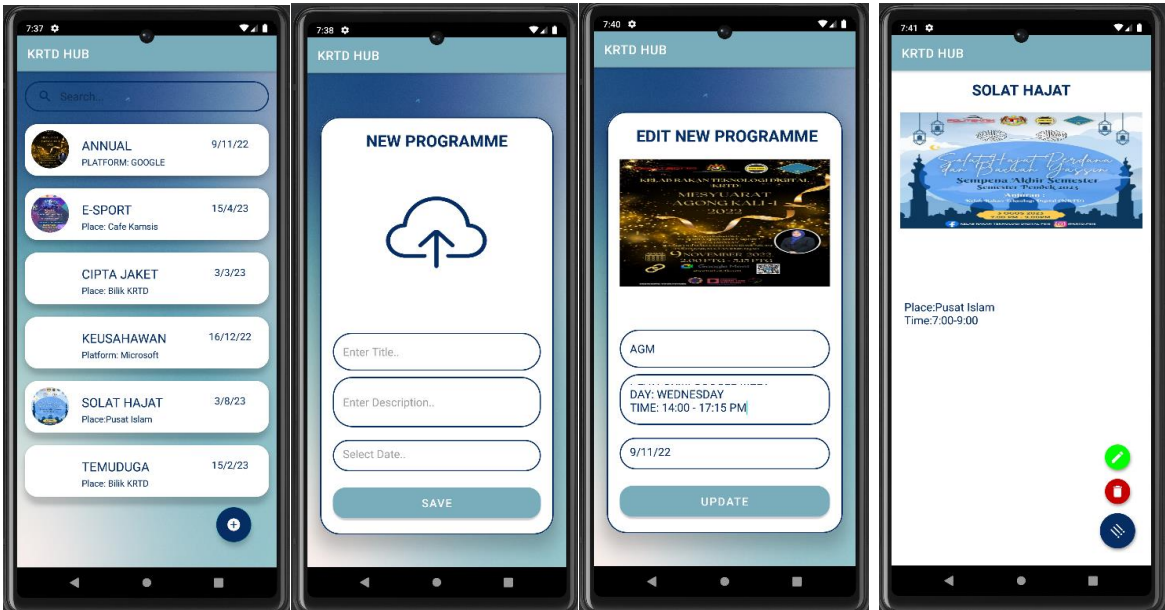


Figure 6.5 Our Programme Admin Page Interface

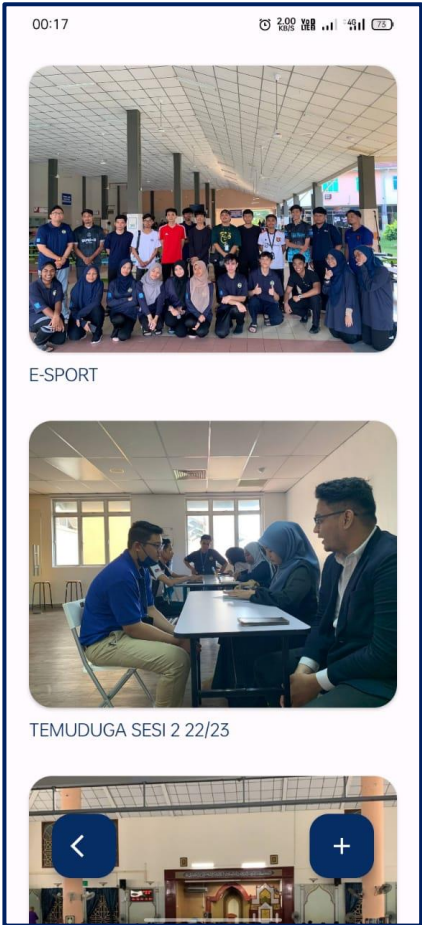
Figure 6.6 Upload Programme Admin Page Interface

