Faculty of Electrical and Electronic Engineering Technology

DEVELOPMENT OF TEMPORARY ACCOMMODATION CENTER SYSTEM (TACS) FOR FLOOD VICTIMS USING PHP MYSQL DATABASE.

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SITI NUR AISSYAH BINTI ABDULLAH

Bachelor of Computer Engineering Technology (Computer Systems) with Honours

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DEVELOPMENT OF TEMPORARY ACCOMMODATION CENTER SYSTEM (TACS) FOR FLOOD VICTIMS USING PHP MYSQL DATABASE.

SITI NUR AISSYAH BINTI ABDULLAH

A project report submitted
in partial fulfillment of the requirements for the degree of
Bachelor of Computer Engineering Technology (Computer Systems) with Honours

Faculty of Electrical and Electronic Engineering Technology

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2022

DECLARATION

I declare that this project report entitled "DEVELOPMENT OF TEMPORARY ACCOMMODATION CENTER SYSTEM (TACS) FOR FLOOD VICTIMS USING PHP MYSQL DATABASE." is the result of my own research except as cited in the references. The project report has not been accepted for any degree and is not concurrently submitted in candidature of any other degree.

Signature : 

Student Name : SITI NUR AISSYAH BINTI ABDULLAH

Date : 26/1/2023

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APPROVAL

I hereby declare that I have checked this project report and in my opinion, this project report is adequate in terms of scope and quality for the award of the degree of Bachelor of Computer Engineering Technology (Computer Systems) with Honours.

Signature :

Supervisor Name : Rostam Affendi Bin Hamzah

Date : 5/2/2023

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DEDICATION

I dedicate this project to my creator Allah S.W.T, my strong pillar, my source of inspiration, wisdom, knowledge and understanding. He has been the source of my strength throughout this project and on his wings only have I soared. I also dedicate this work to all of my family members, my friends and each person who am I ever encountered in my whole life which who brings along the inspiration that came all the ways, who has encouraged me during the chapter of my studies, and whose encouragement has made sure that I give it all it takes to finish this chapter path which i have started. This project I also dedicate to my supervisor, TS. DR Rostam Affendi Bin Hamzah for his guidance in assisting me through the journey of completion for my degree project. Thank you for all of your existing in my life. My love and appreciation for all of you can never be measured. May allah bless all of you.

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ABSTRACT

In Malaysia, natural disasters that often occur are floods that will hit several states throughout Malaysia due to changes in monsoon winds and the country are also threatened by continuous flash floods due to the unplanned development, neglect of environmental conservation aspects, and an uneven distribution of rainfall in the country over the past five years. Every time a flood disaster strikes, the country panics as the affected areas become more and more widespread and occur in areas that are not expected at all and each time a flood disaster strikes, the victims of the disaster will be placed at a temporary accommodation centre. The management of this centre are mostly depending on a 'logbook' as it will record all the information of flood victims to total up the number of floods victim to giving any assistance needed as well as relevant individuals who came for the donation and volunteering purposes. With this research paper, the information and data collected will be systematic, more accurate and comprehensive where these data can be used for the purpose of official documentation on certain agencies and stakeholders. The more complete and organized data can be shared more quickly to other relevant and interested agencies for the purpose of documenting for their part as well as formulating a more comprehensive action plan by referring to the data stored in the database in the future to estimate the rate of flood victims who will be involved in the event of another flood disaster. Then, more thorough preparations can be done to help flood victims and relevant agencies can take swift action.

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ABSTRAK

Di Malaysia, bencana alam yang paling kerap berlaku ialah banjir yang akan melanda beberapa negeri di seluruh Malaysia akibat perubahan angin monsun dan negara ini turut diancam banjir kilat berterusan akibat pembangunan tidak terancang, pengabaian aspek pemuliharaan alam sekitar, dan pengagihan yang tidak sekata. Setiap kali bencana banjir melanda, negara menjadi panik kerana kawasan terjejas semakin berleluasa dan banjir boleh berlaku di kawasan tidak dijangka dan setiap kali bencana banjir melanda, mangsa bencana akan ditempatkan di pusat penempatan sementara. Pengurusan pusat ini kebanyakannya bergantung kepada 'buku log' kerana buku ini akan merekodkan segala maklumat mangsa banjir sehingga jumlah keseluruhan mangsa banjir untuk menghulurkan sebarang bantuan yang diperlukan serta individu berkaitan yang datang untuk menghulurkan sumbangan dan sukarelawan. Dengan adanya kertas penyelidikan ini, maklumat dan data yang di kumpul akan menjadi lebih sistematik, lebih tepat dan komprehensif di mana data ini boleh digunakan untuk tujuan dokumentasi kepada agensi dan pihak berkepentingan tertentu. Data yang lebih lengkap dan teratur boleh dikongsi dengan lebih cepat kepada agensi lain yang berkaitan dan agensi yang akan mendokumentasikan data-data ini bagi pihak mereka untuk merangka pelan tindakan yang lebih komprehensif dengan merujuk kepada data yang disimpan dalam pangkalan data pada masa hadapan untuk menganggarkan kadar mangsa banjir yang terlibat sekiranya berlaku bencana banjir lagi. Kemudian, persiapan yang lebih rapi boleh di buat bagi membantu mangsa banjir dan agensi berkaitan juga boleh mengambil tindakan pantas yang lebih pantas pada masa yang akan datang.

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CHAPTER 1

INTRODUCTION

1.1 Background

Every time a flood disaster strikes, the country panics as the affected areas become more and more widespread and occur in areas that are not expected at all, and each time a flood disaster strikes, the victims of the disaster will be placed at a temporary accommodation center. The management of this center mostly depends on a 'logbook' as it will record all the information of flood victims to total up the number of floods victim to give any assistance needed as well as relevant individuals who came for the donation and volunteering purposes.

With this research paper, the information and data collected will be systematic, more accurate, and comprehensive where these data can be used for the purpose of official documentation on certain agencies and stakeholders. The more complete and organized data can be shared more quickly with other relevant and interested agencies for the purpose of documenting their part as well as formulating a more comprehensive action plan by referring to the data stored in the database in the future to estimate the rate of flood victims who will be involved in the event of another flood disaster.

Then, more thorough preparations can be done to help flood victims and relevant agencies can take swift action. This study will be focusing on the aspect of data collection of flood victims as well as those involved in the settlement of the flood disaster whereby the collected data can be used for further research and observation in other aspects as well.

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This study will apply the use of a database where the identification information of all flood victims, members of the agencies involved, volunteers, and any related individuals will be collected for documentation purposes. For the victims it will include all their related information in general, to facilitate the process of placement of flood victims and for the observation of some parties such as health workers.

1.2 Problem Statement

Figure 1-1: Example of 'Log book' used to enter the flood's victim and Temporary Accommodation Center visitors 's information.

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Figure 1-2: Content of the 'Log book' used to input all the information needed.

In a temporary accommodation center for flood victims in Malaysia, the use of “logbooks” is still in use. Where all the information is recorded using the method of writing in the book which resulting the data number of floods victim are may not accurate. This method is inefficient because it requires and takes time to do the record for all the

necessary information and total up the number of victims in a temporary settlement center for floods disaster. This may cause a waste of time and inefficient work to the related government agencies involved in managing flood victims as they need go through one-by-one number of victims to obtain all the information needed.

1.3 Project Objective

The main aim of this project is to propose a systematic and effective methodology to design a system Development Of Temporary Accommodation Center System (TACS) For Flood Victims Using PHP MySQL Database. Specifically, the objectives are as follows:

a) To design the database system, build that can be used as to share the information needed to any related agencies before, during or after the flood disaster.

b) To develop a system that can help the temporary accommodation center managed and help the floods victim orderly.

c) To build a database system that stored all the important needed information of the floods victims.

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1.4 Scope of Project

This system will be targeting the user for the government agencies, humanity agencies and rescue center development. The system will be developed in web based.

a) Administrator

i) Manage user account.

ii) Managing the system.

iii) Register and login account.

b) User (Rescuer and the Temporary Accommodation Center officer):

i) Register and login account.

ii) Review, input and update all related information for flood's victims, visitor and volunteer.

c) General User (victims)

i) The victims need to enter the related information to the system assisting by the officer on Duty (General user).

