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ZERO DISASTER APPLICATION

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ABSTRACT

This report presents the development of a mobile application that aims to improve public reporting of natural disasters in the Kinta District is presented in this report. By providing real-time information about ongoing incidents, the app aims to empower residents to contribute to disaster response efforts. The improvement interaction included different stages as user requirements analysis, system design, implementation, and evaluation. The app has a dashboard with a lot of information about disasters, user registration and authentication, and an easy way to submit reports. Access to emergency services and resources, an interactive map, and real-time alerts and notifications were also integrated. The project also put a lot of emphasis on data analytics and visualization to find patterns and enhance strategies for disaster preparedness. Client criticism and testing assumed an important part in designing the application's functionalities and client experience. The Kinta District community's overall resilience and preparedness for natural disasters are bolstered by the project's outcomes.

ABSTRAK

Laporan ini membentangkan pembangunan aplikasi mudah alih yang bertujuan menambah baik pelaporan awam tentang bencana alam di Daerah Kinta dibentangkan dalam laporan ini. Dengan menyediakan maklumat masa nyata tentang insiden yang sedang berlaku, aplikasi ini bertujuan untuk memperkasakan penduduk untuk menyumbang kepada usaha tindak balas bencana. Interaksi penambahbaikan termasuk peringkat yang berbeza seperti analisis keperluan pengguna, reka bentuk sistem, pelaksanaan dan penilaian. Apl ini mempunyai papan pemuka dengan banyak maklumat tentang bencana, pendaftaran dan pengesahan pengguna serta cara mudah untuk menyerahkan laporan. Akses kepada perkhidmatan dan sumber kecemasan, peta interaktif serta makluman dan pemberitahuan masa nyata turut disepadukan. Projek ini juga memberi banyak penekanan pada analisis data dan visualisasi untuk mencari corak dan meningkatkan strategi untuk kesiapsiagaan bencana. Kritikan dan ujian pelanggan mengambil bahagian penting dalam mereka bentuk fungsi aplikasi dan pengalaman pelanggan. Keseluruhan daya tahan dan kesiapsiagaan masyarakat Daerah Kinta menghadapi bencana alam didorong oleh hasil projek.

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CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

Kinta District, located in the state of Perak, Malaysia, is known for its rich cultural heritage, historical landmarks, and natural beauty. However, like many other regions around the world, natural disaster is still unavoidable in Kinta district. Over the years, the district has experienced various types of natural disasters that have had significant impacts on the local communities and the environment.

One of the most common natural disasters in Kinta District is flooding. The district is prone to flooding due to its geographical location, which includes several rivers and water bodies. During the monsoon seasons or heavy rainfall, the rivers in the area can overflow, leading to widespread flooding in low-lying areas. These floods can cause damage to homes, infrastructure, and agricultural land, as well as disrupt transportation and daily activities of the residents.

Another natural disaster that can affect Kinta District is landslides. The hilly terrain and steep slopes in some parts of the district make it susceptible to landslides, especially during periods of heavy rain or soil erosion. Landslides can pose a threat to residential areas located on or near slopes, leading to loss of lives and damage to properties.

In addition to flooding and landslides, Kinta District also experiences occasional occurrences of earthquakes. While these earthquakes are usually of low intensity, they can still cause some degree of damage to buildings and infrastructure, depending on their magnitude and proximity to populated areas.

The impacts of natural disasters in Kinta District extend beyond physical damages. They can also lead to economic losses, displacement of communities, and disruption of essential services such as electricity, water supply, and communication networks. The local government, together with relevant agencies and organizations, work diligently to mitigate the risks and minimize the impacts of these natural disasters through early warning systems, disaster preparedness plans, and infrastructure improvements.

By understanding the vulnerabilities and taking appropriate measures, the residents of Kinta District continue to adapt and build resilience in the face of natural disasters. Efforts in raising awareness, conducting emergency drills, and implementing sustainable land management practices are crucial for minimizing the adverse effects and ensuring the safety and well-being of the local population in the event of a natural disaster.

1.2 PROBLEM STATEMENT

Natural disasters such as floods, landslides, earthquakes, fallen trees and storms occur less often in Kinta district. People cannot report these incidents or receive real-time information about them on dedicated portals, though. Effective disaster response and community engagement in the district is hindered by this.

As a result of the fragmented and delayed distribution of information due to the lack of a centralized reporting mechanism, it is difficult for authorities to accurately assess the situation and deliver timely assistance to affected areas. In addition, people do not have reliable sources to learn about current or impending disasters, which affects their ability to be informed and take appropriate action.

A mobile app that enables the public to report natural disasters and obtain up-to-date information about incidents in the Kinta district is thus required. Such an app would make data collecting more effective, improve community and government communication, and help people make decisions during emergencies.

1.3 OBJECTIVE

The objective of this project is to make sure the road is maintained, and road user can easily make a report and send it to authorities to repair it. The objective for this project is to

- i. Design a Zero Disaster Application to report the natural disasters for the public.
- ii. Develop the Zero Disaster Application with more features for easy use to the for users.
- iii. Test effectiveness of Zero Disaster Application in term of feedback from user.

1.4 SCOPE OF STUDY

The scope of the study falls on community living around Kinta district. The scope ZERO DISASTER APPLICATION is focusing on Kinta district road. The goal of mobile app development is to create software applications that run on mobile devices such as smartphones and tablets, with the aim of providing users with useful, entertaining, or informative experiences through the app. In this study, the places that have a high chance of natural disaster will be chosen. This study is a technological solution for managing the natural disaster using the smart phone report via ZERO DISASTER APPLICATION. The respondents of the zero disaster Application will be among citizens in Kinta district. This project will provide convenience for road users and will make a report for the authorities to act. A survey of the targeted customers will be conducted to identify the problems already indicated. This project used an interview and a Google form as our platform. To gather feedback about zero disaster application, social media sites such as Instagram, WhatsApp, and a link to a Google form will be disseminated. The act of collecting, analysing, and comprehending consumer feedback ensures that their demands are met.

1.5 CONCLUSION

The Disaster Report App for the Kinta District serves as a vital tool in strengthening community resilience, disaster response, and preparedness. By empowering individuals to report incidents and stay informed in real-time, the app fosters a sense of proactive engagement in safeguarding lives and properties. By leveraging technology, collaboration with local authorities, and active community participation, this app aims to create a safer and more resilient Kinta District in the face of natural disasters.

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

Natural disasters are tragic occurrences that result from natural processes and can seriously harm the environment, infrastructure, and human lives. These unpredictable events are affected by a variety of geological, meteorological, and climatic conditions, among other variables. Different types of natural disasters can happen, and each has its own traits and potential for destruction.

Earthquakes are a typical natural catastrophe and are brought on by the sudden release of energy in the crust of the Earth. Earthquakes can cause surface rupture, ground trembling, and tsunamis, which can cause extensive damage and fatalities. Another kind are hurricanes, which are strong storms that develop over warm ocean waters. Along with severe flooding and property damage, they bring with them powerful winds, copious amounts of rain, and storm surges.

Another major natural disaster is flooding, which is typically brought on by an unusually high amount of rain, melting snow, or dam failures. They can happen suddenly or develop gradually, flooding the land and destroying buildings, infrastructure, and agricultural areas. In contrast, prolonged periods of abnormally low rainfall during a drought cause water scarcity, crop failure, and ecological imbalance.

Another type of natural disaster is a wildfire, which is frequently sparked by dry conditions and strong winds. They have the potential to quickly spread across urban centres, grasslands, and forests, wreaking on ecosystems, property, and people's lives. Volcanic eruptions are also natural disasters that can spew lava, ash, and toxic gases, affecting the area around them and even altering regional climate patterns.

Other natural disasters include avalanches, which occur in mountainous areas due to unstable snow, tsunamis, landslides, and tornadoes, which are violent rotating columns of air caused by severe thunderstorms or undersea earthquakes or volcanic eruptions.

Natural disasters can have a devastating effect on communities, result in population displacement, cause economic hardship, and have long-term effects on the environment. However, with improvements in technology, early warning systems, disaster preparedness, and response strategies, societies are working to reduce the impact of natural disasters and improve resilience to these events.

2.2 DEFINITION OF SOFTWARE

2.2.1 Definition of Android Studio



Figure 1.1: Android Studio 2.0 Application

Developed on JetBrains' IntelliJ IDEA software and created simply for Android development, Android Studio is the recognised integrated development environment (IDE) for Google's Android platform. On Windows, macOS, and Linux-based operating systems, it can be downloaded. As a primary IDE for creating native Android applications, it takes the position of the Eclipse Android Development Tools (E-ADT).

Google showed Android Studio during the Google I/O conference on May 16, 2013. It was in the early access preview stage beginning with version 0.1 in May 2013, and then transitioned into the beta stage beginning with version 0.8 in June 2014. The first stable build, version 1.0, was released in December 2014. Google decommissioned Eclipse ADT support at the end of 2015, leaving Android Studio as the only officially sanctioned IDE for Android development.

On May 7, 2019, Kotlin replaced Java as Google's preferred language for Android app development. Java is still supported, as is C++.

2.2.2 Definition of Visual Studio Code



Figure 1.2: Visual Studio Code Software

Visual Studio Code, often abbreviated as VS Code, is a highly versatile and widely adopted source-code editor developed by Microsoft. Launched in 2015, it has rapidly become a staple in the developer community due to its exceptional combination of functionality, performance, and user-friendly features. This free, open-source editor supports an extensive array of programming languages and offers a rich ecosystem of extensions that enhance its capabilities. VS Code's distinguishing features include an intuitive user interface, robust debugging tools, integrated Git control, and a powerful extension system, allowing developers to tailor their environments to suit specific needs.

Since it maintains its lightweight nature without sacrificing performance, it is suited for a wide range of tasks, from simple scripts to large-scale programmes. Moreover, Visual Studio Code promotes collaboration with features like Live Share, enabling real-time collaborative coding sessions. Overall, Visual Studio Code demonstrates Microsoft's dedication to providing developers with a versatile and speedy coding environment.

2.2.3 Definition of 000webhost



Figure 1.3: 000webhost Software

000webhost is a free web hosting service that provides users with the opportunity to host websites without incurring any cost. Launched in 2007, it has gained popularity for its accessible platform and feature-rich offerings. 000webhost supports PHP and MySQL, making it suitable for hosting dynamic websites and web applications. Users may construct and handle their websites using an easy-to-use control panel that includes abilities such as file management, database administration, and one-click installation of popular apps such as WordPress. While it offers free hosting, it also provides premium plans with additional resources and advanced features for users with more demanding requirements. The service is well-known for its security, comfort of use, and community support, making it a desirable choice for individuals and small businesses wishing to build an online presence without the financial outlay required by traditional hosting services.

2.2.4 Definition of XAMPP Control Panel



Figure 1.4: XAMPP Software

XAMPP Control Panel is a graphical user interface (GUI) application that accompanies the XAMPP software stack, facilitating the management and configuration of local web server environments. XAMPP, an acronym for cross-platform, Apache, MySQL, PHP, and Perl, is a free and open-source web server solution developed by Apache Friends. The control panel acts as a centralized hub, allowing users to start, stop, and configure the Apache web server, MySQL database, FileZilla FTP server, and other components included in the XAMPP stack. It provides an easy-to-use interface for doing server-related operations such as altering settings, viewing server status, and reading logs. Because the XAMPP Control Panel simplifies the setup and maintenance of local development environments, it is a popular choice among developers for testing and building web applications offline.

2.3 FUNCTION OF SOFTWARE

2.3.1 Function of Android Studio

- i. Gradle-based build support allows developers to build, test, and deploy their applications with minimal effort and maximum flexibility easily and efficiently.
- ii. Refactoring and quick fixes for Android make it easier for developers to maintain and update their code, which improves the overall quality and speed of Android applications.
- iii. Lint tools offer a thorough method for detecting faults in Android applications such as performance, usability, and version compatibility concerns. Developers can take corrective action to guarantee that their apps work smoothly and deliver an optimal user experience if these issues are identified early in the development process.
- iv. ProGuard integration and app-signing capabilities are critical components of the Android development process. ProGuard aids with the optimisation and security of app code by eliminating superfluous code and obscuring the remaining code, making it difficult for others to reverse engineer the app. software-signing features ensure that the software is correctly signed with a certificate before deployment, adding an additional degree of security. Developers may ensure that their apps are secure and optimised for performance by incorporating these elements into the production process.
- v. Template-based wizards to create common Android designs and components.
- vi. A powerful layout designer that enables users to drag-and-drop UI components and preview layouts on numerous screen configurations.