Figure 6.7 Update Programme Admin Page Interface

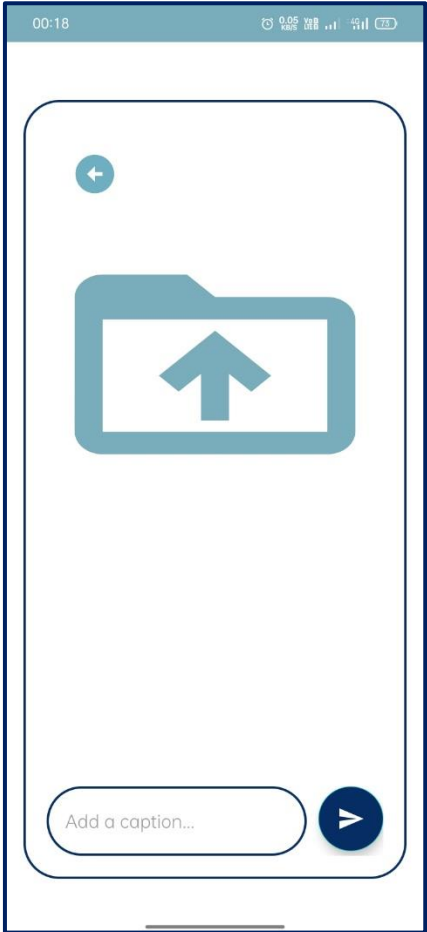
Figure 6.8 Detail Programme Page Interface

1.2.18 Our Moments [Admin]

The "Our Moments Admin" page in the KRTD club's app displays pictures and details of different programs. Admins can add images and descriptions to keep members engaged and interested. It helps the club connect with its members.



**Figure 6.9 Moments
Page Interface**



**Figure 6.8 Moments
Upload Page**

5.0 TEST DESCRIPTION AND RESULTS

5.1 UNIT TESTING PLAN [UTP]

Table 5.0 : Unit Testing Plan for User Interface

UNIT TESTING PLAN [UTP]						
No.	Test Case Name	Test Procedure	Pre - Condition	Expected Result	Tester	Result (Pass/Failure)
SIGN UP						
1.	User sign up for registration is failed	User required to fill in the name, email, username and password to make an account	User need to fill in the invalid requirement for the name, email and password to be able to have an unsuccessful sign up process	Validation messages like "Name should start with a capital" when the name is wrong, "Username should contain only alphabets" for incorrect username, "Password should be 8 characters long and contain only numbers" if the password is wrong and "Invalid email address" when the email is wrong. It can stop the process to have an account	Mr. Ahmad Zulfaqar Aqwa	Pass
2.	User sign up for registration is successful	User required to fill in the name, email, username and password to make an account	User need to fill in the valid requirement for the name, email and password to be able to have an account successfully	Successful registration for the sign up and able to go to the login page	Mr. Ahmad Zulfaqar Aqwa	Pass
LOGIN						
3.	Login using the incorrect username and password	User required to fill in the valid username and password to login	User need to fill in the invalid requirement for the username and password to be able to have an unsuccessful login process	Validation messages like "User Does Not Exist" when the username is invalid and "Invalid Password" for the invalid password	Mr. Ahmad Zulfaqar Aqwa	Pass

4.	Login using the correct username and password	User required to fill in the valid username and password to login	User need to fill in the valid requirement for the username and password to be able to have an successful login process	Successful login and able to go to the Home page	Mr. Ahmad Zulfaqar Aqwa	Pass
HOME PAGE						
5.	Home page	None	None	User are able to see seven navigation card of the pages in the KRTD Hub application	Mr. Ahmad Zulfaqar Aqwa	Pass
EVENT PAGE						
6.	Search bar	Tap on search bar	User must type in the search bar using alphabets and numbers to be able to search events	List event searched appear and user can click on the event searched	Mr. Ahmad Zulfaqar Aqwa	Pass
7.	List view event	Tap on any event displayed to view event details	None	User are able to view the event details page	Mr. Ahmad Zulfaqar Aqwa	Pass
EVENT DETAIL PAGE						
8.	Event detail page	Tap on any event displayed on the event page to view event details	None	User are able to view the event details such as the title, day and date, place and a short description of the event	Mr. Ahmad Zulfaqar Aqwa	Pass
KRTD MERCH						
9.	Slideshow of the KRTD T-shirt	It is auto-slide yet user can swipe through the pictures	None	Shows the two types of KRTD T-shirt which are long sleeves and short sleeves	Mr. Ahmad Zulfaqar Aqwa	Pass