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CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

A study was conducted to acquire information pertaining to the system being developed, which is an important part of research. The concept for the system that will emerge can be identified after the study is completed. Furthermore, the notion in designing the system will be completely applied through theories and concepts linked to development initiatives. This study will investigate all the project's available information. All the information based on research are important to make comparison and new idea on the system to be develop. All the information obtained by process of reading, analyzing, evaluating, and summarizing on selected research paper that are related and corresponding to the project.

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Based on the definition from the Oxford Languages, Flood is the overall picture of a large amount of water exceeding normal limits, especially on normally dry land (noun) [1]. Flood also means to cover or submerge (an area) with water in a flood (verb) [1]. Floods are a common occurrence in drainage systems, rivers, and streams. This occurs when drainage routes are clogged, and rivers and tributaries are unable to handle the additional water caused by severe weather. Water penetrates the surrounding area via drainage canals, which predate the natural or constructed cliffs, causing flooding. Furthermore, human activities that have a negative impact on the environment, such as mining and deforestation, have raised the risk of flooding.

2.2 Overview of Flood Disaster in Malaysia

Natural calamities strike Malaysia on a regular basis, with floods common during the north-eastern monsoon season. This is also owing to the constant rain that has blanketed a large section of the country. Just three months after severe flooding took hundreds of lives across the country, the city Kuala Lumpur and areas in Selangor state were struck by flash floods on March 7. Two measuring stations in the capital obtained the data that with 106.5mm and 155mm of rain falling where the heavy rain began falling at 2.30 pm in just two hours. The floods were caused by exceptionally heavy rainfall over a two-hour period, and the existing drainage system was unable to withstand the high flow of water. During the New Year season, the country was once again pummelling by severe rain, resulting in floods in six peninsular states and Sabah on January 2. Kelantan and Terengganu, both on Peninsular Malaysia's east coast, were recently hit by flash floods where at least two people have been killed, and 20,000 people have been displaced.

Floods in various states across the country killed many people and ruined a great deal of property. Rivers were flooded by heavy rainfall and floods, which flooded numerous urban areas and properties. Thousands of drivers were trapped because of the flooding. Thousands of people have been forced to flee their homes. Many people were left without food or water for days. In other sections of the country, more than 54,000 flood victims looked for shelter at 334 aid centres. With 29,108 flood victims, Pahang was the state with the most, followed by Selangor with 23,302 victims.

All flood victims will be assigned to the nearest temporary accommodation centre, which plays an important role in disaster response and recovery phase by providing optimum security, personal safety, climate protection, and improved resistance to ill health and diseases for victims who have lost their homes because of the disaster. Following the

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recent floods in various parts of the country in March, about 300 individuals in Selangor were evacuated to relief centers, while at least 250 flood victims were evacuated in Kuala Lumpur. In a video circulating online, people can be seen climbing to the tops of submerged automobiles in Jalan Kuchai Lama. Water levels rose to as high as 2 metres because of the flood, and approximately 12 automobiles were stranded, with victims escape to their car roofs. All the victims have been rescued were sent to a safe location.

Floods and heavy rains knocked off electricity and communications. Water inundated cities and towns, inflicting extensive damage to houses and vegetation. Rain-induced landslides exacerbated the issue. Strong winds ripped the roofs off houses and uprooted trees, particularly on the peninsula's east coast states. Climate change, the indirect effects of tropical winds, growing urbanisation, the removal of green spaces, deforestation, and monsoon rains will all contribute to the country's future floods.

2.3 Overview of Flood Disaster Management in Malaysia.

Climate change may endanger the health and development of Malaysia's people. Communities along the coast, for example, are at risk of flooding as sea levels rise. Floods have wreaked damage in numerous places of Malaysia since 1971. As a result, the government created the Natural Disaster Management and Relief Committee (NDMRC) , which would have been given the task to coordinating flood disaster response at all levels of government, along with the national, state, and district levels, with the goal of decreasing flood damage and trying to prevent human death.

In Malaysia, flood disaster management is governed by the National Security Council (NSC) Directive No.20 and Fixed Operating Regulations (PTO). The Land Disaster and Relief Management Policy and Mechanism intended to reach this goal.

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Disaster management in Malaysia is divided into three areas, each with its own range of responsibilities. In the country, a new disaster management organisation has recently established. The National Disaster Management Agency (NADMA) of the Prime Minister's Office was designated the primary disaster management agency for regional and international humanitarian efforts in 2015. The Malaysian Prime Minister will lead the plan at the federal level, with NADMA, the Department of Social Welfare Malaysia (SWM), and the Malaysian Civil Defence Force assisting and executing the plan at the state level (MCDF).

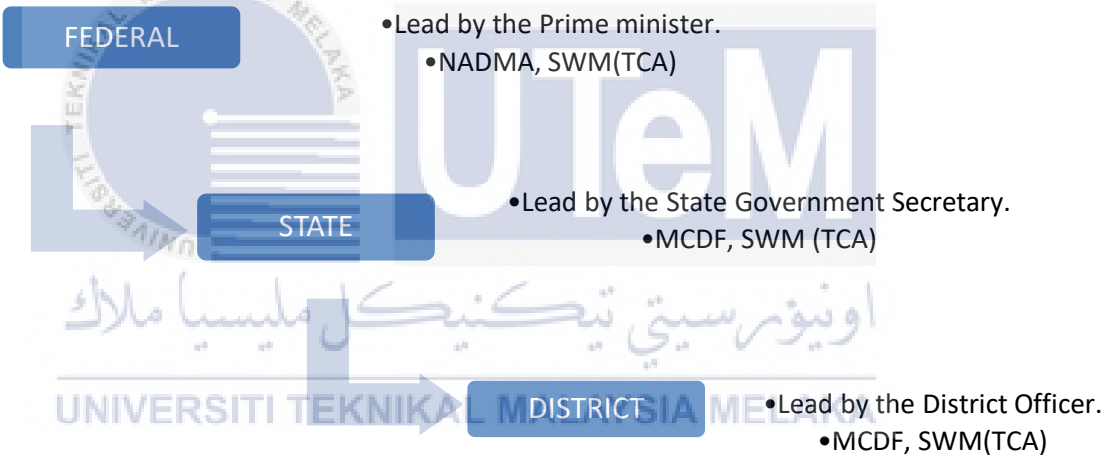

Figure 2-1 Federal, State and District levels of the flood disaster management

The temporary evacuation centers are provided and maintained by the Department of Social Welfare Malaysia (SWM). Food, clothing, and other basics will be provided and distributed by the SWM to flood victims. In addition, it will oversee disaster victim registration to provide rehabilitation, assistance, and counselling session recommendations to catastrophe victims. The MCDF will assist in the rescue of flood victims as well as the

management of Temporary Accommodation Centres (TCAS) for flood victims. The National Disaster Management Agency (NADMA) oversees supervising and helping local and state agencies in the event of a disaster. The table below shows the other connected government agencies that are involved in flood response operations.

Table 2-1 Related goverment agencies which involve in operations of flood's events response

NO	DEPARTMENT	ROLE
1	Health Department	Provide medication and health services to the victims.
2	Fire and Rescue Department	Search and rescue the flood Victims.
3	Royal Malaysia Police Department	Provide security protection to the flood area.
4	Drainage and Irrigation Department (DID)	Provide flood and river water level reports.
5	Public Works Department	Fix technical problems in evacuation center.

During flooding, a flood management committee (FMC) will be formed, which will comprise all government entities listed in Table 1 as well as additional stakeholders. Upon the commencement of a flood, the district officer will activate a flood operation center (FOC), and in this instance representatives from each agency will live in the flooded area, while others will be stationed at the flood operation center. Representatives from each agency with a presence in the floodplain will provide periodic updates to the FOC representative. Phone calls or facsimiles are used to communicate between representatives in both areas. Then, all the information is manually entered on paper, and the information is summarized on a white board. When the flooding is over, the district office will get flood-related reports that were manually created by the FMC secretariat.

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Table 2-2 Stages in handling and controlling the flood disaster events.