- vii. Android Wear app development support allows developers to design apps exclusively for wearables, allowing users to access app functionality on their smartwatches. This feature offers support for generating custom watch faces as well as access to the wearable device's sensors and other hardware functions. Developers can use this functionality to create entertaining and inventive apps that take advantage of the unique capabilities of Android Wear devices.
- viii. Built-in Google Cloud Platform support, allowing connection with Firebase Cloud Messaging (formerly 'Google Cloud Messaging') and Google App Engine.
- ix. Android Virtual Device (Emulator) to run and debug apps in the Android studio.

2.3.2 Function of Visual Studio

- i. Visual Studio Code provides a feature-rich code editor with syntax highlighting, autocompletion, and smart code navigation, improving the efficiency and accuracy of coding.
- ii. It can be multi language support because it can support a variety of programming languages and suitable for developers who are working on diverse project. Other than that, this app also includes integrated terminal and allow developers to command a script without leaving the editor. It can also streamline the development workflow.
- iii. Next, this software offers a built-in debugger with support for various languages. It can enable developers to identify and fix issues in their code efficiently. This software has a robust extension system that allow users to customize it functionality according to their needs. These features of app cover theme, language support and additional tools.
- iv. Furthermore, this software provides intelligent code suggestions and helping developers to write the codes faster without any fewer errors. As well as it comes with lives share extension so it will be easy for developer to collaborate in real time and allowing team members to edit and debug the code together.
- v. The last function off this software is, the interface of editors is highly customizable, and it will be untroubled for user to adjust settings to create a personalized coding environment. This software is cross-platformism is because VS studio code is available on windows, macOS and Linux for ensuring a consistent development experience across different operating systems. Finally, Visual Studio Code functions as a versatile and user-friendly code editor, providing a comprehensive set of tools and features to support developers throughout the software development lifecycle.

2.3.3 Function Of 000webhost

- i. This software is free webhosting website that allows users to host their website without incurring any charges. It also includes a website builder or integration with popular website builders, enabling users to create and design their websites easily without extensive coding knowledge.
- ii. Moreover, this website supports PHP scripting language and MySQL databases, making it suitable for hosting dynamic and database-driven websites. Users also can manage their hosting settings, files, and other configurations through an intuitive control panel provided by 000webhost.
- iii. Next the service typically offers one-click installations for popular applications like WordPress, making it easy for users to set up and manage their content management systems.
- iv. Furthermore, Users often benefit from community forums and support, where they can seek help, ask questions, and share experiences with other 000webhost that use the website to run their app. As well as this website has a limitation free plan but 000webhost may offer premium plans with additional resources and features for users with more extensive hosting needs.
- v. Remember that individual features and functionality of web hosting services can change over time, thus the most up-to-date information can be found on the official 000webhost website or manual.

2.3.4 Function of XAMPP Control Panel

- i. The first features of this software are the control panel allow user to start, stop, and restart the Apache web server, MySQL database server, and other components included in the XAMPP stack. Users can also configure various settings for Apache, MySQL, and other components directly through the control panel. This includes adjusting ports, enabling, or disabling modules, and setting up virtual hosts.
- ii. Other than that, the control panel displays real-time status updates on each server component's operating or stopped condition, allowing users to easily check the health of their local development environment. As well as Users can access and view log files for Apache, MySQL, and other services directly from the control panel. This feature is so valuable for troubleshooting and debugging purpose.
- iii. Moreover, this software includes features to enhance security, such as configuring passwords for MySQL and adjusting access controls. The control panel might offer options to configure additional services included in XAMPP, like FileZilla FTP server and Mercury mail server but it depends on the version of the software.
- iv. Furthermore, Users can easily navigate to the directories and configuration files associated with each component of the XAMPP stack. Some control panels may allow users to switch between different versions of Apache, PHP, or MySQL, allowing for more versatility in testing and compatibility.
- v. The XAMPP Control Panel streamlines the management and configuration of the XAMPP software stack, providing a user-friendly interface for developers to control local web servers and associated services during the development and testing phases.

2.4 ZERO DISASTER APPLICATION FUNCTION

A natural disaster is a phenomenon that cannot be avoid. This disaster may damage our public property, or our environment and it will cause money to fix. Although the disasters are not avoidable, this project can create something that probably put an end to it or a quick way to fix it so that I can be use like before. In this case is road that are being damaged by natural disaster. There are many efforts that are being taken to avoid this problem which is create a proper drainage system so that the water does not make the road flooding, a patching method which is a method to repair the road that has been damage by heavy vehicles that are not supposed to use the road and more. All of that is useless if the report that by being made by road user is not receive to the authorities as soon as possible. There is even a possibility that even the road user does not know where to report the damaged road to. The app that this project trying to invent is to offer a proper platform to do all the reports or anything about the road. This app also can show where is the damaged road is so that the accident can be avoided.

2.5 PREVIOUS STUDIES ON ZERO DISASTER

2.5.1 Zero Disaster with Android Application

Property has been harmed by this natural disaster's consequences. This kind of issue can be avoided by issuing a clear warning to the public, especially those who live close, to keep the neighbourhood in good shape at all times, such as by inspecting the drain in front of the house. Smartphone usage is fast rising in our society because of advancements in computing technology and the fact that every Malaysian community can now buy a smartphone.

The main goal of this system is to provide a new natural disaster reporting system which can be integrated into Android applications. Furthermore, to provide end user with real-time information on increased drainage in their area, as well as notification system alerts and former locations of natural disasters.

This system is a monitoring system that uses android studio technology to create natural disaster reports in the Kinta District area. All reported information will be sent to the authorities to be resolved by them. how to do it when a natural disaster such as a fallen tree occurs, the user needs to take a picture and place it in the place provided in the application and press the send button.

The system is divided into one -component where each component has its requirement. which is software interactive, user interface and need a database to save from WSN. Provide a location map and provide a communication platform for emergencies.

2.6 CONCLUSION

In conclusion, the development of an app to report natural disasters in the Kinta District can greatly enhance public safety and emergency response. By providing a user-friendly platform for incident reporting, real-time data updates, and access to emergency resources, the app empowers residents to contribute valuable information and stay informed during critical situations. Collaborating with local authorities and obtaining accurate data will be crucial for the success of the app, which has the potential to save lives, mitigate damage, and foster a more resilient community in the face of natural disasters.

CHAPTER 3

METHODOLOGY

3.1 INTRODUCTION

In this chapter, the topic of methodology will be discussed. This chapter is included with Process Flow, Study Design, Design and Development and Analysis Data. The method that is being used for data collection is also being report in this chapter. This chapter provides a detail explanation of the selected mode of analysis used and data collection. Method. It also will show who is involved in this research that is related with this Final Year Project. The design of the project also will be show in this chapter.

3.2 PROCESS FLOW

The flow chart below depicts how this project's procedure works. This project will be tested and installed to assess whether it meets its objectives. If this project does work, the cases of road accident or road damaged will be decrease and if it does not work. It will need to be redesign.

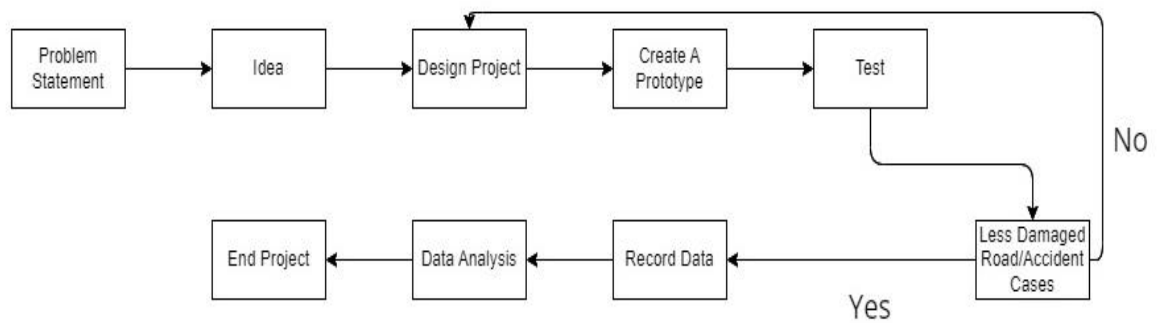


Figure 3.1: Process Flow

3.3 STUDY DESIGN

The title for this disaster zero app was chosen using a problem-based learning method. Start by recognizing some of the challenges that exist in the environment in the Kinta district area. Each challenge presented has been analysed in terms of various factors such as solution approach, project size and cost, among others. The exam continues with a related literature review. Following the selection of a satisfactory title, the next stage is to choose the appropriate software to implement this project. this project chooses android studio. especially ensuring the availability of all materials that are difficult to obtain and may affect the implementation of the project in terms of time management. This project has a budget and resources in place. Describe the equipment, software, personnel, and financial resources needed to carry out this study.

3.4 DESIGN AND DEVELOPMENT

Before starting the project, the concept design was completed using rough sketches only. The goal of this conceptual design is to provide an overview of the project. It also aims to improve on previous sketches. The design is done to the extent possible to eliminate all concepts and improvements. Sketches are created during the design selection process for Conceptualization and Planning. According to observations, conduct market research to find comparable apps, evaluate them for merits and weaknesses and find out how to differentiate your app. then create a comprehensive strategy covering technical specifications, user flow and functionality of the app. next Front-end development Implement the UI design using the appropriate programming language and framework for your chosen platform (eg, Java/Kotlin for Android, Swift/Objective-C for iOS). Build interactive app components, screens, and user interface elements.

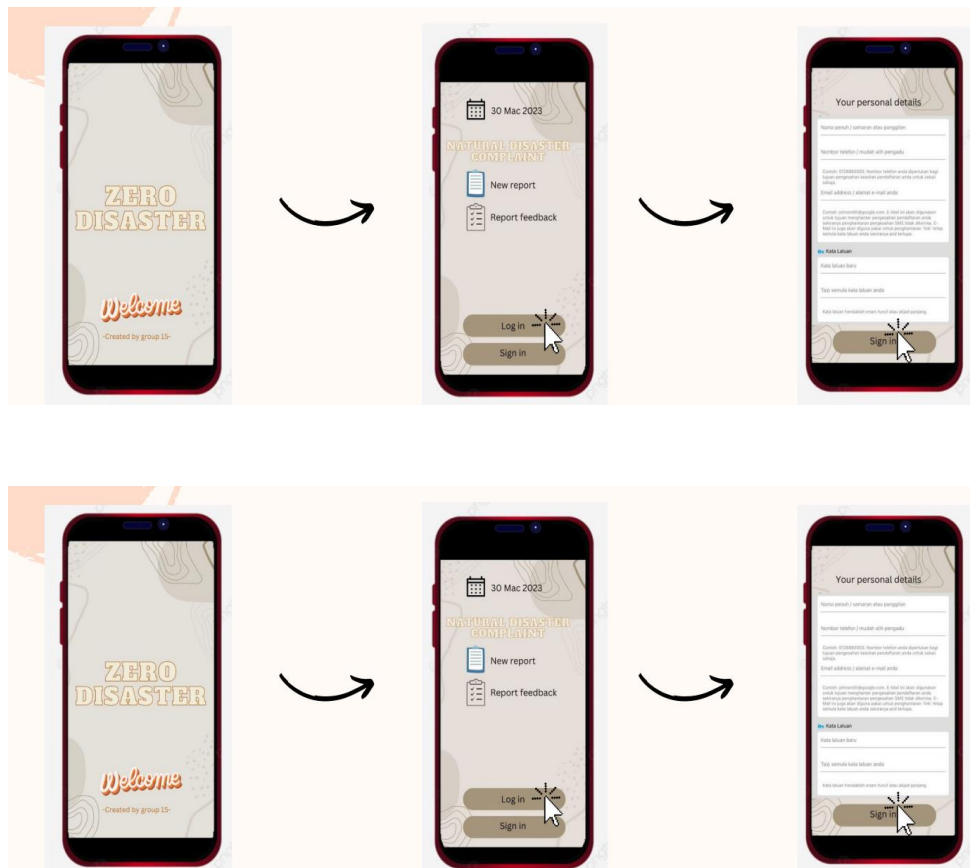


Figure 3.2: Project Design Concept Sketch

3.5 METHOD OF ANALYSIS

3.5.1 Static Code Analysis

Static code analysis is the process of inspecting the source code of your Android Studio project without running it. This analysis aids in the identification of potential issues and violations of coding standards. Lint and other static code analysis tools are included into Android Studio. Lint inspects code for common coding errors, performance concerns, and compliance with best practises. It creates reports that emphasise the detected issues and make recommendations for improvement.