10.	Scroll view page	User can scroll through up and down the page	None	View all the content in the KRTD Merch page	Mr. Ahmad Zulfaqar Aqwa	Pass
11.	KRTD T-shirt order form failed	User need to fill in all the order information to be able to order the KRTD T-shirt	User need to not fill in all the information required which are the student's name, class, matrices number, the type of sleeves and size of the T-shirt user want to order	Validation messages like "Please enter a name", "Please enter a class name", "Please enter matrices" this happened when the name, class and matrices number are not fill in. Other than that, toast messages will popup "Please select sleeves" and "Please select size" when user did not choose the sleeves and size	Mr. Ahmad Zulfaqar Aqwa	Pass
12.	KRTD T-shirt order form successful	User need to fill in all the order information to be able to order the KRTD T-shirt	User must fill in all the correct information required which are the student's name, class, matrices number, the type of sleeves and size of the T-shirt user want to order	Successful at giving the users order details for the ordering process of the KRTD T-shirt	Mr. Ahmad Zulfaqar Aqwa	Pass
13.	QR code for payment	User need to scan the QR code for the payment process of the order	User must scan the QR code using a mobile phone and make the payment through online banking to be able to proceed the order process	User successfully make the payment process by making the online payment using the QR code given	Mr. Ahmad Zulfaqar Aqwa	Pass

14.	Upload receipt button	User need to tap on the “Upload Receipt” button to upload the proof of payment for the order	User must submit the proof of the online transaction by uploading the .pdf receipt of the KRTD T-shirt order	Successfully make the order for the KRTD T-shirt	Mr. Ahmad Zulfaqar Aqwa	Pass
ABOUT US						
15.	About us	None	None	Shows KRTD’s vision, mission and history. Displaying about what KRTD really is	Mr. Ahmad Zulfaqar Aqwa	Pass
16.	Scroll view page	User can scroll through up and down the page	None	View all the content in the About Us page	Mr. Ahmad Zulfaqar Aqwa	Pass
ORGANIZATION CHART						
17.	Organization chart	None	None	Shows KRTD’s current organization chart of the KRTD community members	Mr. Ahmad Zulfaqar Aqwa	Pass
18.	Zoom-in the picture	User can zoom-in the picture of the organization chart	None	Display the picture of KRTD’s current organization chart of the KRTD community members	Mr. Ahmad Zulfaqar Aqwa	Pass
19.	Scroll view page	User can scroll through up and down the page	None	View all the content in the Organization Chart page	Mr. Ahmad Zulfaqar Aqwa	Pass

OUR ACTIVITIES						
20.	Our activities	None	None	Shows the information for “Ruang Aktiviti Pelajar JTMK” which is handled by KRTD. The information is about the activities student can do in the room with facilities provided	Mr. Ahmad Zulfaqar Aqwa	Pass
22.	Scroll view page	User can scroll through up and down the page	None	View all the content in the Our Activities page	Mr. Ahmad Zulfaqar Aqwa	Pass
OUR PROGRAMME						
23	Our programme	None	None	Shows all programmes and events that held by KRTD	Mr. Ahmad Zulfaqar Aqwa	Pass
24.	Scroll view page	User can scroll through up and down the page	None	View all the content in the Our Programme page	Mr. Ahmad Zulfaqar Aqwa	Pass
25.	List view event	Tap on any event displayed to view event details	None	User are able to view the programme details page	Mr. Ahmad Zulfaqar Aqwa	Pass
OUR MOMENTS						
26.	Our moments	None	None	Shows all photos from programmes and events that held by KRTD	Mr. Ahmad Zulfaqar Aqwa	Failed
27.	Scroll view page	User can scroll through up and down the page	None	View all the content in the Our Programme page	Mr. Ahmad Zulfaqar Aqwa	Failed