STAGES	AGENCIES	DESCRIPTION ROLES
DETECTION	Meteorological Department.	Collection of meteorological data and weather forecasts.
	DID Regional/local emergency units.	Collection of hydrometric and hydrological data.
FORECASTING	Flood forecasting agency DID flood unit.	Receiving and interpreting of data.
	Other regional/local units	Flood modelling. Flood forecasting. Issuing of warning
WARNING	Regional and local decision makers.	Receiving of flood forecasts and warnings.
	Flood committee and disaster prevention.	Interpretation and decision making.
	Civil protection (police, fire rescue, etc)	Dissemination of warnings.
	Internet, printed and electronic media	Provide the information. Co-operation of involved parties and media.
RESPONSE	Flood committee and disaster prevention.	Coordination of response, activities/measures, and participants.
	Local government units' civil protection	Informing the public.
REACTION	River user, companies, industry within flood prone area. Population at risk.	Reduce vulnerability to damage by pre-cautionary measures, flood defense and evacuations.

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The table above shows the agencies in charge of dealing with floods and other disasters in Malaysia. The Malaysia Meteorological Service and the Department of Irrigation and Drainage (DID), along with their regional or local subsidiaries, will use integrated hydrometeorological models to detect symptoms of approaching floods. The DID and other agencies will oversee the flood forecasting component since they have the tools, technology, and knowledge to model and simulate various flood events.

2.4 Overview of Database Application Using PHP MySQL.

A collection of discrete little units of information is referred to as data. It can take many different forms, including text, numbers, media, bytes, and so on. Data is information that can be converted into a format for efficient movement and processing in computing. A database is an organised collection of connected data that can be easily accessed, controlled, and updated. The database's primary goal is to manage a huge amount of data by storing, retrieving, and managing it.

A database management system (DBMS) is a software package that makes defining, building, and manipulating databases for a variety of applications easier. The online registration system at UTeM is an example of a DBMS application. Databases and database management systems (DBMS).

Table 2-3 Types of Databases and DBMS.

DATABASE	DBMS
Centralized Database	Hierarchical DBMS
Distributed Database	Network DBMS
Relational Database	Relational DBMS
NoSQL Database	Object-oriented DBMS
Cloud Database	
Object-oriented Database	
Hierarchical Databases	
Network Databases	
Personal Database	
Operational Database	
Enterprise Database	

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Data redundancy and inconsistency, Difficulty in accessing data, Data isolation (multiple files and formats), Integrity problems, Atomicity of updates, Concurrent access by multiple users, and Security problems are some of the challenges that traditional file-processing systems face when supported by traditional operating systems.

Table 2-4 Difference between DBMS and File Processing System.

PROPERTIES	DBMS	FILE PROCESSING SYSTEM
Data redundancy & inconsistency.	Reduced by ensuring a physical piece of data is available to all programs.	Data is often duplicated causing higher storage and access cost, poor data integrity, and data inconsistency.
Accessing the data.	Allow flexible access to data.	Allow pre-determine access to data where the application program are depends on the file formats.
Concurrent access	Designed to coordinate multiple users accessing the same data at the same time.	Designed to allow a file to be accessed by two programs concurrently only if both programs have read-only access to the file.
Data security and integrity.	High, enforced	Not enforced

The use of DBMS in disaster risk reduction during the "P" phase of preventive and preparedness rather than the "R" phase of reaction and recovery is included as it is for the other system. It can also be used to construct Disaster Information Software for other systems such as MIS, DSS, and GIS. It can be used to create a Disaster Information Network. It's vital to send out a warning to everyone in the affected area. It can provide details on catastrophe experts in a specific country or region. It's useful for keeping track of disaster funds in a specific area.

PHP has been the most popular scripting tool for web development since it is free, open - source software, and server-side (the code is executed on the server). MySQL is a Relational Database Management System (RDBMS) that utilizes the Structured Query Language (SQL) where it is free and open source which the developer can create almost every form of website using PHP and MySQL altogether.

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2.5 Review Of the Application of Technology Used to Handle the Flood Disaster Event.

To have a better knowledge of the project, some research on prior projects or the Research paper that focused on to help the flood victims has done. This information will aid in the implementation and achievement of the project's goal. As the results, this part will provide some background information on comparable project as well as a similar goal to solve the major challenge in managing the flood victims as well as the Temporary Accommodation Centre.

2.5.1 Development of A Mobile Post-Disaster Management System Using Free and Open-Source Technologies.

In this paper, the paper proposed a mobile-based post-disaster management system (MDMS) that collects, shares, and disseminates risk and damage information utilising open source and free technologies such as GeoServer, OpenLayers, Cordova, and JQuery Mobile [1]. Unlike traditional disaster management management solutions, our research focused on developing the MDMS employing hybrid technology in mobile-based disaster management for the first time [1]. Furthermore, this study highlighted the importance of offline access capabilities and mobility in improving post-disaster management.

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In term of storage, a spatial database and file system is used to store the vector data and map tiles, respectively. [1] In addition to the vector data set that is downloaded and imported from third-party map services, a local data set can also be imported into PostGreSQL through the shp2pgsql tool [1]. The map tiles are organized in a 5-layer structure of root directory, second (from the top), third, and fourth layers are directories

used to denote map tile providers, scale levels and the number of tile columns, respectively. The fifth (bottom) layer is comprised of the map tiles themselves, which are named after the row number of the map tiles [1].

This research paper emphasises that a mobile-based post-disaster management system (MDMS) was developed using a combination of native and web application technologies for gathering, sharing, and distributing disaster-induced risks and damage, which makes it a reasonably priced, portable, and cross-platform solution for post-disaster management [1].

2.5.2 Crowdsource Data Based, Convolutional Neural Network And 3s Technology for Flood Disaster Identification and Decision Support System.

The goal of the study is to use the CNN to distinguish between photographs of flood events and images without flood occurrences in order to display only the images connected to the flood event in the generated web application. The next step is to create web applications to accept and track flood incidents using crowdsourced data. Geographic Information System Technology (GIS), Global Positioning System Technology (GPS), and Remote Sensing Technology were used in this work.

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According to the findings, using CNN to detect flooded areas from photos may be validated with high accuracy [2]. This will make it easier for administrators and others in charge of screening the photographs that have been notified by the crowd to do their jobs. Furthermore, many people benefit from the application of 3S Technology and public participation. Because the technologies and web apps utilised in this study were tested

during and after a flood, a system for forecasting floods should be developed in the future. In the future, the system can helps with flood management before, during, and after the flood, to reduce the damage that may happens.

2.5.3 A GIS Based Hydrological Model for River Water Level Detection & Flood Prediction Featuring Morphological Operations.

This study outlines the concept of combining satellite imaging, hydrological modelling, and geographic information systems to create a decision support system that will be used to continuously monitor river water levels. This article uses satellite image processing approaches for effective land-based water management and disaster management decision-making. The paper also makes use of image processing, with the created method being able to recognise water features in high-resolution satellite pictures [3].

The goal of this article is to map river flow data on a geographic information system to reduce flood effects with accurate data. The data obtained by using remote sensing techniques and distributed to control stations quickly over large areas utilising satellites or transponders installed on drones or aircraft even the rivers encompass a huge geographic region [3].

The study uses a GIS to model a specific area and collect pertinent data such as high-resolution satellite photos from various time periods. These photographs will be fed into the backend processing application, which will process them through numerous steps and produce quantifiable data as well as the geo position. The data from the data base will be used to model the front-end GIS based online or mobile application [3].

The river stage over the whole spatial region from where the river passes can be extracted by analysing satellite photos. The system for flood event prediction and monitoring, which is combined with a web map interface, will aid in flood event monitoring, prediction, and decision-making. The proposed concept can be used to provide flood disaster early warning and mapping.

2.5.4 Towards Reducing Flood Risk Disasters in A Tropical Urban Basin Development of Flood Alert Web Application.

The study paper developed a Decision Support System (DSS) for flood management using a computational modelling approach that included QPF data acquisition fed by online network data transfer, river flow forecasted by a semi-distributed hydrological model, river flow routed by a 1D-2D unsteady river flow (hydraulic model) to generate flood maps, and flood alerts sent to a mobile app. Because it is peer reviewed, user friendly, and free in the public domain, the research study used the Hydrologic Engineering Center (HEC) of the United States Army Corps of Engineers (USACE), which has been developing computer software for hydrological engineering and water resource management since 1964 [4].