3.5.2 Profiling

Profiling allows you to examine the performance of your Android app while it is running. Android Studio offers a robust profiling toolkit that allows you to track CPU use, memory allocation, network activity, and other metrics. You can uncover performance bottlenecks, memory leaks, and other issues affecting the app's responsiveness and efficiency by profiling it. The Profiler tool in Android Studio provides real-time data and visual representations to assist you in analysing and optimising the performance of your app.

3.5.3 Debugging

Debugging is an important technique for analysing and fixing problems in your Android Studio project. Android Studio's embedded debugger allows you to walk through your code, set breakpoints, inspect variables, and watch the program's execution flow. You may find and fix logical problems, unusual behaviour, and crashes by debugging your programme. Advanced debugging tools like as conditional breakpoints, watchpoints, and remote debugging are also supported by Android Studio.

3.5.4 Crash Reporting and Analytics

Integrating crash reporting and analytics tools into your Android Studio project can provide important information into the stability and usage of your app. Firebase Crashlytics and Google Analytics for Firebase provide simple connectivity with Android Studio. Crash reporting software monitors and reports crashes, providing full crash logs and stack traces. Analytics tools collect information about users, such as app usage trends, screen flow, and demographics. Crash reports and user behaviour data can assist you in identifying and prioritising issues, tracking app performance, and making data-driven enhancements.

3.5.5 Memory Analysis

Memory analysis is essential for detecting and fixing memory-related issues in your Android app. The Memory Profiler tool in Android Studio helps you to analyse memory allocation, discover memory leaks, and optimise memory utilisation. You can use the Memory Profiler to monitor your app's memory use in real time, investigate memory heap snapshots, track object allocations, and spot any memory leaks. This analysis assists you in optimising the memory utilisation of your programme, improving performance, and ensuring optimal resource management.

By utilizing these analysis methods in Android Studio, you can gain a deeper understanding of your application's code quality, performance, and user experience, allowing you to make informed decisions and optimize your app accordingly.

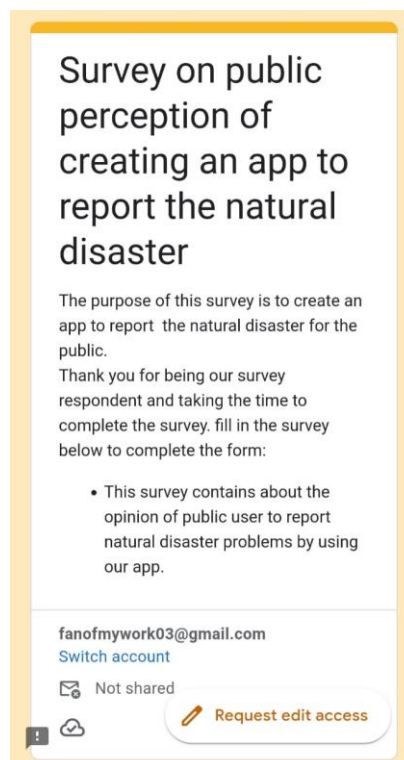
3.6 DATA ANALYSIS

The data analysis will be carried out by creating a google form with questions that related to natural disaster to collect the response from public around the specific area and to survey their opinion of creating an app to report the natural disaster.

In the process of analyzing this, the data that has been collected will be analyzed and the results that will be achieved will be displayed in the form of pie charts, bar graphs and tables.

3.6.1 Questionnaire

The first section of the questionnaire is the primary reason this project. developed the zero-disaster application.



The image shows a mobile view of a Google Form. The title is "Survey on public perception of creating an app to report the natural disaster". The text explains the purpose of the survey and thanks the respondent. A bullet point states: "This survey contains about the opinion of public user to report natural disaster problems by using our app." At the bottom, it shows the email "fanofmywork03@gmail.com", a "Switch account" link, a "Not shared" status, and a "Request edit access" button.

Figure 3.3: Apps Preface

3.6.2 Email

The second part of the Google form, the respondent needs to fill in their email.

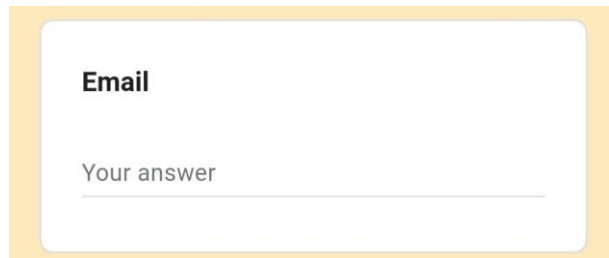
A screenshot of a Google Form section titled "Email". Below the title is a text input field with the placeholder text "Your answer". The entire section is enclosed in a light orange border.

Figure 3.4: Apps Interface

3.6.3 Opinion

The third part of the Google form is about respondents' opinion on creating an app to report the natural disaster.

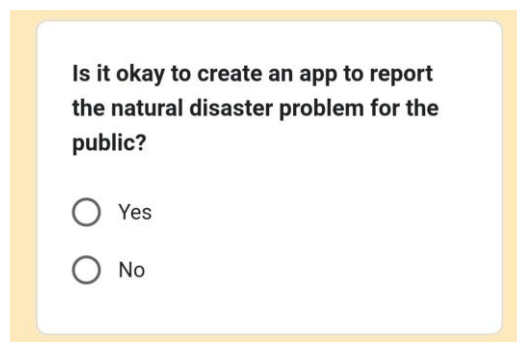
A screenshot of a Google Form section titled "Is it okay to create an app to report the natural disaster problem for the public?". Below the question are two radio button options: "Yes" and "No". The entire section is enclosed in a light orange border.

Figure 3.5: Respondent Opinion

3.6.4 Suggestion

The final section of the Google form asks for respondents' suggestion. It will reveal how many people are aware of the zero-disaster application. The project respondent's opinion is also extremely significant since this project may develop the project to become better from there.

3.6.5 Questionnaire

Some of the questions that has been asked in the Google form are:

- i. Is it okay to create an app to report the natural disaster problem for the public?
- ii. By using this app do you think we can reduce natural disaster problems?
- iii. How likely would you be to use this app during a natural disaster?
- iv. How frequently would you want to receive updates from the app during a natural disaster?

3.7 CONCLUSION

In conclusion, developing an app to report natural disasters for the public is a crucial step towards improving disaster preparedness and response. Such an app provides a convenient and accessible platform for individuals to report and share real-time information about natural disasters, empowering both citizens and authorities to take appropriate actions swiftly. By leveraging the capabilities of modern technology, this app can enhance the overall efficiency and effectiveness of disaster management efforts. From enabling users to submit incident reports and share multimedia content to providing vital information on safety measures and emergency services, the app acts as a valuable tool for promoting public awareness and resilience. Ultimately, the development and implementation of an app for reporting natural disasters serve to strengthen community engagement, foster collaboration, and save lives in the face of such calamities.

CHAPTER 4

RESULT ANALYSIS

4.1 INTRODUCTION

At the end of the project, this Flood Alert Application (ZD) will report natural disasters around Kinta and warn the user app where the disaster happens. As a result of this project can decide whether to use other roads or use flooded roads because some car models can pass a certain water level. The target of the project is to minimize the number of victims in the case of stranded cars due to road closures due to flooding.

In this chapter, the results of the project that has been carried out have been explained. To find the project shown according to the following objectives.

At the first objective, this project is prepared to design an app to report natural disasters for the public. Using android studio. in the production of this design, in the production of this design, this project has created an app to report natural disasters. So, this project has achieved our first objective which is to design an app to report natural disasters.

The second objective is to enhance the app with additional features for user-friendly navigation. This includes the ability to save a history report, providing progress updates on reported natural disasters overtaken by stakeholders. The app also facilitates the sharing of nature reports among users. Furthermore, it allows the administration to input natural disaster news specific to the Kinta district. Lastly, it features an emergency SOS call number for situations being trapped in a flood or earthquake on the road.

And the final objective is to test the effectiveness of the app in terms of feedback from users. application that This project has created. So, this project has given some students and the community around Kinta a chance to try our app. This project has prepared a questionnaire about our application and listened to their opinions about it.

Lastly, to know the expected results, a Question-and-Answer section is carried out by creating a Google form, which includes a short clip of video showing the how to use app. Moreover, this project also provides blank space for user satisfaction and improvements that can be made to our application.

4.2 TO DESIGN AN APP TO REPORT THE NATURAL DISASTERS FOR THE PUBLIC

4.2.1: Design Process

The design process is the first step to create this application. Figure below show the design process for these applications.



Figure 4.1: Design Process

4.2.2: Coding For Main Page

```
1 <?PHP
2 session_start();
3
4 include("database.php");
5 if( !verifyuser($con) )
6 {
7     header( "Location: index_app.php" );
8     return false;
9 }
10 <?PHP
11
12 $SQL_view = " SELECT * FROM 'user' WHERE 'username' = '". $_SESSION["username"] ."'";
13 $result = mysqli_query($con, $SQL_view);
14 $data = mysqli_fetch_array($result);
15 $name = $data["name"];
16 <?PHP
17
18 <?php
19     include 'click_to_call.php';
20 >?php
21 <!DOCTYPE html>
22 <html>
23 <title>Zero Disaster</title>
24 <meta charset="UTF-8">
25 <meta name="viewport" content="width=device-width, initial-scale=1">
26 <link rel="stylesheet" href="w3.css">
27 <link rel="stylesheet" href="https://fonts.googleapis.com/css?family=Poppins">
28 <link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/5.15.4/css/all.min.css" integrity="sha512-1ycn61caQ040/K...">
29 <style>
30 a:link {
31     text-decoration: none;
32 }
33
34 body,h1,h2,h3,h4,h5,h6 {font-family: "Poppins", sans-serif}
35
36
37 body, html {
38     height: 100%;
39     line-height: 1.3;
40 }
```

Figure 4.2: Coding For Main Page

```

41 }
42
43
44 /* Full height image header */
45 .bgimg-1 {
46     background-position: top;
47     background-size: cover;
48     min-height: 100%;
49     background-image: url(images/banner.jpg);
50     background-color: rgba(255, 255, 255, 0.6);
51     background-blend-mode: overlay;
52 }
53
54 .w3-bar .w3-button {
55     padding: 16px;
56 }
57
58 input.cpwd {
59     -webkit-text-security: circle;
60     /* circle , square , disk */
61 }
62
63
64 </style>
65
66 <body class="bgimg-1">
67
68 <div class="" >
69
70 <div class="w3-padding-16"></div>
71
72
73 <div class="w3-content w3-container w3-center" style="max-width:400px">
74     <a href="index_app.php"></a>
75 </div>
76
77 <div class="w3-padding"></div>
78
79 <div class="w3-container" id="contact">

```

Figure 4.3: Code For Register Design

```

64 }
65
66 /* Full height image header */
67 .bgimg-1 {
68     background-position: top;
69     background-size: cover;
70     min-height: 100%;
71     background-image: url(images/banner.jpg);
72     background-color: rgba(255, 255, 255, 0.8);
73     background-blend-mode: overlay;
74 }
75
76 .w3-bar .w3-button {
77     padding: 16px;
78 }
79
80 input.cpwd {
81     -webkit-text-security: circle;
82     /* circle , square , disk */
83 }
84
85
86 </style>
87
88 <body class="bgimg-1">
89
90 <div class="" >
91
92
93 <div class="w3-padding-large w3-red ">
94     <div class="w3-row">
95         <div class="w3-col s1">
96             <a href="main.php" class="w3-padding"><i class="fa fa-chevron-circle-left fa-lg"></i></a>
97         </div>
98         <div class="w3-col s10 w3-xlarge w3-center">Profile</div>
99     </div>
100 </div>
101
102 <div class="w3-padding-16"></div>