Table 5.1 : Unit Testing Plan for Admin Interface

UNIT TESTING PLAN [UTP]						
No.	Test Case Name	Test Procedure	Pre - Condition	Expected Result	Tester	Result (Pass/Failure)
ADMIN LOGIN						
1.	Login using the incorrect username and password	Admin required to fill in the valid username and password to login	Admin need to fill in the invalid requirement for the username and password to be able to have an unsuccessful login process	Validation messages like “User Does Not Exist” when the username and password are invalid. “Password cannot be empty” when password is not fill in and “Username cannot be empty” when then username is not fill in	Mr. Ahmad Zulfaqar Aqwa	Pass
2.	Login using the correct username and password	Admin required to fill in the valid username and password to login	Admin need to fill in the valid requirement for the username and password to be able to have an successful login process	Successful login and able to go to the home page	Mr. Ahmad Zulfaqar Aqwa	Pass
ADMIN HOME PAGE						
3.	Home page	None	None	Admin are able to see seven navigation card of the pages in the KRTD Hub application	Mr. Ahmad Zulfaqar Aqwa	Pass
ADMIN EVENT PAGE						
4.	Search bar	Tap on “search” icon	Admin must type in the search bar using alphabets and numbers to be able to search events	List event appear and user can click on the event searched	Mr. Ahmad Zulfaqar Aqwa	Pass
5.	List view event	Tap on any event displayed to view event details	None	Admin are able to view the event details page	Mr. Ahmad Zulfaqar Aqwa	Pass

ADMIN NEW EVENT PAGE						
6.	New Event details fail to upload	Tap on “+” add button from Event page	Admin must not insert all the new event details such as the event poster, name, description and date	Validation toast pop up “Fields cannot be empty” when all the information are not fill in	Mr. Ahmad Zulfaqar Aqwa	Pass
7.	New Event details successful to upload	Tap on “+” add button from Event page	Admin must insert all the new event details such as the event poster, name, description and date	New Event appear in the Our Programme page	Mr. Ahmad Zulfaqar Aqwa	Pass
ADMIN EVENT DETAILS PAGE						
8.	Event details	None	None	Shows the information of the events such as event picture or poster, event title, event description and event date	Mr. Ahmad Zulfaqar Aqwa	Pass
9.	Menu button	Tap on the menu drawer button	None	Two buttons show up which are the delete and edit button	Mr. Ahmad Zulfaqar Aqwa	Pass
10.	Delete button	Tap on the delete button	Admin must tap on the menu drawer button first to be able to access the delete button	The event details are deleted and no longer in the application or database	Mr. Ahmad Zulfaqar Aqwa	Failed
ADMIN EDIT EVENT DETAILS						
11.	Event details information	None	None	The event details shown in their places of the information which are the event poster, event title, event description and date	Mr. Ahmad Zulfaqar Aqwa	Pass

12.	Edit event details	Admin can edit any of the existing information to make updates	None	The existing details of the event are shown and admin are able to edit any details to make changes for the event details	Mr. Ahmad Zulfaqar Aqwa	Failed
13.	Update button	Tap on the update button	Admin can make changes from the existing details of the event	Update the information that changes and display it on the Event Details page	Mr. Ahmad Zulfaqar Aqwa	Failed
MERCH REPORT						
14.	Pie chart report of the KRTD T-shirt sale	None	None	The chart report shows the percentage of how many T-shirt were sold and how many T-shirt that are left	Mr. Ahmad Zulfaqar Aqwa	Pass
ADMIN ORGANIZATION CHART						
15.	Organization chart	None	None	Shows KRTD's current organization chart of the KRTD community members	Mr. Ahmad Zulfaqar Aqwa	Pass
16.	Zoom-in the picture	User can zoom-in the picture of the organization chart	None	Display the picture of KRTD's current organization chart of the KRTD community members	Mr. Ahmad Zulfaqar Aqwa	Pass
17.	Scroll view page	User can scroll through up and down the page	None	View all the content in the Organization chart page	Mr. Ahmad Zulfaqar Aqwa	Pass
ADMIN OUR PROGRAMME						
18.	Our programme	None	None	Shows all programmes and events that held by KRTD	Mr. Ahmad Zulfaqar Aqwa	Pass