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The calibrated HEC model was used to obtain the river stage and floodplain simulations graphically as a map (DSS) output for the flood alert application structure. It should be noted that the calibrated HEC model used WFR QPF as input to generate DSS output. The DSS output was then used as input data into a flood alert application, which was used to send warning messages to end users. There is an intermediate stage that represents the data traffic carried out by the Google Firebase services and allows communication between the data management application and the web application between the two main steps for the flood alert running.

The first step in data management is to create a register of information about the sections from which water height, precipitation, and flow data should be collected inside the DSS file after the flood simulation. These data are aggregated into a structure and sent to the Real Time Database. After registering all of the wanted sections, the DSS and DB (SQlite) files generated by the simulation must have their respective directories inserted. The Google Firebase API is used to download all database sections. The sessions' DSS name and DSS code attributes allow access to the routes and identification of the session in the DSS file to obtain precipitation, flow, and water level data. Although this information is available for each session, rainfall and flow are only available for a single session. The reason for this is that the precipitation used in the simulation is uniform throughout the region, so it is the same in all sessions, and the flow under study occurs only in one of them [4].

After obtaining each session's forecast simulated data from the DSS file, the object is added to the flood data attribute of the sessions and sent to the Real Time Database via its API. To avoid data incompatibility, the availability of images for this simulation in the specified DB (SQLite) file is checked before new data are sent to the server [4]. During this process, the values of the water level and the session's threshold are compared for each session. A notification log is sent to Google Cloud Messaging if the water level exceeds the session's threshold. Following the transmission of flood data from each session, images of the flood area must be transmitted to Fire Storage. Furthermore, data about these image blocks must be sent to the Real Time Database. Data is taken and a structure is built using SQLite queries to the DB file.

The hydrological (HEC-HMS) and hydraulic (HEC-RAS) models are at the heart of the flood alert system. The hydrological-hydraulic models were calibrated and validated

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using various rainfall events, which is an important aspect. This study paper believes that in the future, the flood alert application will incorporate new forecast data, specifically quantitative precipitation estimation (QPE) of weather radar. The Google Maps API was also used in this study to display flooding areas, river stage, and hydrological and hydraulic details of any chosen section of the main river channel [4].

2.5.5 Infobencanajkm

The Infobanjir system is a website and an application that focuses on distributing flood warnings to the public in a way that is much easier and simpler to understand. Important information such as evacuation centre details, flood status, current rainfall, and water level data are displayed interactively on the website or in the app.

This website has been improved as part of the initiative, which includes a new Infobanjir website that incorporates information from both the current Infobanjir and Publicinfobanjir websites. The most recent technology was used to increase the website's capacity to receive and process real-time data in less time. It also displays flood forecast information at specific locations, with the goal of assisting all flood management related agencies and local authorities in conducting early preparation and evacuation if necessary.

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Among the improvements of the JKM 2.0 Disaster Information System, known as the Flood Info System since 2015, is the use of bilingualism and upgrading the interface display. Next, integration with departments related to disaster management such as the National Registration Department (JPN), the National Disaster Management Agency (NADMA) and the Department of Survey and Mapping Malaysia (JUPEM).

In addition, improvements to evacuation centre modules, population profiles, rehabilitation assistance and store management modules, as well as the addition of new information such as on river water levels, road closures and a list of supply storage facilities. This application, has been designed to provide users to obtain information covering all disasters involving the opening of evacuation centres, compared to previously only involving flood disasters only. In addition, the user can get information such as statistical map display on the state dashboard and a list of storage facilities.

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2.6 The Comparison Between the Application/System Designed for Disaster Event.

Based on the prior project that has been mentioned, it may deduce that there is a difference between such projects in terms of component utilization and implementation. As the results, the table below compares the study application in terms of technology or technique application, benefits, and drawbacks.

Table 2-5 Comparison between the application for disaster flooding event.

Title	**Technology /Application**	**Description**	**Advantages /Disadvantages**
Development Of a Mobile Post-Disaster Management System Using Free and Open-Source Technologies [1]	Web and Android based.	The flood alert system is built around the hydrological (HEC-HMS) and hydraulic (HEC-RAS) models. It is critical to note that the hydrological-hydraulic models were calibrated and validated using various rainfall events. According to this research paper, the flood alert application will incorporate new forecast data in the future, specifically quantitative precipitation estimation (QPE) from weather radar. This study also made use of the Google Maps API to display flooding areas, river stage, and hydrological and hydraulic details of any chosen section of the main river channel [4].	Advantages Using open source and free software. Disadvantages Does not have the offline usage.

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Title	Technology /Application	Description	Advantages /Disadvantages
Flood Disaster Identification and Decision Support System Using Crowdsource Data Based on Convolutional Neural Network And 3s Technology [2]	Web based application.	The study used GIS, GPS, exploration, and remote sensing in conjunction with crowd participation techniques in digital image analysis to detect floods and develop web applications for flood notification and monitoring in each area. Each year, the report can be created by following the desired area.	Advantages This system has the advantage of more accurately displaying the flooded area. Disadvantages No forecasting function to warn the people before a flood occurs for preparation.
A GIS Based Hydrological Model for River Water Level Detection & Flood Prediction Featuring Morphological Operations [3]	Web based application.	The flood event prediction and monitoring system, which is integrated with a web map interface, will aid in the monitoring, prediction, and decision-making of flooding events.	Advantages It serves as an early warning system and flood mapping tool. Disadvantages Real time system.
Towards Reducing Flood Risk Disasters in A Tropical Urban Basin Development of Flood Alert Web Application [4]	Web based application.	The flood alert web application was created to provide flood potential risk information so that early effective practises could be implemented. When the user clicks on the markers in the web application, it will display information about the selected river section of its area, its description, the water level, and the state of the river on the date. There are also two other tabs with additional information about the selected section.	Advantages Can provide the data in real time. Disadvantages Cannot provide the number of flood's temporary accommodation centre around the area of flood disaster.
InfoBencanaJKM [5] [6]	Web-based application, Google Map.	Give information about real time flooded area and roads inundated with flood. Update the current number of flood's temporary accommodation center around the area of flood disaster.	Advantages Real time updated data. Disadvantages Cannot provide the report as the document for further used.

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Based on the table above, during the flood disaster event, various kind of application technology implemented with the usage of web-based application with different kind of interfaces and function application as it is convenient and only required the internet connection to access the web application. By this, the user (flood's victims) can access it to gained information and the related government agencies can relay the message and warning related to the flood disaster event to the victims efficiently and fast. But, during the flood disaster event, all the important information related to the floods victims are still recorded manually using the papers and stored by files. One important issue that needs addressing in helping the flood's victims during the floods event is to gather all the related information for providing and distributing food aid, clothing, and necessities. Not only that, but the information gather is also important for documentation to be distributed to the related government agencies.

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2.7 Novelty

The Development of Temporary Accommodation Centre System (TACS) For Flood Victims Using PHP MySQL Database is built to enhance and add on for the various technology and application of science to overcome the challenges and to manage the Temporary Accommodation Centre System. By using the PHP MySQL Database, the data of the floods victims in an area can be review immediately by various government agencies for further action in preparation and prevention in the future.

2.8 Summary

Manual data recording in all phases of flood management has contributed to a variety of issues, including errors in data documentation and report generation delays. These two issues are possible because of the multi-organizational tasks performed during flooding. Because of this, it is critical to have an effective and efficient which to stored all related information into the system in place to avoid or overcome problems for such as data redundancy for analysis and further action can be implement and execute faster with high accuracy of data.

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CHAPTER 3

METHODOLOGY

3.1 Introduction

A methodology is a body of methods, rules, and postulates used by a discipline; a specific procedure or set of procedures. This is also a method for analysing the principles or procedures of inquiry in a specific field. In this case, the methodology is used to be standard guidelines that must be followed, and it describes a set of activities that are required to address concerns expressed during project development. To ensure the project's success, the System Development Life Cycle (SDLC) approach of the Waterfall model will be used. This was the first SDLC Model used widely in software engineering. The entire software development process is divided into phases in "The Waterfall" approach.

In this Waterfall model, typically, the outcome of one phase acts as the input for the next phase sequentially. All the proper planning has been followed and can be implemented properly to produce a complete system that is systematic, easy to understand, and meets the required characteristics.