```

Figure 4.4: Coding For Profile Design

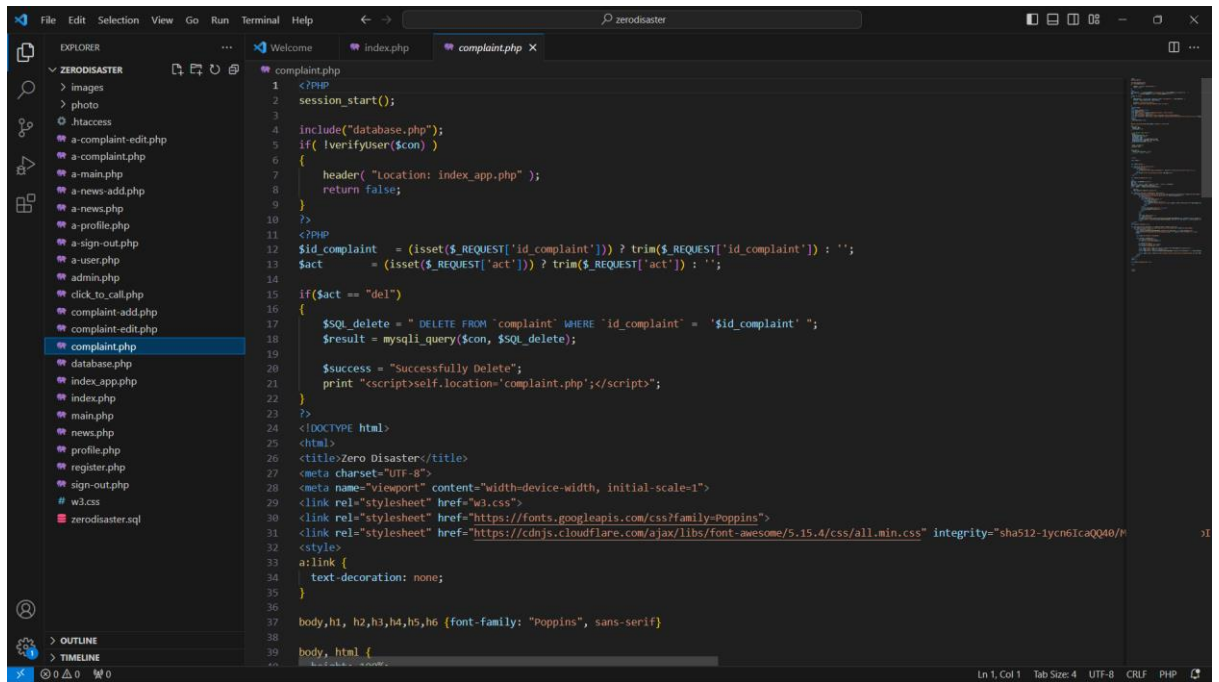


Figure 4.5: Coding For Complaining Design

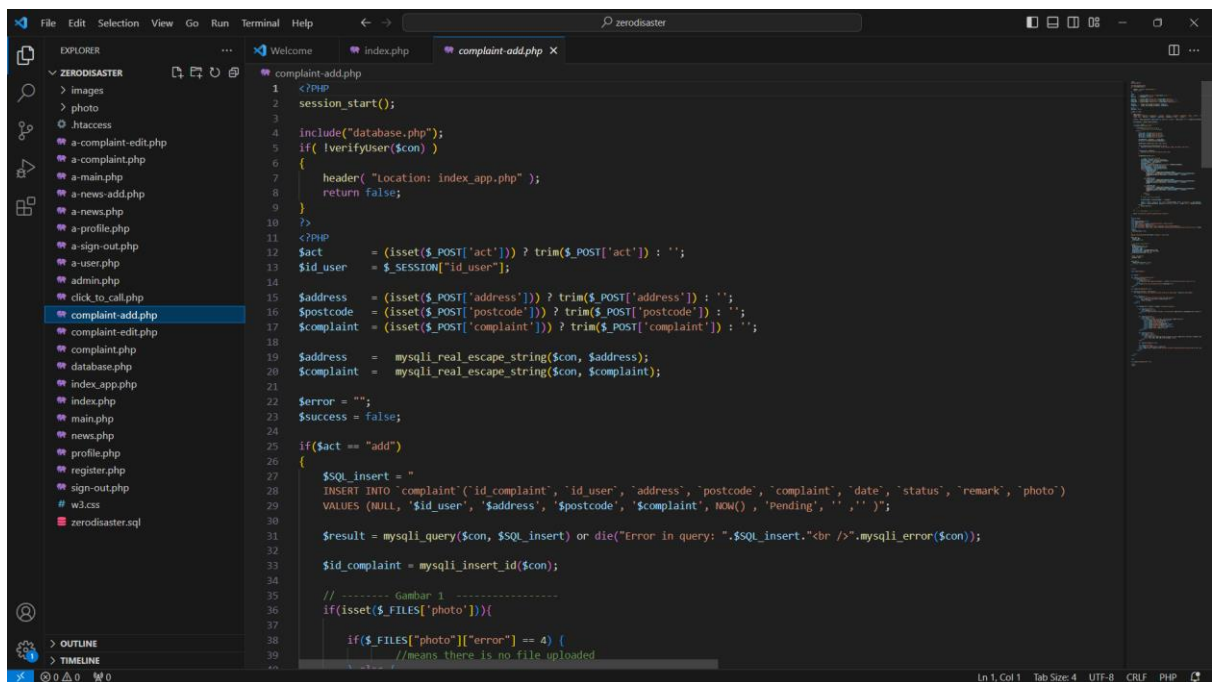


Figure 4.6: Code For Complaint Add Design

```

1  <?PHP
2
3  /*
4   Developed by : BelajarPHP.com
5   Date : 14 July 2023
6   */
7  //zerodisaster.u-ji.com
8  //https://zerodisaster.000webhostapp.com/
9
10 date_default_timezone_set('Asia/Kuala_Lumpur');
11
12 if($_SERVER['HTTP_HOST']=="localhost" or $_SERVER['HTTP_HOST']=="192.168.0.171")
13 {
14     //localhost
15     $dbHost = "localhost"; // Database host
16     $dbName = "zerodisaster"; // Database name
17     $dbUser = "root"; // Database user
18     $dbPass = ""; // Database password
19 }
20 else
21 {
22     //local live @ hosting
23     $dbHost = "localhost"; // Database host
24     $dbName = "id21370153_zerodisaster"; // Database name
25     $dbUser = "id21370153_root"; // Database staff
26     $dbPass = "0i[8tZ]rL~l1"; // Database password
27 }
28 //local live @ hosting
29 // $dbHost = "localhost"; // Database host
30 // $dbName = "jseacom_zerodisaster"; // Database name
31 // $dbUser = "jseacom_root"; // Database staff
32 // $dbPass = "0i[8tZ]rL~l1"; // Database password
33
34 $con = mysqli_connect($dbHost,$dbUser,$dbPass,$dbName);
35
36
37 function verifyAdmin($con)
38 {
39     if ($_SESSION['username'] && $_SESSION['password'])
40     {

```

Figure 4.7: Coding For Database

4.2.3 Zero Disaster Application

After design and coding process this Zero Disaster App is ready to be used. Figure below shows the interface of the apps

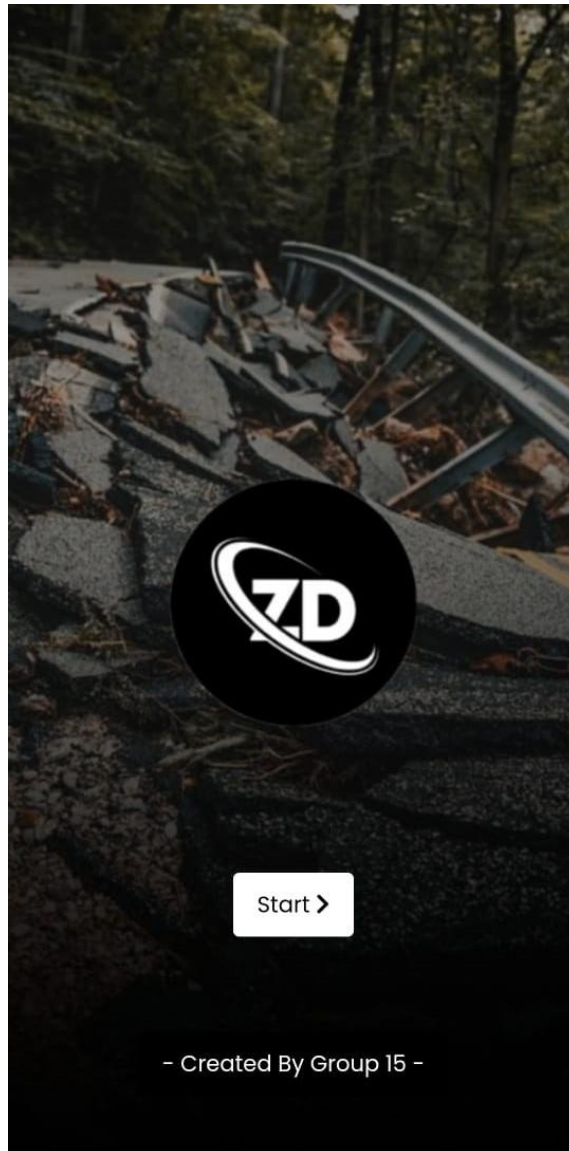


Figure 4.8: Zero Disaster App Interface

4.3 TO DEVELOP THE APP WITH MORE FEATURES FOR EASY USE FOR THE USERS

This project takes a consideration of various aspects of application, including designing a logo, creating an authority, outlining the available functions, and conducting a comparative analysis with other applications such as My Jalan and JKR. In addition, this project proactively created an interface for our app. Key considerations for our app include ensuring more accurate location, fostering collaboration with relevant entities such as MBI for promotional activities and prioritizing user-friendly features, including easy downloads, this project also put up a display for a photo shoot for evidence of natural disasters so that don't get fake reports and offline mode. Mainly, this project implements emergency features; when users press the sauce display, the font and emergency number +999 are automatically displayed. Furthermore, our goal is to provide the latest news about natural disasters in Ipoh for application users us, although not all planned aspects were successfully implemented.

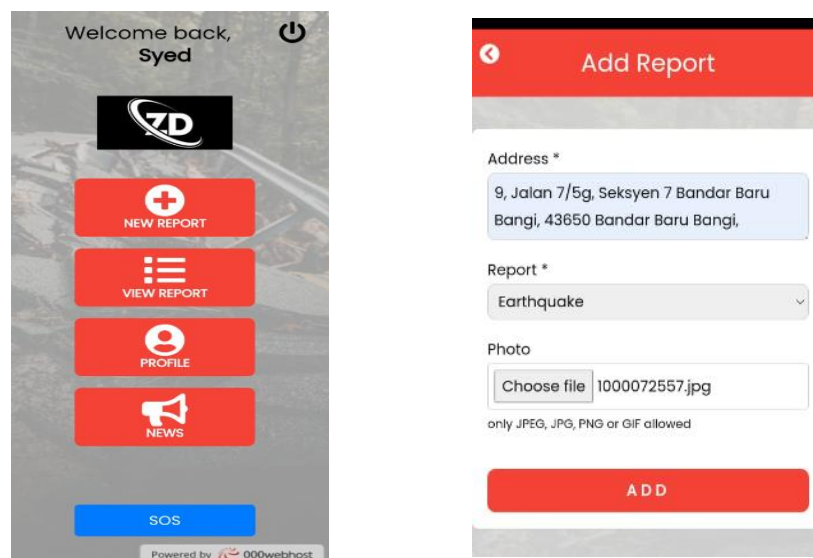


Figure 4.9: ZD Screen Display

- Figure 4.9 shows the screen display for the zero-disaster application to achieve the objective for this project.

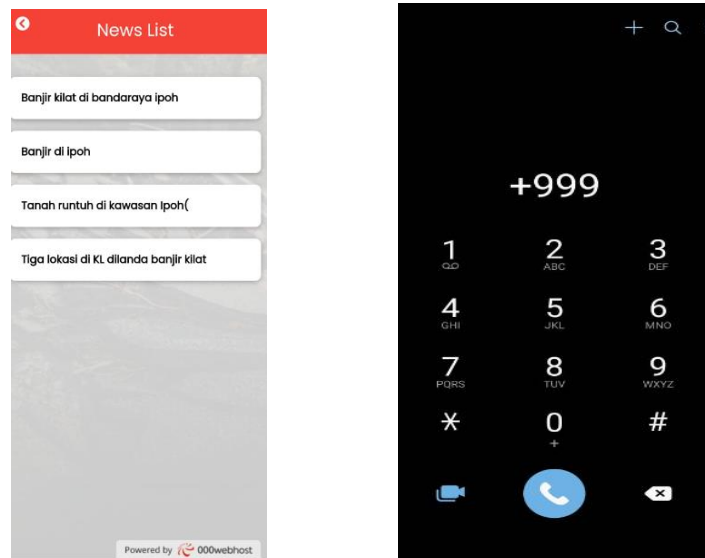


Figure 4.10: News Feature in The App

- Figure above shows the new feature that has been added to this app which is it can show the latest news in daily news in online news, and it's also contained the SOS button.