19.	Search bar	Tap on “search” icon	Admin must type in the search bar using alphabets and numbers to be able to search programmes	List event appear and user can click on the programme searched	Mr. Ahmad Zulfaqar Aqwa	Pass
20.	List view event	Tap on any event displayed to view programme details	None	Admin are able to view the Programme Details page	Mr. Ahmad Zulfaqar Aqwa	Pass
21.	Scroll view page	User can scroll through up and down the page	None	View all the content in the Our Programme page	Mr. Ahmad Zulfaqar Aqwa	Pass
ADMIN NEW PROGRAMME						
22.	New Programme details fail to upload	Tap on “+” add button from Our Programme page	Admin must not insert all the new programme details such as the programme poster, name, description and date	Validation toast pop up “Fields cannot be empty” when all the information are not fill in	Mr. Ahmad Zulfaqar Aqwa	Pass
23.	New Programme details successful to upload	Tap on “+” add button from Our Programme page	Admin must insert all the new programme details such as the programme poster, name, description and date	New programme appear in the Our Programme page	Mr. Ahmad Zulfaqar Aqwa	Pass
ADMIN OUR MOMENTS						
24.	Our moments	None	None	Shows all photos from programmes and events that held by KRTD	Mr. Ahmad Zulfaqar Aqwa	Failed
25.	Scroll view page	User can scroll through up and down the page	None	View all the content in the Our programme page	Mr. Ahmad Zulfaqar Aqwa	Failed

ADMIN UPLOAD MOMENTS						
26.	Upload new moment is failed	User are required to upload the picture and the description of the moment	Admin must not upload the picture	Validation toast "Please select at least one image"	Mr. Ahmad Zulfaqar Aqwa	Pass
27.	Upload new moment is successful	User are required to upload the picture and the description of the moment	Admin must upload the picture and the description	New moment are successfully uploaded	Mr. Ahmad Zulfaqar Aqwa	Pass
28.	Upload button	Tap on the upload button	Admin must give the information wanted for the new moment	Give validation toast when image not picked and "All images uploaded" when the information all required fulfil	Mr. Ahmad Zulfaqar Aqwa	Pass

5.2 INTEGRATION TESTING PLAN [ITP]

Table 5.2 : Integration Testing Plan for User Interface

INTEGRATION TESTING PLAN [UTP]						
No.	Test Case Name	Test Procedure	Pre - Condition	Expected Result	Tester	Result (Pass/Failure)
SIGN UP						
1.	Sign up button	Tap the sign up button	User need to make sure the name, username, email and password are correct before click sign up button	Directly go to Login page	Mr. Ahmad Zulfaqar Aqwa	Pass
2.	Login linked text	Tap the login linked text	User need to make sure to have an account to able to login	Go to Login page	Mr. Ahmad Zulfaqar Aqwa	Pass
LOGIN						
3.	Login button	Tap login button	User need to make sure the username and password are correct before click login button	Direct to Home page	Mr. Ahmad Zulfaqar Aqwa	Pass
4.	Sign up linked text	Tap the sign up linked text	None	Direct to Sign up page	Mr. Ahmad Zulfaqar Aqwa	Pass
HOME PAGE						
5.	Event navigation card	Tap Event card	None	Direct to Event page	Mr. Ahmad Zulfaqar Aqwa	Pass
6.	Report navigation card	Tap Report card	None	Direct to Report page	Mr. Ahmad Zulfaqar Aqwa	Pass

7.	About us navigation card	Tap About us card	None	Direct to About us page	Mr. Ahmad Zulfaqar Aqwa	Pass
8.	Organization Chart navigation card	Tap Organization Chart card	None	Direct to Organization Chart page	Mr. Ahmad Zulfaqar Aqwa	Pass
9.	Our Activities navigation card	Tap Our Activities card	None	Direct to Our Activities page	Mr. Ahmad Zulfaqar Aqwa	Pass
10.	Our Programme navigation card	Tap Our Programme card	None	Direct to Our Programme page	Mr. Ahmad Zulfaqar Aqwa	Pass
11.	Our Moment navigation card	Tap Our Moment card	None	Direct to Our Moment page	Mr. Ahmad Zulfaqar Aqwa	Pass
EVENT PAGE						
12.	List view event	Tap on any event displayed to view event details	None	User are directed to view the Event details page	Mr. Ahmad Zulfaqar Aqwa	Pass