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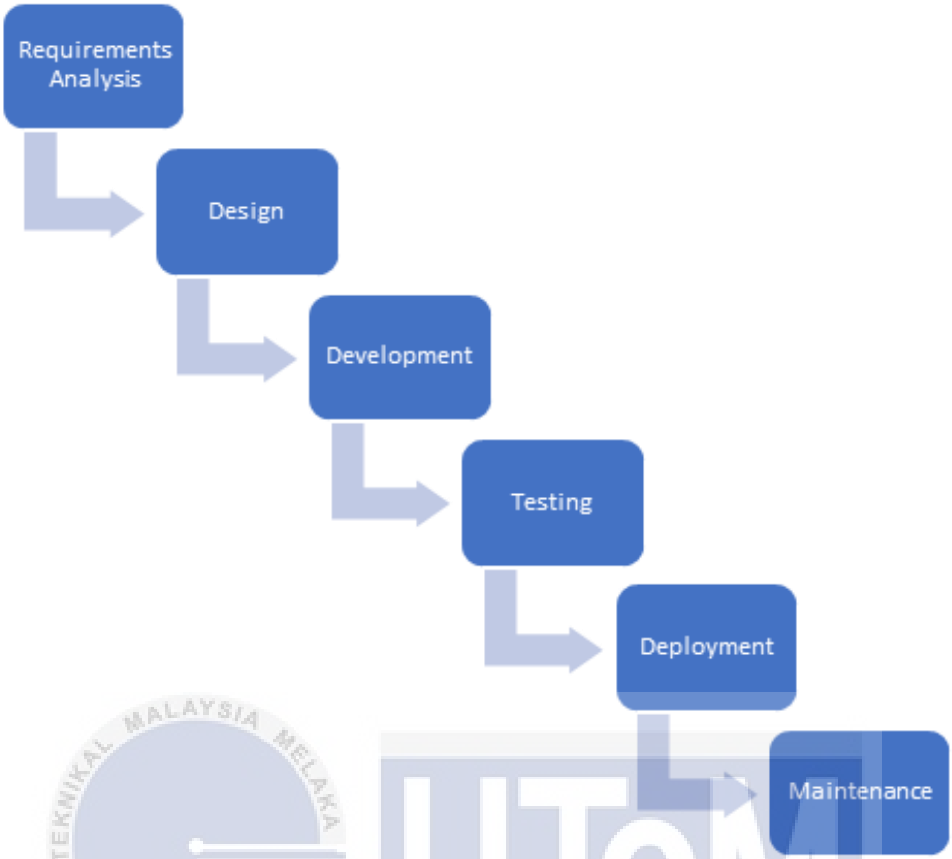

Figure 3-1 Waterfall model for the project.

In general, accuracy and effectiveness are considered the two conflicting requirements of any TL evaluation model for the power utility. Here, accuracy refers to how close the estimation result is to the "real" TL values. Typically, the more accurate the model, the higher resources it requires (i.e. computation effort and time, amount of data and cost). Meanwhile, effectiveness refers to the ability of the model to estimate TL with the least resources but, with reasonable loss of accuracy.

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3.2 Requirement and Specification

This thesis presents, all possible requirements of the system to be developed are gathered and documented in a document for later reference.

Table 3-1 Requirements for the project website.

No	Requirement	Explaination
1	Email id registeration for user	Cannot be used twice not reject.
2	Password enter and confirmation password for registration.	Must bet he same if not reject.
3.	Registeration sign up page failed.	The user must fill up back all reqiered information and click button to register.
4.	Login process failed.	User must enter correct password and email registered to login if still failed to do so need to contact Admin of the database to reset back the database.
5	Data insertion for the name for both signup to use the database and the registeration for category person enter in and out from the center must be all accepted.	In Malaysia, some symbols such as '/' (Nandini Saha A/P Shamol Kumar), ' ' ' (NORFAZLENAS BINTI SA'ADON) and '@' (Natasha Binti Zailan @ Azlan) used as registered in the birth certificates and Identification Card.
6	Page index must displayed.	Follow the alphabet of string name from A to Z.
7	Searching query	Can search any information but the information display cannot be deleted or edited.

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3.2.1 Design

This is a technical phase of system development. The requirement specifications from the first phase are studied in this phase, and the system design is prepared. This system design aids in determining the best hardware and system for developing this system, as well as in defining the overall system architecture. The design of the webpage must be simple and easy to use.

3.2.2 Development

The system is developed in a small programme called a unit and then integrated into the next phase using the inputs from the system design. Each unit is created and tested for a feature known as unit testing. The PHP programming language is used by the system. This system will succeed if there are no errors in the coding and it meets all the system's specifications.

3.2.3 Integration and Testing

After testing each unit, all units developed during the implementation phase are integrated into the system. The entire system will be tested for errors, failures, and bugs after integration. At this point, it is tested on actual hardware, and the system designed is tested to ensure that it meets the specifications that have been established. With this, variety of sample user participate in this phase and all the related comments for improvement are taking into the considerations to improve to system and project designed.

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3.2.4 Deployment of System

When the testing process for the system designed is done, the system is ready to be use by user. The system designed will be release the system in the form of to release to the market, the system is maintained, and upgrade it to meet requirement system and needs.

3.2.5 Maintainace

If the final designed system has some issues that arise in the client environment, it may be necessary to change the code used in the system once it is ready to use. Patches are released to address these issues. In addition, better versions of the product are released in order to improve it. Maintenance is performed to implement these changes in the customer

environment. Errors that were not discovered earlier in the life cycle are corrected in order to improve the implementation of system units. As new requirements are discovered, the system's services will be improved. All of these phases are required for progress to be seen as flowing steadily downwards (like a waterfall) through the phases. The next phase begins only after the previous phase's defined set of goals has been met and signed off, hence the name "Waterfall Model." Phases cannot overlap when using this model. If the previous phase is not completed, the process for the next phase cannot be carried out.

3.3 Requirement Analysis

3.3.1 System

In the development of this system, the system used the implementation of Hardware and Software. The hardware and software requirements should be defined and identified to ensure that the system can be used without dispute, which could lead to system failure.

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3.3.1.1 Hardware Requirements

Table 3-2 Software equipment of system.

No	Type of Hardware	Description
1.	Processor	11th Gen Intel(R) Core (TM) i5-1135G7 @ 2.40GHz 2.42 GHz
2.	Random Access Memory (RAM)	8 GB
3.	Solid State Drive	120 GB
4.	Operating system	Windows
5.	Printer	EPSON

3.3.2 Input

In this system, the rescuer, or the other officer (user) at the Temporary Accommodation Center will guide the floods victim, visitor and volunteer to input their personal data or any related individual's data to the database system designed.

3.3.3 Process

The data and all the input information will be generate using calculation program and implement by the system. As the final step in processing, the system will update latest data based on user input.

3.3.4 Output

The website must report and show the result of latest data updated. The system also must produce a report showing the number or total of victim, officer, volunteer, and any related individual during the period of flood disaster in the Center for register in and register out from the center. This report is just only for Rescuer, the Temporary Accommodation Centre officer and Admin to update, delete and refer for any documentation purpose and management.

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3.4 System Design

3.4.1 Framework Design

A design framework is a simple visual structure that helps organize the information and ideas of a problem to work on the solving problem more effectively. A framework is often composed of a relevant list of categories.

Table 3-3 Role for the framework project design

Admin	User
Manage user account, the system and keep update the system based on requirement proposed.	Register and login account, select the type of system data to use as to store the information of the related person that affected by flood and updated the data to the system.