In conclusion, this app is ready used and easy to use and contains many features that can help user to report the disaster in easy and faster way.

4.4 TO TEST EFFECTIVENESS OF APP IN TERM OF FEEDBACK FROM USER.

To assess the efficiency of the application and gather valuable user feedback, this project has devised a comprehensive testing approach. This project has created a Google Form for our dedicated application testers to complete post-trial. This form allows them to share their insights on the application's performance, provide feedback on its features, and make comparisons with other existing applications. This systematic feedback mechanism serves as a crucial component in evaluating and refining the overall effectiveness of our application.

4.4.1 Zero Disaster App Flow Chart

- i. How To Use This App

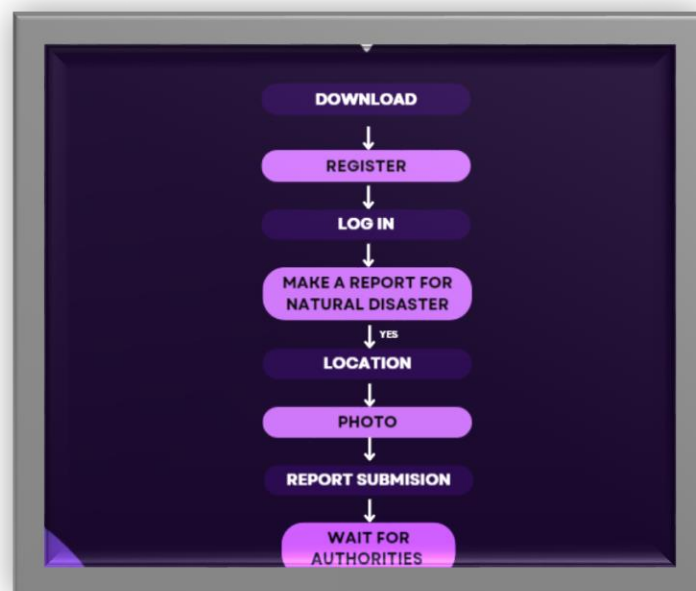


Figure 4.11: ZD App Flow Chart

ii. How To Report

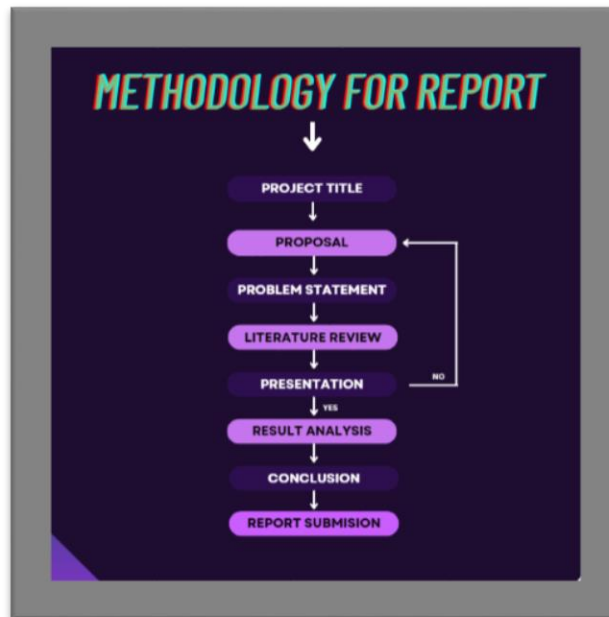


Figure 4.12: Flow Chart for Reporting

iii. How To Create App

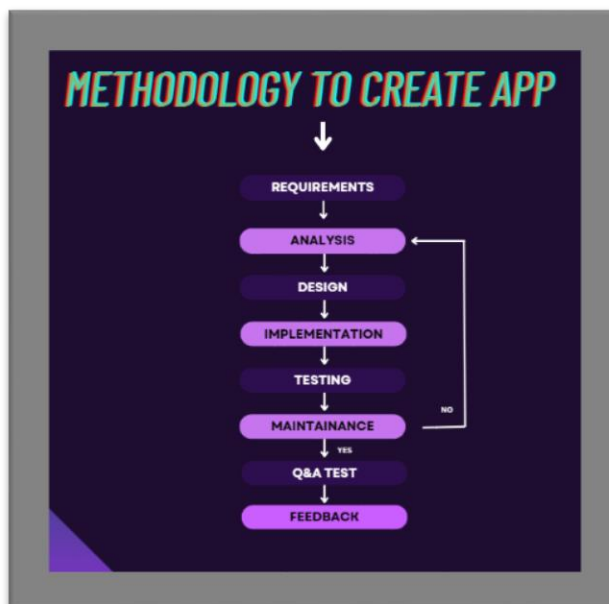


Figure 4.13: For creating an application.

4.4.2 HOW TO USE THIS ZERO DISASTER APPLICATION

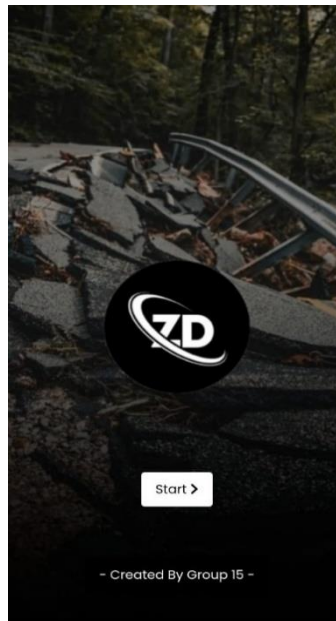


Figure 4.14: Main Pages of App

- i. First press start button and wait to log in to the app as shown at figure 4.14.

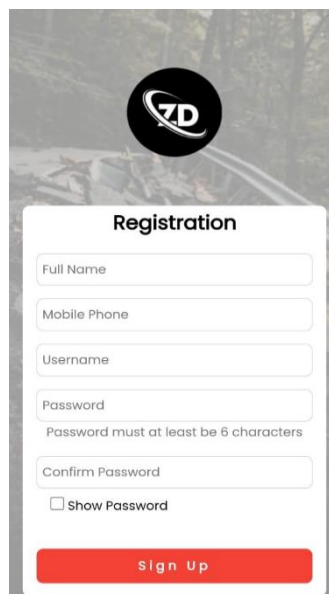


Figure 4.15: Registration Pages

- ii. If you don't have any account, you need to sign in first. You need to put the information at figure 4.15 shown above.

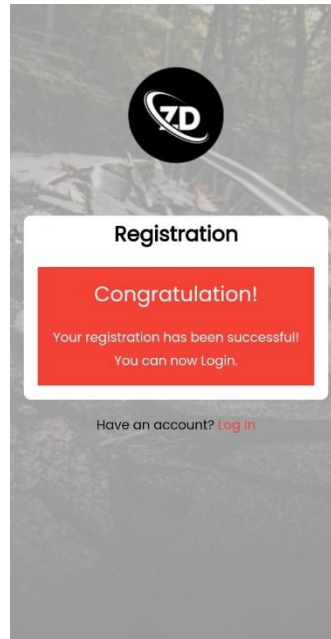


Figure 4.16: Page after registration

- iv. After that, go to main page and log in again as shown at figure 4.16.

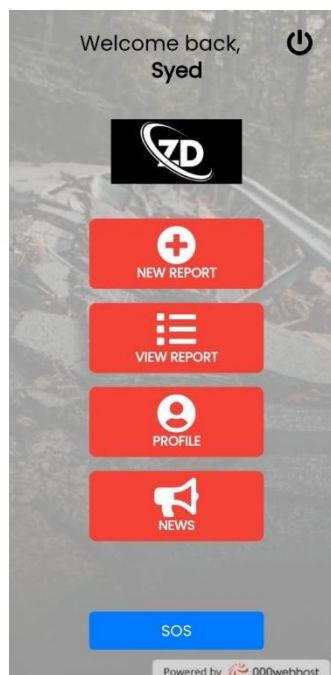


Figure 4.17: Main Page of Reporting

- v. Next, if you want to make a report press the report button as shown at figure 4.17.

Figure 4.18: Reporting Page

- vi. Now you can make a report by put an address and select a disaster that happen. You can also put a photo of the disaster as shown at figure 4.18.

Figure 4.19: List Of History Report Page

- vii. You can see your history of report at view report button as shown at Figure 4.19.

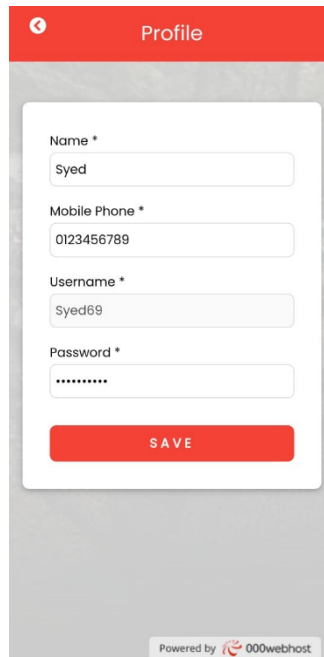


Figure 4.20: Profile page

- viii. Furthermore, you also can change your password or your username at profile page by clicking profile button as shown at figure 4.20.

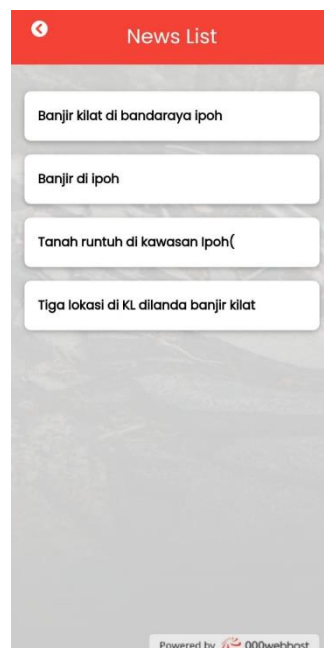


Figure 4.21: List of news page

- ix. Lastly, this app has a feature such as List of news of disaster that happen in Kinta. By clicking news button, you can see the latest news of disaster that happened as shown at figure 8.

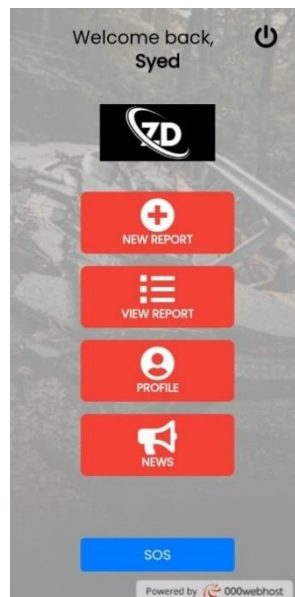


Figure 4.22: SOS Button Function

- x. Other than that, this app has a SOS button for emergency cases. For example, if you click the SOS button the app will take you to contact emergency line.



Figure 4.23: More information and tutorial of app

4.4.3 THE ZERO DISASTER APP QUESTIONNAIRE

Do you think this application will save the time of public user to report natural disasters easily instead of reporting in a phone call or direct meeting to Majlis Bandaraya?

1 2 3 4 5

Strongly Disagree ☐ ☐ ☐ ☐ ☐ Strongly Agree

Is there any bug in this application that can cause your report to be delay?

☐ Yes

☐ No

☐ Maybe

Do you think this application can reduce natural disaster aftermath problems?

1 2 3 4 5

Strongly Disagree ☐ ☐ ☐ ☐ ☐ Strongly Agree

Figure 4.24: Question 1-3

Does this application is a user friendly?

1 2 3 4 5

Strongly Disagree ☐ ☐ ☐ ☐ ☐ Strongly Agree

Do you think the concept of reporting app is important to report the natural disaster?

☐ Yes

☐ No

☐ Maybe

Figure 4.25 Question 4- 5

Do you think this reporting app will improve response time of emergency service?

☐ Yes

☐ No

☐ Maybe

The implementation of Zero Disaster Application can contribute to reducing life risk of public?

☐ Yes

☐ No

☐ Maybe

How likely will you consider using Zero Disaster Application to report natural disaster if happens?

1 2 3 4 5

Strongly Disagree ☐ ☐ ☐ ☐ ☐ Strongly Agree

Figure 4.26: question 6 – 8

How satisfied are you with the perceived features of Zero Disaster Application based on the provided information?

☐ Very satisfied

☐ Satisfied

☐ Neutral

☐ Dissatisfied

☐ Very dissatisfied

Do you think this application is useful for the public?