Table 5.3 : Integration Testing Plan for Admin Interface

INTEGRATION TESTING PLAN [UTP]						
No.	Test Case Name	Test Procedure	Pre - Condition	Expected Result	Tester	Result (Pass/Failure)
ADMIN LOGIN						
1.	Login button	Tap login button	Admin need to make sure the username and password are correct before click login button	Direct to Home page	Mr. Ahmad Zulfaqar Aqwa	Pass
2.	Sign up linked text	Tap the sign up linked text	None	Direct to Sign up page	Mr. Ahmad Zulfaqar Aqwa	Pass
ADMIN HOME PAGE						
3.	Event navigation card	Tap Event card	None	Direct to Event page	Mr. Ahmad Zulfaqar Aqwa	Pass
4.	Merch Report navigation card	Tap Reports card	None	Direct to Merch Report page	Mr. Ahmad Zulfaqar Aqwa	Pass
5.	About us navigation card	Tap About us card	None	Direct to About us page	Mr. Ahmad Zulfaqar Aqwa	Pass
6.	Organization Chart navigation card	Tap Organization Chart card	None	Direct to Organization Chart page	Mr. Ahmad Zulfaqar Aqwa	Pass
7.	Our Activities navigation card	Tap Our Activities card	None	Direct to Our Activities page	Mr. Ahmad Zulfaqar Aqwa	Pass

8.	Our Programme navigation card	Tap Our Programme card	None	Direct to Our Programme page	Mr. Ahmad Zulfaqar Aqwa	Pass
9.	Our Moment navigation card	Tap Our Moment card	None	Direct to Our Moment page	Mr. Ahmad Zulfaqar Aqwa	Pass
ADMIN EVENT PAGE						
10.	List view event	Tap on any event displayed to view event details	None	Directed to view the Event details page	Mr. Ahmad Zulfaqar Aqwa	Pass
11.	Add button	Tap on “+” add button	None	Directed to New Event page for adding new event details	Mr. Ahmad Zulfaqar Aqwa	Pass
NEW EVENT PAGE						
12.	Save button	Tap on the save button	Admin must fill in all the information of the events such as the event title, event description and date	Directed to Event page and the new event will be on display	Mr. Ahmad Zulfaqar Aqwa	Pass
EVENT DETAILS PAGE						
13.	Edit button	Tap on the edit button	Admin must tap on the menu drawer button first to be able to access the edit button	Directed to Edit event details page	Mr. Ahmad Zulfaqar Aqwa	Pass
EDIT NEW EVENT DETAILS						
14.	Update button	Tap on the update button	Admin can make changes from the existing details of the event	Direct to Event page and the update of the event information that changes are on display	Mr. Ahmad Zulfaqar Aqwa	Pass

OUR PROGRAMME						
15.	Add button	Tap on “+” add button	None	Direct to New Programme page for adding new programme details	Mr. Ahmad Zulfaqar Aqwa	Pass
16.	List view event	Tap on any event displayed to view programme details	None	Admin are directed to the Programme Details page	Mr. Ahmad Zulfaqar Aqwa	Pass
OUR MOMENTS						
17.	Add button	Tap on “+” add button	None	Admin are directed to the Upload Moments page	Mr. Ahmad Zulfaqar Aqwa	Pass
UPLOAD MOMENTS						
18.	Upload picture icon	Tap on the upload picture button	None	Directed to admin gallery	Mr. Ahmad Zulfaqar Aqwa	Pass

6.0 MAJOR FINDINGS AND DISCUSSION

After the collection of data from user, there are several advantages and limitations of the application can be highlighted for future reference. There are:

6.1 ADVANTAGES OF THE PROJECT

- I. **Everything in one place:**
The app has everything about KRTD in one spot, like its activities, programs, and more.
- II. **Saves time:**
Users can quickly find info about KRTD without searching all over.
- III. **Stay involved:**
Users can see what's going on and join activities easily.
- IV. **Convenient Reminders:**
The app reminds you about upcoming events.
- V. **Promotion of Merchandise:**
Users can check out and buy KRTD merchandise.
- VI. **Continuous Updates:**
Users get the latest club info all the time.