3.4.2 Architecture Design

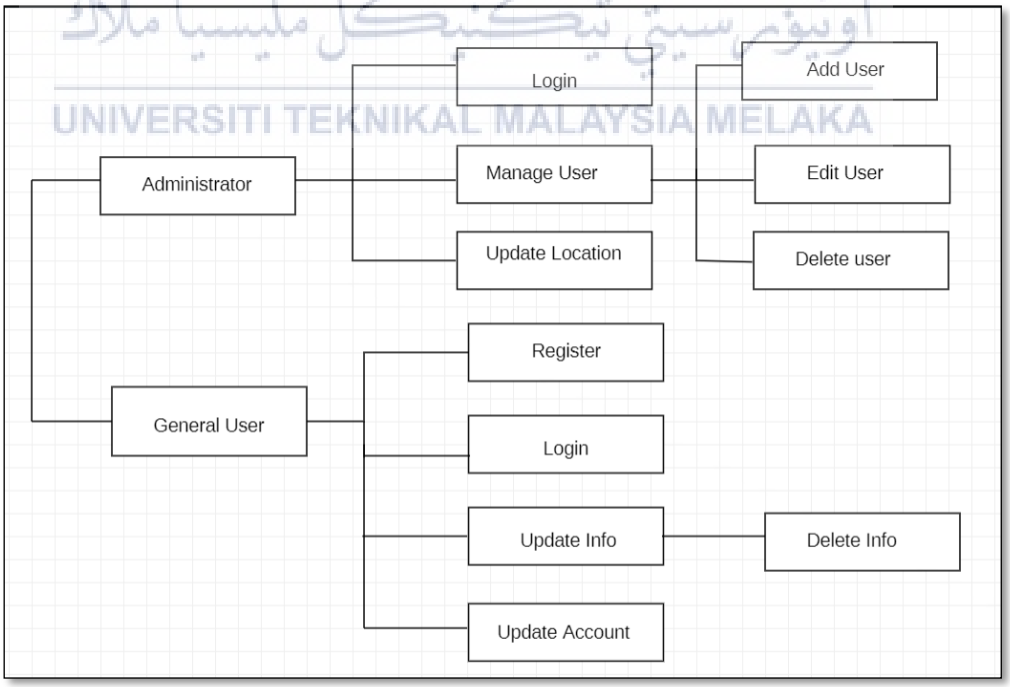

Figure 3-2 Architecture design for system's project.

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The system proposed mainly use by two category of user which consists of Administrator and the General User. Both of the system's user need to register and login to use the proposed system. The Administrator are responsible Add, Edit and also Delete the user. The general user responsible to enter and update the flood's victims, the Temporary Accommodation Center' visitors and also the volunteers who come in and out to do the volunteering activities at the Center by updating or deleting the necessary information.

3.4.3 Process Model

3.4.3.1 Flowchart Diagram for the proposed project

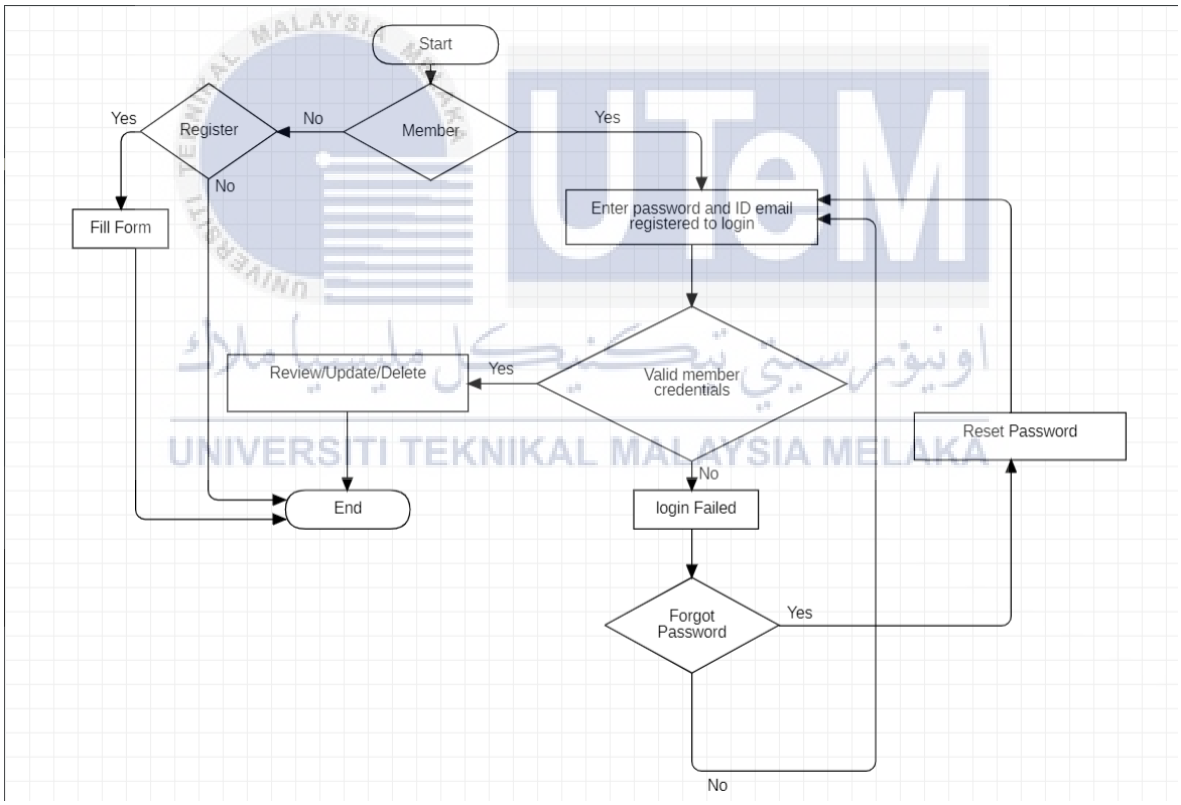

Figure 3-3 Flowchart diagram proposed for the system designed.

The proposed flowchart diagram starts with the user whether Administrator or the user of the system need to register by filling the form first. But, if the user of the system already registers and all the related information stored in the database then the user can be proceed by login (enter register email id and password). But then, if the login process to

the system fails then reset back the password by contacting the Administrator of the system.

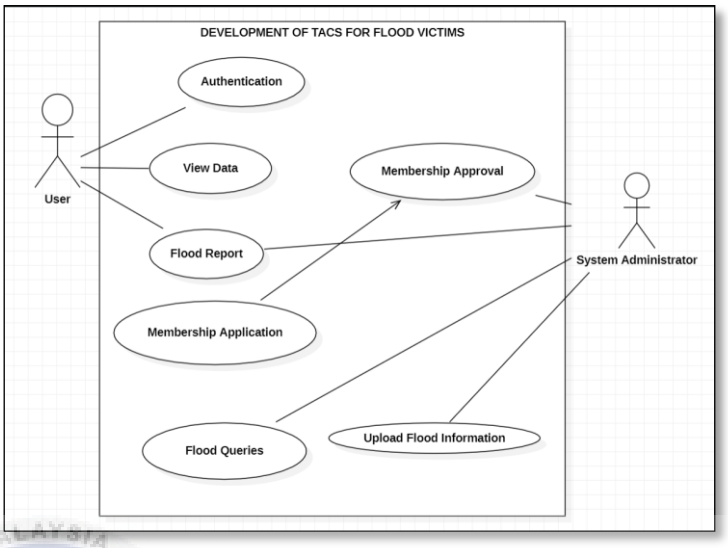

Figure 3-4 Use case diagram for the system proposed.

The system was designed around its primary functions. Following the analysis, the proposed system is depicted in Figure above as a use case diagram. The diagram depicts the functional interactions between the system and the parties involved (or users). Users were divided into two categories in this context: admin as system administrators and user which the on-duty officer for the center. A user could search for flood victims' information in specific areas of column data fields.

Furthermore, once logged in and authorized, they can enter the data required by the system in their case flooding area. These reports were verified by system administrators with whom the reporting user was affiliated to ensure their reliability. An officer (or a flood team member) can also verify all flood reports.

Finally, the system administrators were able to perform both membership management and flood victim report verification, manage flood victim data and provide it

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to the other agency, and issue appropriate reports of flood incidents that occurred in specific areas and timeframes.

3.4.3.2 Data Dictionary

a) User table of Data Dictionary for registration of the user's system.

Table 3-4 User (signup) table of data dictionary.