☐ Yes

☐ No

☐ Maybe

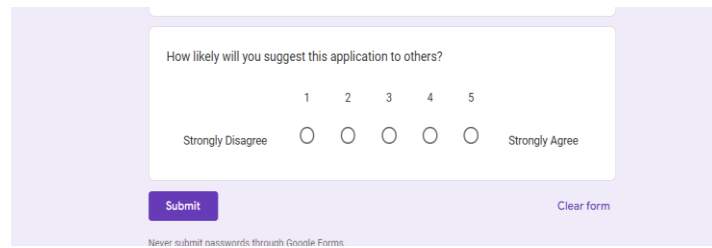
Have you ever used any other application to report the natural disaster?

☐ Yes

☐ No

☐ Maybe

Figure 4.27: question 9- 11



How likely will you suggest this application to others?

1 2 3 4 5

Strongly Disagree ☐ ☐ ☐ ☐ ☐ Strongly Agree

[Submit](#) [Clear form](#)

Never submit passwords through Google Forms.

Figure 4.28 question 12

4.5 RESEARCH QUESTIONS

In order to facilitate this research, the questionnaire was conducted involving public and user of the app from Kinta District. The data obtained will be made into pie charts and bar charts for easier information to be reviewed and analysed. The following is information related to the survey conducted.

Table 4.1: Age Group

Age	Respondent	Percentage
10-20	14	29.2
20-30	28	58.3
30-40	3	6.3
40-50	3	6.3

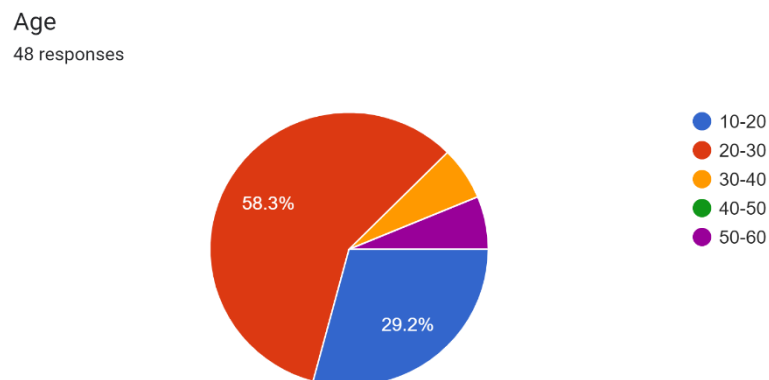


Figure 4.29: Response for question 1

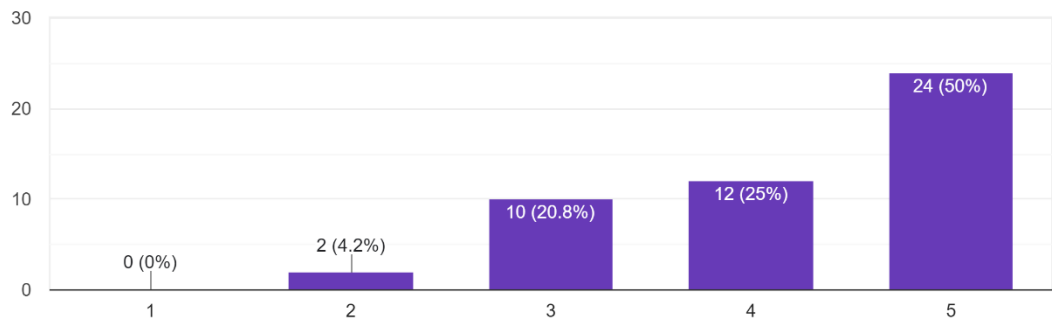
The figure 4.4.1 shows the age of the respondents. From the analysis 58.3% are 20 to 30 years old, 29.2 % are 10 to 20 years old. Meanwhile 6.3% are 50 to 60 years old and finally the lowest majority of respondents are 30 to 40 years old.

Table 4.2: Question 2

Question 2	Respondent	Percentage
Strongly disagree	0	0
Disagree	2	4.2
Neutral	10	20.8
Agree	12	25
Strongly agree	24	50

Do you think this application will save the time of public user to report natural disasters easily instead of reporting in a phone call or direct meeting to Majlis Bandaraya?

48 responses

**Figure 4.30: Response for Question 2**

The figure 4.4.2 showing the responds about our application will save the time of user to report or no. 50% of user choose strongly agree that this app will save the time to report natural disaster.

Table 4.3: Question 3

Question 3	Respondent	Percentage
Strongly disagree	1	2.1
Disagree	2	4.2
Neutral	15	31.3
Agree	20	41.7
Strongly agree	10	20.8

Do you think this application can reduce natural disaster aftermath problems?
48 responses

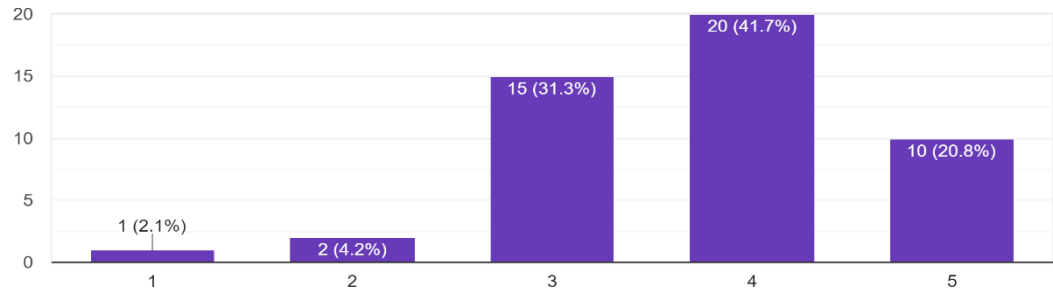


Figure 4.31: Response For Question 3

From the survey this project conducted, 20.8% choose strongly to agree that this app can reduce natural disaster aftermath problems. 41.7% choose agree and 31.3% choose neutral about it.

Table 4.4: Question 4

Question 4	Respondent	Percentage
Yes	12.8	6
No	42.6	20
Maybe	44.7	21

Is there any bug in this application that can cause your report to be delay?
47 responses

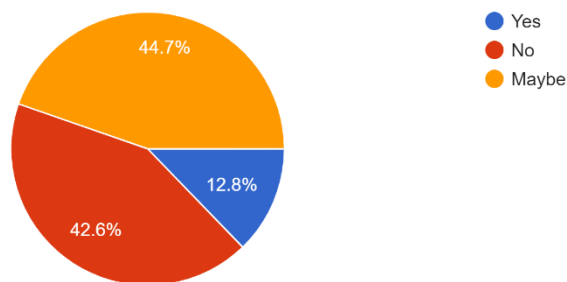


Figure 4.32: Response For Question 4

The result of the analysis on the fact whether the application has any bug or no that causes the report to be delay. 42.6% users choose that there is no bug while

another 44.7% was not sure and 12.8%- said yes. This will help us to improve the app by removing bug to make the app smooth.

Table 4.5: Question 5

Question 5	Respondent	Percentage
Strongly disagree	1	2.1
Disagree	1	2.1
Neutral	9	19.1
Agree	12	25.5
Strongly agree	24	51.1

Does this application is a user friendly?

47 responses

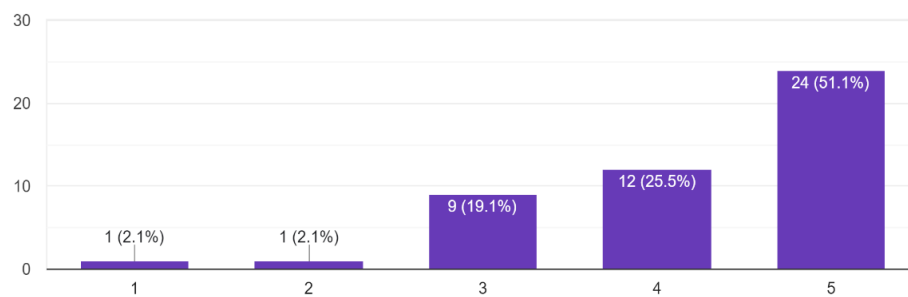


Figure 4.33: Response For Question 5

The result from the analysis shows that 51.1% of respondents strongly agree that this app is a user friendly while 25.5% agree for it and 19.1% voted for neutral. While the only 2 people responded that this app is not user friendly which means majority people agree that our app is user friendly.

Table 4.6: Question 6

Question 6	Respondent	Percentage
Strongly disagree	0	0
Disagree	1	2.1
Neutral	13	27.7
Agree	15	31.9
Strongly agree	18	38.3

How likely will you consider using Zero Disaster Application to report natural disaster if happens?
47 responses

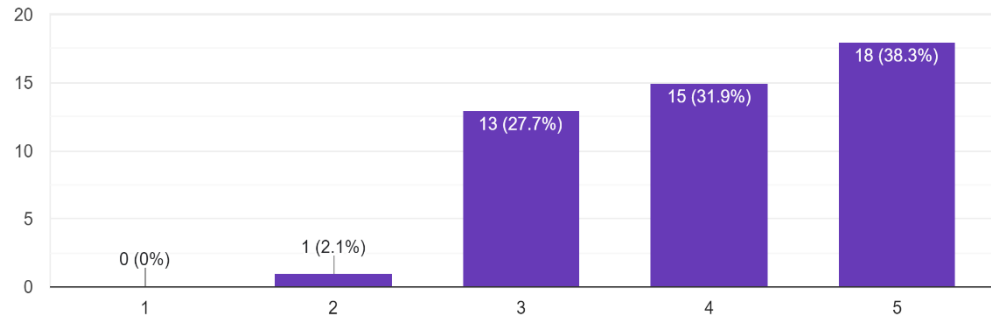


Figure 4.34: Response For Question 6

In the figure 4.4.6 many respondents strongly agree to consider this app to report if natural disaster occur while 31.9% respondents agree for this and 27.7% respondents voted neutral.

Table 4.7: Question 7

Question 7	Respondent	Percentage
Yes	42	89.4
No	0	0
Maybe	5	10.6

Do you think the concept of reporting app is important to report the natural disaster?
47 responses

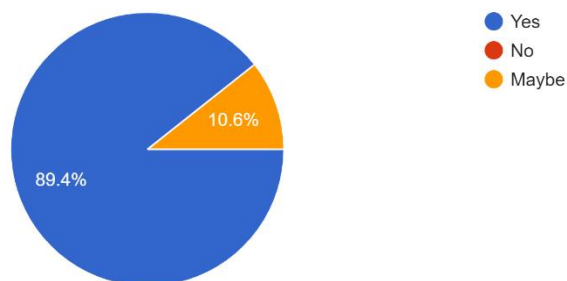


Figure 4.35: Response For Question 7

From the survey this project conducted majority of the respondents agree that the concept of reporting app is an important tool if natural disaster happens which is 89.4% of respondents.

Table 4.8: Question 8

Question 8	Respondent	Percentage
Yes	36	76.6
No	0	0
Maybe	11	23.4

Do you think this reporting app will improve response time of emergency service?
47 responses

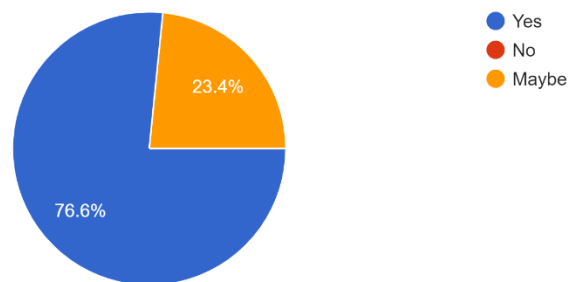


Figure 4.36: Response For Question 8

The result of the analysis shows whether this app will improve response time of emergency service or no and 76.6% voted for yes and 23.4% voted for maybe and no response for no which means majority agree that our app will improve the response time of emergency service.

Table 4.9: Question 9

Question 9	Respondent	Percentage
Yes	30	65.2
No	1	2.2
Maybe	15	32.6

The implementation of Zero Disaster Application can contribute to reducing life risk of public?
46 responses

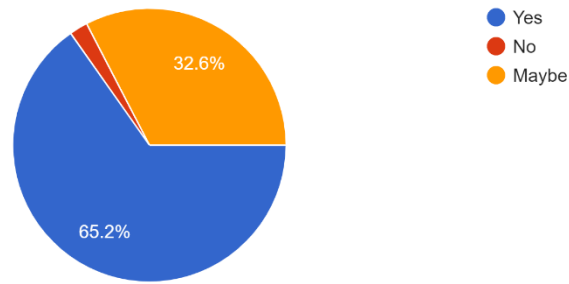


Figure 4.37: Response For Question 9

In Figure 4.4.9, 65.2% of respondents agree that this app is a part of reducing life risk of public and 32.6% was not sure about it.