6.2 DISADVANTAGES OF THE PROJECT

- I. **Compatibility:**
The application is only compatible with Android devices and not with other operating systems.
- II. **Notification Fatigue:**
Excessive notifications may lead to users overlooking crucial updates, causing them to miss essential events.
- III. **Real-time Interaction:**
Insufficient real-time interaction may hinder the development of a strong community within the organization.
- IV. **Internet Connectivity:**
The application's functionality might be limited or inaccessible without an internet connection, hindering users in areas with poor connectivity or during travel.

7.0 RECOMMENDATION AND CONCLUSION

The KRTD Hub app can be improved by incorporating event feedback, surveys, event registration, an interactive calendar, photo sharing, social media integration, and event ratings and reviews. These additions will create a more interactive platform, streamline event management, and foster a vibrant community within the JTMK department. Event feedback and surveys will provide valuable insights for future events, while the interactive calendar will keep users informed about upcoming activities. Enhanced photo sharing and albums will enhance engagement, and social media integration will expand event visibility. Event ratings and reviews will aid decision-making and provide valuable feedback for organizers. Continuously improving the app will solidify its role as a valuable tool for KRTD Advisors and JTMK Students, fostering an inclusive and thriving community.

The KRTD Hub is a platform that simplifies event management, communication, and engagement within the JTMK department. It streamlines event planning and coordination, providing students with timely event notifications, easy registration, and the ability to view event photos. The goal is to enhance student engagement, encourage active participation, and foster a strong sense of belonging. The hub will provide seamless communication and centralized event management, leading to increased student involvement and attendance at department activities. It will also serve as a valuable feedback channel, allowing for continuous improvement based on student input and preferences. The goal is to create a thriving and connected environment within the JTMK department, inspiring students to feel inspired, connected, and part of a supportive community. The KRTD Hub aims to deliver exciting and memorable experiences that foster creativity, innovation, and lasting friendships, enhancing the overall student experience, and leaving a positive impact on the JTMK department for years to come.

8.0 REFERENCES

Website

- Fard, A. (2020, May 12). What is Agile Design Methodology and how to apply it? UI UX Design Agency for SaaS and Fintech | Adam Fard UX Studio.
<https://adamfard.com/blog/agile-design>
- S. (2021, January 5). Operational Feasibility - Why should you do it? - How I Got the Job. How I Got the Job. <https://howigotjob.com/articles/performing-operational-feasibility-for-a-project/>
- Editorial Team. (2019, September 21). 11 Steps To Successful Agile Project Implementation. ProjectPractical.com. <https://www.projectpractical.com/11-steps-to-successful-agile-project-implementation/>
- R. (2020, November 26). Reminder Management System - Learning Container. Learning Container. <https://www.learningcontainer.com/reminder-management-system/>
- Top 8 Best Online Gantt Chart Tools in 2023. (n.d.). Instagantt.
<https://instagantt.com/gantt-chart-experts/top-8-best-online-gantt-chart-tools-in-2022>.
- Muhammed, M. (2017, October 24). Medical helper proposal.
https://www.academia.edu/34947308/Medical_helper_proposal.
- Cort, F. (2022, January 27). Top 5 Benefits of Personalized Appointment Reminders. Apptoto. <https://www.apptoto.com/best-practices/top-5-benefits-of-personalized-appointment-reminders>.
- T. (2021c, June 16). Fact Finding Techniques || Fact Finding Techniques for Requirements. BCIS. <https://bcisnotes.com/thirdsemester/system-analysis-and-design/fact-finding-techniques-fact-finding/>
- Trout, J. (2020, May 4). Fishbone Diagram Explained | Reliable Plant. Reliable Plant. <https://www.reliableplant.com/fishbone-diagram-31877>
- McLean, S., Booth, A., Gee, M., Salway, S., Cobb, M., Bhanbhro, S., & Nancarrow, S. (2016). Appointment reminder systems are effective but not optimal: results of a systematic review and evidence synthesis employing realist principles. Patient Preference and Adherence, 479. <https://doi.org/10.2147/ppa.s93046>
- Qayum, A. (2021, January 7). Oberlo | Where Self Made is Made.
<https://www.oberlo.com/blog/reminder-apps>