Attribute Name	Data Type	Data Size	Remark	Description
id	int	100	Primary key	Refers to an identity number held by each user to store their related information. Example: 16.
first_name	varchar	500	None	Referring to the user's first name. For example, ADAM MUHAMMAD.
last_name	varchar	500	None	Referring to the user's last name. For example, BIN SHAHARUDIN.
email	varchar	100	None	Referring to the email used by the user such adamMuhammad@gmail.com.
role	text		None	Referring to the role for the database usage hold by the a user.
category	text		None	Referring to the which agency user from such as KKM (Ministry of Health).
password	varchar	500	None	Referring to the password that was used by user the check-in system. For example, Adam1234.
cpassword	varchar	500	None	Referring to the password confirmation that was used by user the check-in system. For example, Adam1234.

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b) User table of Data Dictionary for registration in to the center fill by the flood's victim or any related individual.

Table 3-5 Information for registration in to the center (info_register_checkin) of data dictionary.

Attribute Name	Data Type	Data Size	Remark	Description
info_name	Varchar	500	None	Refers to the full name registered head family as Azira Binti Rashid.
info_ic_number	Varchar	30	None	Refers to an identity card number held by registered head family. Example: 870819056089.
info_age	int	10	None	Refers to an age number held by that person.
info_gender	text	None	None	Refers to the gender of person.
info_category	text	None	None	Referring to the category of that person for entering the Temporary Accommodation Center.
info_address	Varchar	100	None	Referring to the address of the person's information.
info_tel_number	text	10	None	Referring to the contact number of the person's information. Example: 0182825671
info_date_checkin	date		None	Referring to the date checkin for that person to enter the Temporary Accommodation Center.
info_date_checkin	time		None	Referring to the time checkin for that person to enter the Temporary Accommodation Center.

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c) User table of Data Dictionary for registration out from the center fill by the flood's victim or any related individual.

Table 3-6 Information for registration out from the center (info_register_checkout) of data dictionary.

Attribute Name	Data Type	Data Size	Remark	Description
info_name	Varchar	500	None	Refers to the full name registered head family as Azira Binti Rashid.
info_ic_number	Varchar	30	None	Refers to an identity card number held by registered head family. Example: 870819056089.
info_age	int	10	None	Refers to an age number held by that person.
info_gender	text	None	None	Refers to the gender of person.
info_category	text	None	None	Referring to the category of that person for entering the Temporary Accommodation Center.
info_address	Varchar	100	None	Referring to the address of the person's information.
info_tel_number	text	10	None	Referring to the contact number of the person's information. Example: 0182825671
info_date_checkout	date		None	Referring to the date checkout for that person to enter the Temporary Accommodation Center.
info_date_checkout	time		None	Referring to the time checkout for that person to enter the Temporary Accommodation Center.

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3.5 Summary

The process for Development of Temporary Accommodation Centre System (TACS) For Flood Victims Using PHP MySQL Database is described in this chapter. This approach was typically based on the step on how to implement the web-based design with application of DBMS by using the PHP and MySQL where it is easy to follow and handle by following sequence of project methods. By referring to the project implementation, project development and the system design, the project can complete and meet up with the requirement for the system design. The key for this chapter is to identify and analyses all of the component of system needed to project to be completed as it required.

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CHAPTER 4

RESULTS AND DISCUSSIONS

4.1 Introduction

This chapter presents the results and analysis on the development of the Delopment Of Temporary Accommodation Center System (TACS) For Flood Victims Using PPH MySQL Database. All of the results from the implementation process until end that must be meet the requirement for the project will be discussed in this chapter.

4.2 Results and Analysis

4.2.1 Software implementation with programming language used.

Figure 4-1 File name for the website project.

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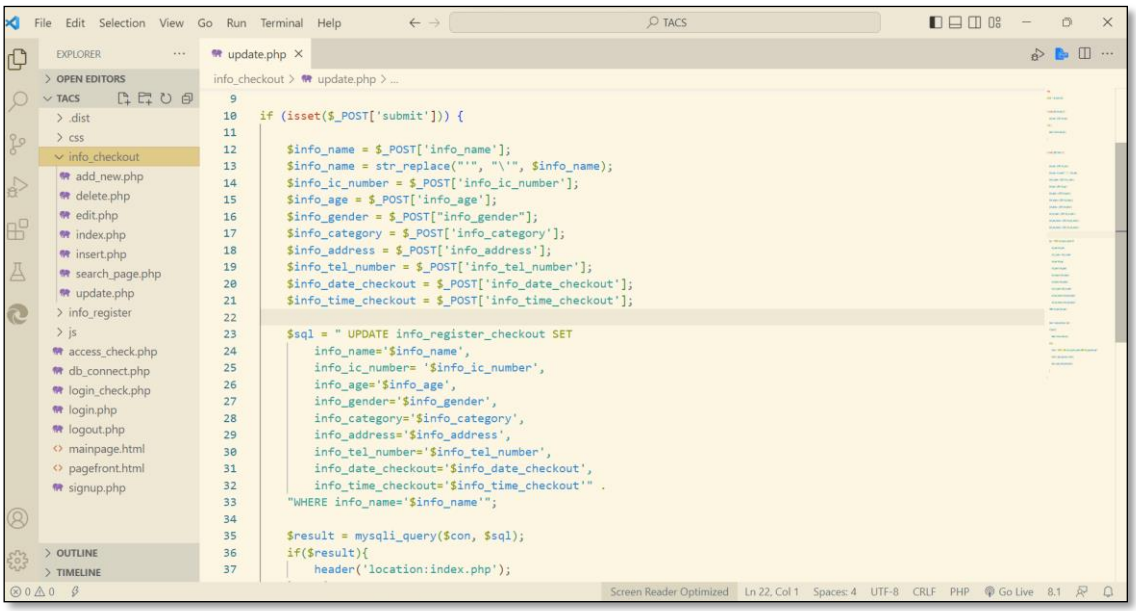

Figure 4-2 File name for the website project.

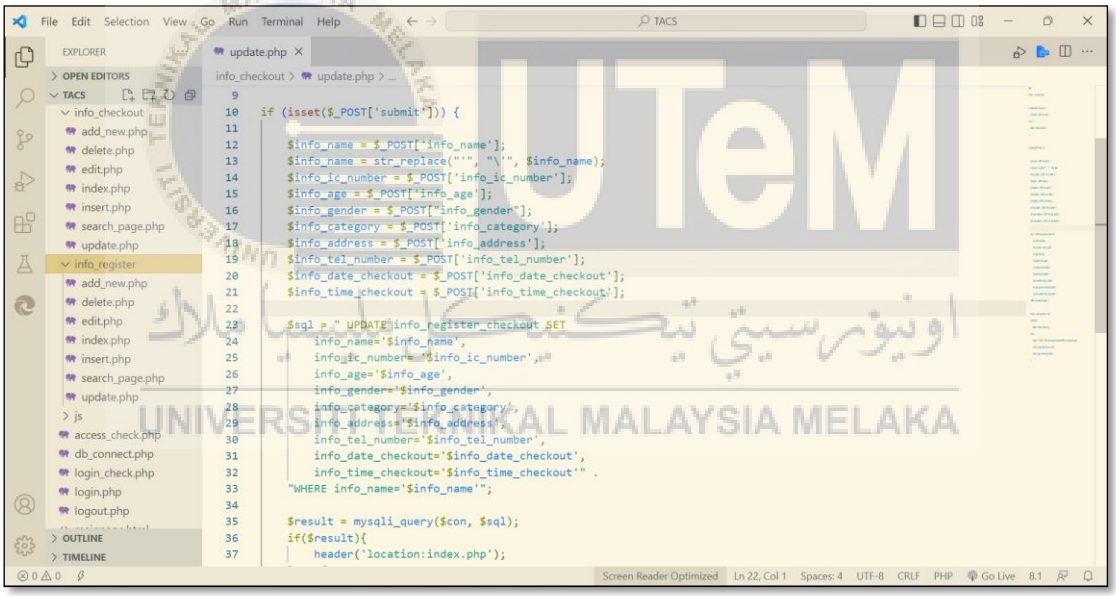

Figure 4-3 File name for the website project.

All the scripting code done with Visual Studio Code software. The files mainly saved as the '.php' as they are often used as web page files that usually generate HTML from a PHP engine running on a web server. The HTML content that the PHP engine creates from the code is what's seen in the web browser. Since the web server (in this case, 'localhost') is where the PHP code is executed, accessing a PHP page doesn't give the access to the code, but instead provides the HTML content that the server generates.