Table 4.10: Question 10

Question 10	Respondent	Percentage
Very satisfied	14	29.8
Satisfied	15	31.9
Neutral	14	29.8
Dissatisfied	3	2.1
Very dissatisfied	1	6.4

How satisfied are you with the perceived features of Zero Disaster Application based on the provided information?
47 responses

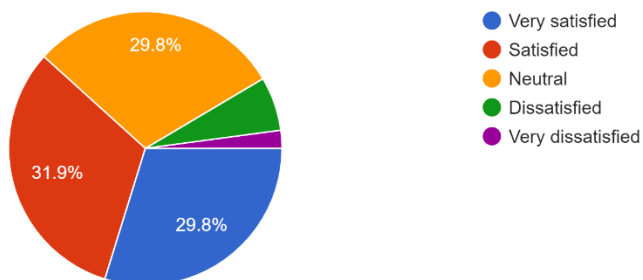


Figure 4.38: Response For Question 10

Figure 4.5.1 shows that 29.8% of respondents very satisfied about the perceived features of our app while 31.9% voted satisfied and 29.8% voted for neutral. Meanwhile 2.1% of respondents dissatisfied about our perceived features. This shows that our team should improve the app's features based on peoples need.

Table 4.11: Question 11

Question 11	Respondent	Percentage
Yes	40	87
No	0	0
Maybe	6	13

Do you think this application is useful for the public?
46 responses

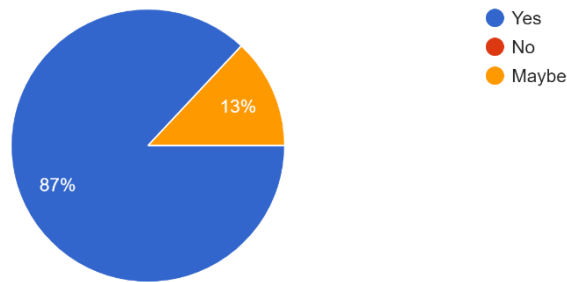


Figure 4.39: Response For Question 12

From the analysis this project got to know that the majority users and respondents feel that this app is useful for the public which is 87% of respondents while 13% voted for neutral and surprising nobody voted for no. This make our team feel like our project will be successful.

Table 4.12: Question 12

Question 12	Respondent	Percentage
Yes	11	23.4
No	8	59.6
Maybe	28	17

Have you ever used any other application to report the natural disaster?

47 responses

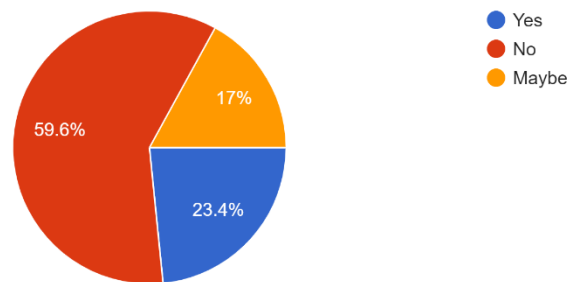


Figure 4.40: Response for question 12

Figure 4.5.3 is about whether people have used any other platform to report the natural disaster or no. this project got to know that 59.6% voted for no, 17% of respondents was not sure and the rest 23.4% voted yes. From this survey this project got to know that majority public haven't used any other app to report natural disaster before.

4.6 DISCUSSION

In this project discussion, achieving the three main goals highlights the importance of focusing on users when developing the natural disaster reporting app for Kinta District. This project actively gathered and used feedback during testing, refining the app based on user input. This ongoing process has made the app more adaptable and better suited to the community's practical needs.

This project doesn't end with reaching our initial goals; it signifies a commitment to keep improving. Recognizing that technology and community needs change, this project plan to continuously update and enhance the app to stay relevant and effective.

Successfully meeting this project's objectives makes the app a valuable tool for community resilience. Beyond just reporting disasters, it acts as a platform for sharing important information, encouraging preparedness, and ensuring a quick response to potential threats.

Looking ahead, this project considers expanding the app's features, collaborating with authorities in Kinta District. This discussion section captures the key outcomes, impacts, and future possibilities of our project's success.

4.7 CONCLUSION

In successfully achieving all three project objectives, this project takes pride in the creation and development of an effective application designed for reporting natural disasters in Kinta District. The invaluable input received from user feedback during testing has played a pivotal role in refining the application, rendering it not only user-friendly but also highly responsive to the dynamic needs of the community.

As this project commemorates the realization of our initial goals, this project recognizes that this achievement marks not the conclusion but rather the commencement of a continuous journey. The commitment to ongoing refinement underscores the dedication to ensuring that the application remains a practical and effective tool for fostering community resilience in the face of natural disasters.

In this spirit, this project envisions the app evolving into a cornerstone of public safety within Kinta District. Beyond its initial purpose, this project anticipates its role expanding to become a comprehensive resource, offering real-time information, educational content, and fostering a sense of community preparedness. This transformative journey signifies not only the conclusion of the project but the initiation of a lasting and impactful resource that contributes to the well-being and safety of the community. As this project reflect on this accomplishment, this project looks forward to the enduring positive impact our application will have on the community and its continued growth as a vital asset for public safety in Kinta District.

CHAPTER 5

RECOMMENDATION AND CONCLUSION

5.1 INTRODUCTION

As this project conclude this final chapter, which encapsulates a transformative journey spanning two semesters, it is imperative to reflect on the depth of research and innovation invested in understanding and addressing the impact of natural disasters on our daily lives. Our exploration has delved into the intricate dynamics of various calamities – from the unpredictable force of earthquakes to the relentless power of floods and the destructive potential of landslides and storms. Recognizing that the fallout from these events extends beyond immediate physical damage, such as the disruption of road networks or, in more severe instances, the crippling of electrical infrastructure leading to city-wide blackouts, our focus has been on crafting a solution that transcends traditional disaster management approaches.

The core philosophy driving this final year project emanates from the belief that while the occurrence of natural disasters cannot be avoided, the resultant damages can be mitigated through proactive and collaborative efforts. This project ambition is not merely to acknowledge the inevitability of these events but to create a dynamic system that reduces the potential for accidents arising from the aftermath of these disasters.

Enter the app this project has meticulously developed – a technological bastion poised at the intersection of community engagement and disaster response. This application does not merely serve as a conduit for reporting incidents; it stands as a testament to our collective commitment to community welfare and safety. By creating a direct channel for users to promptly report natural disasters to the relevant authorities, this project envisions a landscape where information flows seamlessly, enabling authorities to respond swiftly and effectively.

This final chapter encapsulates the essence of our efforts, symbolizing a culmination of research, design, development, and a profound commitment to creating a tangible impact on the safety and resilience of the community in the face of natural disasters. As This project navigate the concluding pages of this project, our gaze is not just fixed on the journey covered but on the path that lies ahead – a path paved with the promise of improved disaster preparedness, community empowerment, and a safer, more resilient future for the inhabitants of the Kinta District.

5.2 RECOMMENDATION

To refine and optimize our project, some key recommendations have emerged from a comprehensive evaluation of our app, from google form feedback and replies from app testers. First, this project recommends investing in improving the user interface by including additional features and visual improvements. This move aims to improve the overall user experience, making navigation more intuitive and engaging.

Another critical recommendation involves strengthening cooperation with relevant authorities. Exploring the possibility to integrate administrative functions into the application can foster a smoother interaction between the user and the platform, increasing its utility and effectiveness.

Given the importance of accessibility, this project recommends that you prioritize the development of offline mode features. This addition ensures that users can access critical information even in areas with limited or no connectivity, meeting a wider range of scenarios.

Furthermore, there is a need to explore options for integrating more accurate location services. This step is important in providing users with a more accurate and localized experience, especially in emergency situations where detailed location information is paramount.

To expand the reach of the application, it is advisable to extend its availability to various platforms beyond Android. This will increase accessibility and usability among a diverse user base, contributing to the overall success of the application.

Finally, this project emphasizes the establishment of a systematic approach to continuous user feedback. This will allow us to consistently collect insights, identify areas for improvement and adapt the application to evolving user needs. By implementing these recommendations, this project aims] to guide the next phase of the project, foster continuous improvement, and ensure the effectiveness and relevance of the application in an ever-evolving technology landscape.

5.3 CONCLUSION

In summary, this project successfully achieved its three primary objectives, addressing the identified problem and emphasizing the significance of community safety and preparedness in the face of natural disasters. The motivation for our project stems from the critical importance of mitigating the severe consequences of such disasters, underscoring our commitment to providing a solution that enables swift and accurate reporting, thereby enhancing the efficiency of authorities' responses.

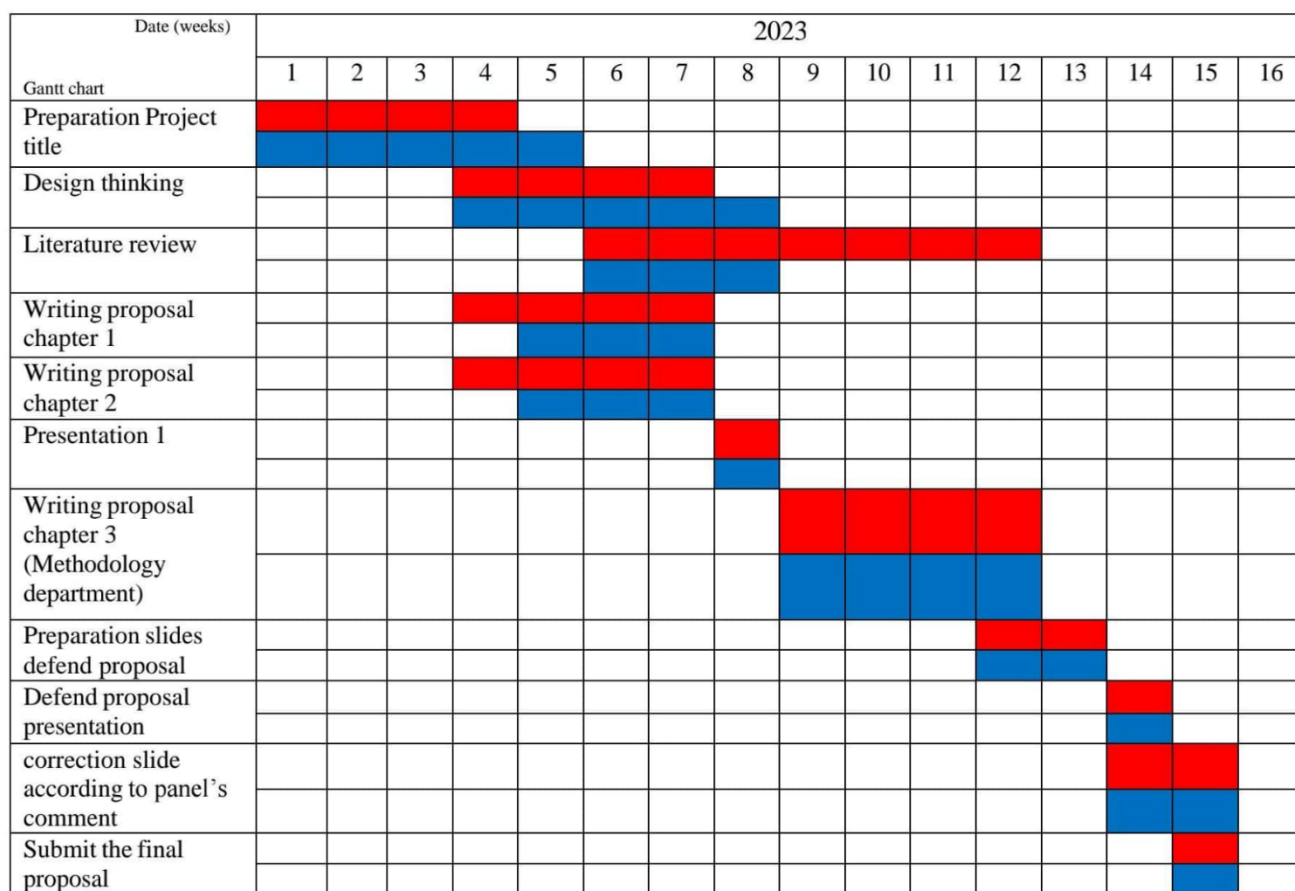
However, this journey encountered challenges, notably the complexity of coding within the framework of the Fourth Industrial Revolution (IR 4.0) for our mobile application. Despite these hurdles, this project navigated through and accomplished our goals.

One noteworthy issue this project faced was the oversight of not engaging with key stakeholders in Kinta District. This omission became apparent during the final presentation with industry panelists, including representatives from JKR Ipoh. Their disappointment highlighted the missed opportunity to collaborate with other relevant authorities such as JKR MBI, firefighters, and NGOs, revealing an area for improvement in our project implementation.

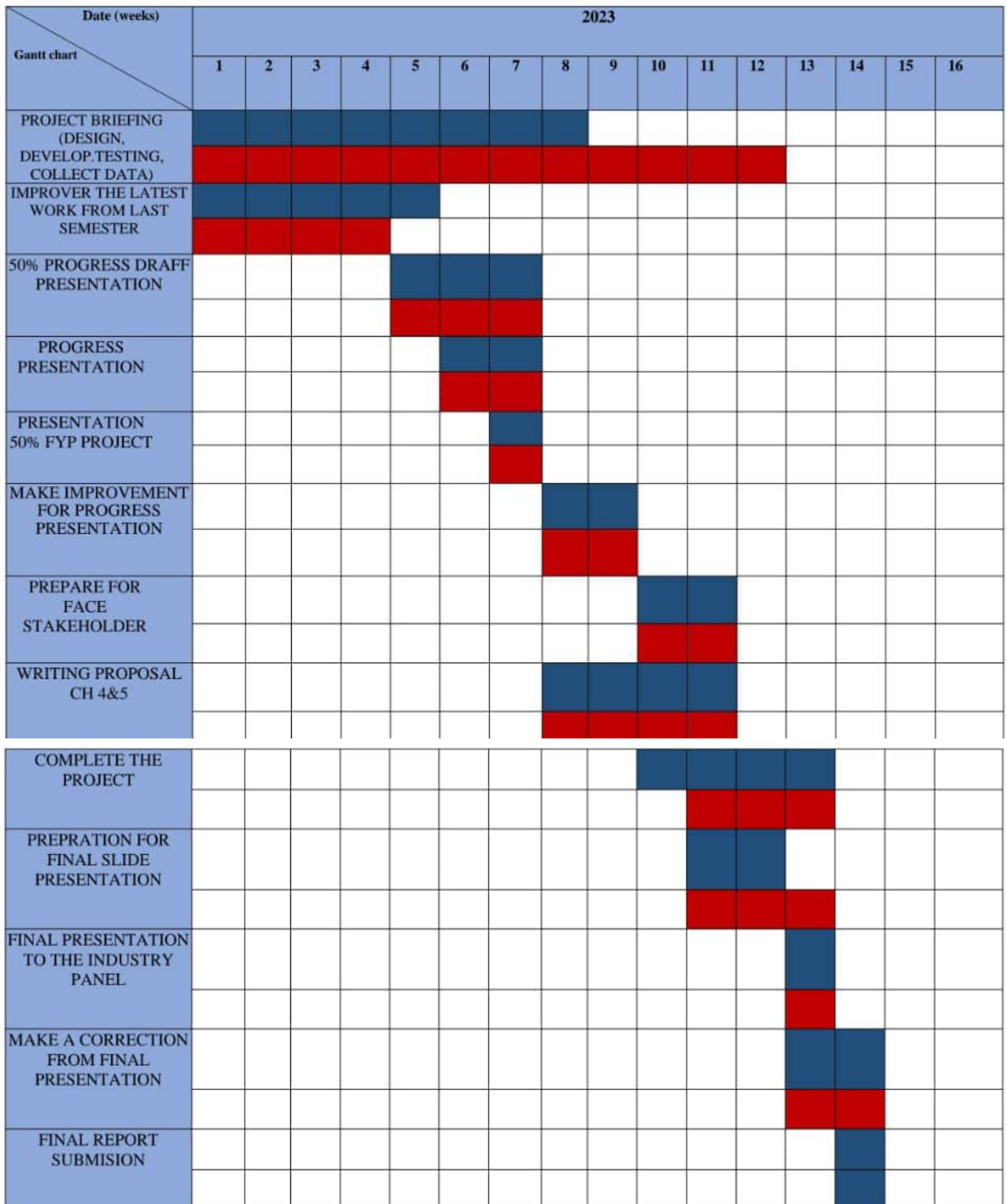
In conclusion, while this project celebrates the achievements of our project, this project acknowledges the lessons learned from the challenges faced. Moving forward, this project recognize the need for enhanced collaboration with stakeholders and a continued commitment to addressing technological complexities. The enduring motivation to contribute to community safety remains the driving force behind our project, propelling it beyond the current success toward further refinement and meaningful impact.

5.4 GANTT CHART FYP 1 & 2

5.4.2 Gantt chart FYP 1



5.4.2 Gantt chart for FYP 2



5.5 REFERENCE

Social media can help natural disaster reporting. cited on november 2011:
<https://www.computationalmedialab.com/project/social-media-can-help-natural-disaster-reporting/>

How to define the scope of studies- cited on august 2020 on:
<https://www.discoverphds.com/blog/scope-of-the-study>

How to write a problem statement :
<https://www.indeed.com/career-advice/career-development/how-to-write-a-problem-statement>

About 100 trees fell in four stormy areas in Ipoh on February 2022:
<https://www.sinarharian.com.my/article/185828/edisi/kira-kira-100-pokok-tumbang-di-empat-kawasan-ribut-di-ipoh>

Orang Asli homes in Simpang Pulai hit by landslide on November 2022
:<https://www.astroawani.com/berita-malaysia/orang-asli-homes-simpang-pulai-hit-landslide-391995>

Muhammad Zulsyamini Sufian Suri on June 2022 Flash flood in ipoh:<https://www.nst.com.my/news/nation/2022/06/806100/flash-floods-parts-ipoh>

Heavy rain caused flooding in several areas in Ipoh on October 2022:<https://www.bharian.com.my/berita/nasional/2022/10/1008255/hujan-lebat-cetus-banjir-di-beberapa-kawasan-di-ipoh>

Normawati Adnan On Disember 2021 Landslide in Ipoh Perak
<https://www.sinarharian.com.my/article/175843/berita/semasa/tanah-runtuh-di-perak-operasi-mencari-mangsa-diteruskan>

Ivan Loh on January 2022-a large number of homes in taman tasek damai and kampung tawas were damaged during a freak storm in Ipoh
<https://www.thestar.com.my/news/nation/2022/01/30/like-a-tornado-says-resident-after-freak-storm-damages-many-ipoh-homes>

Im Yusoff on 2018 -Cited 40-Disaster Prevention and. Management: An. International Journal:
<http://journalarticle.ukm.my/12818/1/22285-82962-1-PB.pdf>

5 Steps for outlining the scope of your app development project:
<https://www.ninetwothree.co/blog/5-steps-for-outlining-the-scope-of-your-app-development-project>

Khaled, Z. E., & Mcheick, H. (2019, February 1). *Case studies of communications systems during harsh environments: A review of approaches, weaknesses, and limitations to improve quality of service*. International Journal of Distributed Sensor Networks. <https://doi.org/10.1177/1550147719829960>

A. (2022, September 15). *What Is Disaster Management: Prevention and Mitigation*. School of Public Health. <https://publichealth.tulane.edu/blog/what-is-disaster-management/>

Metych, M. (2023, December 3). *Natural disaster | Causes, Types, & Facts*. Encyclopedia Britannica. <https://www.britannica.com/science/natural-disaster>

SAMHSA-Challenges and Considerations in Disaster Research-On January 2016 <https://www.samhsa.gov/sites/default/files/dtac/supplemental-research-bulletin-jan-2016.pdf>

International strategies for disaster reduction about progress and challenges in disaster risk reduction -on 2014:https://www.preventionweb.net/files/40967_40967progressandchallengesindisaste.pdf

The use of technology and innovative approaches in disaster and risk management:<https://repositorio.cepal.org/server/api/core/bitstreams/d1f94a03-ab00-4b25-9b3d-98239b5327c1/content>

Pinar Kirci,Davut Arslan and Sureeya Fatih Dincer about A Communication, Management and Tracking Mobile Application for Enhancing Earthquake Preparedness and Situational Awareness in the Event of an Earthquake: <https://www.mdpi.com/2071-1050/15/2/970>

Publish by Japan society for natural disaster science on December 2023-Journal of natural disaster science:

**PARTS & DIVISION OF STUDENT'S INDIVIDUAL WRITING OF THE CHAPTERS
IN FINAL REPORT (FYP 2):**

CHAPTER	PARTS/DIVISION	STUDENTS NAME	MATRIC NUMBER
1 Introduction	1.1 Introduction	IRFAN HAZIQ BIN A HALIM	01DKA21F1125
	1.2 Problem Statement	IRFAN HAZIQ BIN A HALIM	01DKA21F1125
	1.3 Objectives	SYED MUHAMMAD FARHAN BIN SAYED AHMAD FAUZI	01DKA21F1132
		MUHAMMAD AMIRUL AIMAN BIN YUSRI	01DKA21F1126
	1.4 Scope of Study/Project	SYED MUHAMMAD FARHAN BIN SAYED AHMAD FAUZI	01DKA21F1132
		KANAPATI A/L SARAVANAN	01DKA21F1127
	1.5 Conclusion	MUHAMMAD AMIRUL AIMAN BIN YUSRI	01DKA21F1126
2 Literature Review	2.1 Introduction	KANAPATI A/L SARAVANAN	01DKA21F1127
	2.2 Introduction Software (Android Studio, Webhost and Visual)	MUHAMMAD AMIRUL AIMAN BIN YUSRI	01DKA21F1126
	2.3 Function of This Software	MUHAMMAD AMIRUL AIMAN BIN YUSRI	01DKA21F1126
	2.4 Zero Disaster App Function	IRFAN HAZIQ BIN A HALIM	01DKA21F1125
	2.5 Previous Study on Zero Disaster Application	SYED MUHAMMAD FARHAN BIN SAYED AHMAD FAUZI	01DKA21F1132
	2.6 Conclusion	KANAPATI A/L SARAVANAN	01DKA21F1127

3 Methodology	3.1 Introduction	SYED MUHAMMAD FARHAN BIN SAYED AHMAD FAUZI	01DKA21F1132
	3.2 Process Flow	KANAPATI A/L SARAVANAN	01DKA21F1127
	3.3 Study Design	KANAPATI A/L SARAVANAN	01DKA21F1127
	3.4 Design and Development	IRFAN HAZIQ BIN A HALIM	01DKA21F1125
	3.5 Analysis Method	MUHAMMAD AMIRUL AIMAN BIN YUSRI	01DKA21F1126
	3.6 Analysis Data	SYED MUHAMMAD FARHAN BIN SAYEDAHMAD FAUZI	01DKA21F1132
	3.7 Conclusion	IRFAN HAZIQ BIN A HALIM	01DKA21F1125
4 Result Analysis & Discussion	4.1 Introduction	MUHAMMAD AMIRUL AIMAN BIN YUSRI	01DKA21F1126
	4.2 To Design an App to Report the Natural Disasters for The Public	IRFAN HAZIQ BIN A HALIM	01DKA21F1125
		MUHAMMAD AMIRUL AIMAN BIN YUSRI	01DKA21F1126
	4.3 To Develop the App with More Features for Easy Use to The Users.	IRFAN HAZIQ BIN A HALIM	01DKA21F1125
	4.4 To Test Effectiveness of App in Term of Feedback from User.	SYED MUHAMMAD FARHAN BIN SAYED AHMAD FAUZI	01DKA21F1132
		MUHAMMAD AMIRUL AIMAN BIN YUSRI	01DKA21F1126
	4.5 Research Question	KANAPATI A/L SARAVANAN	01DKA21F1127
	4.6 Discussion	IRFAN HAZIQ BIN A HALIM	01DKA21F1125
	4.7 Conclusion	IRFAN HAZIQ BIN A HALIM	01DKA21F1125

5 Conclusion and Recommendation	5.1 Introduction	SYED MUHAMMAD FARHAN BIN SAYED AHMAD FAUZI KANAPATI A/L SARAVANAN	01DKA21F1132 01DKA21F1127
	5.2 Recommendation	IRFAN HAZIQ BIN A HALIM	01DKA21F1125
	5.3 Conclusion	IRFAN HAZIQ BIN A HALIM	01DKA21F1125
Referenced Sources		IRFAN HAZIQ BIN A HALIM	01DKA21F1125
		MUHAMMAD AMIRUL AIMAN BIN YUSRI	01DKA21F1126
		KANAPATI A/L SARAVANAN	01DKA21F1127
		SYED MUHAMMAD FARHAN BIN SAYED AHMAD FAUZI	01DKA21F1132