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While the '.html' files will only contain the Hyper Text Markup Language. The HTML is the standard markup language for creating Web pages. The HTML describes the structure of a Web page project. The project also used SQL language is a standard language for the database instruction and execution of storing, manipulating and retrieving data in databases.

For this project it's include all the related script coding inside a parent's file and two main storing information scripting code files are stored in a child's files named *info_register_checkin* and *info_register_checkout.* Through the 'php' scripting part inside the coding script, all needed coding scripting files can be access for this project to be working on properly fine as project structure designed and to be implement.

4.2.2 Database

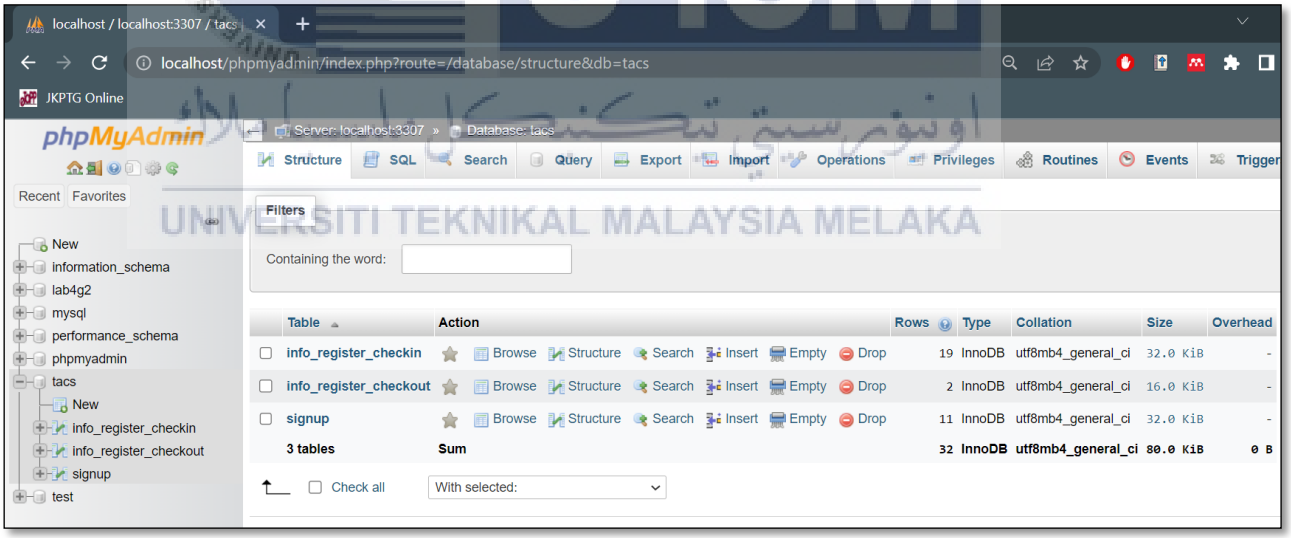

Figure 4-4 Database *localhost* for the project.

The database named 'tacs' for the project build and inside this database contained three tables ('signup', 'info_register_checkin' and 'info_register_checkout') to store the input data information. For the tables, all the variables are input as documented accordingly with the data dictionary designed in chapter 3.

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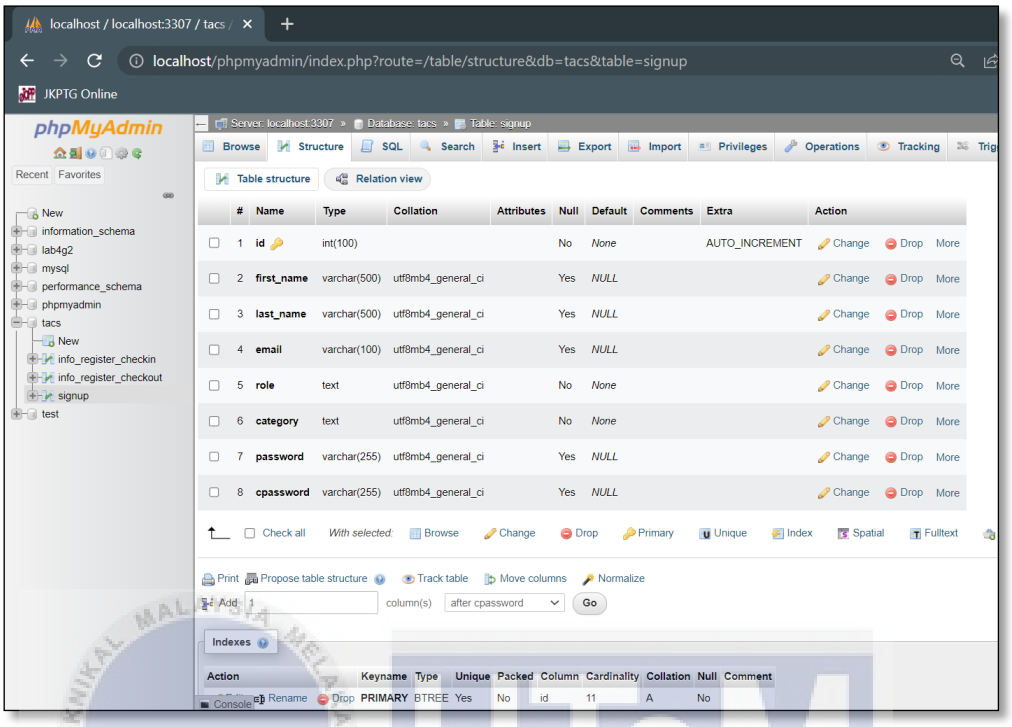

Figure 4-5 Table structure for 'signup'.

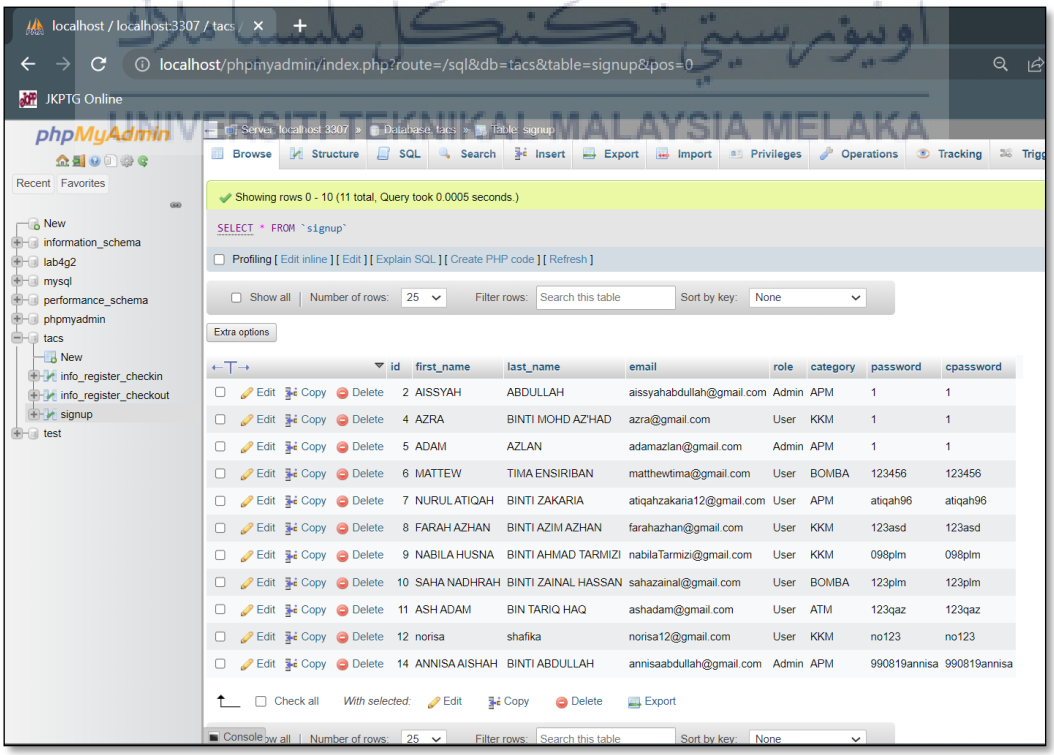

Figure 4-6 Table browse for 'signup'

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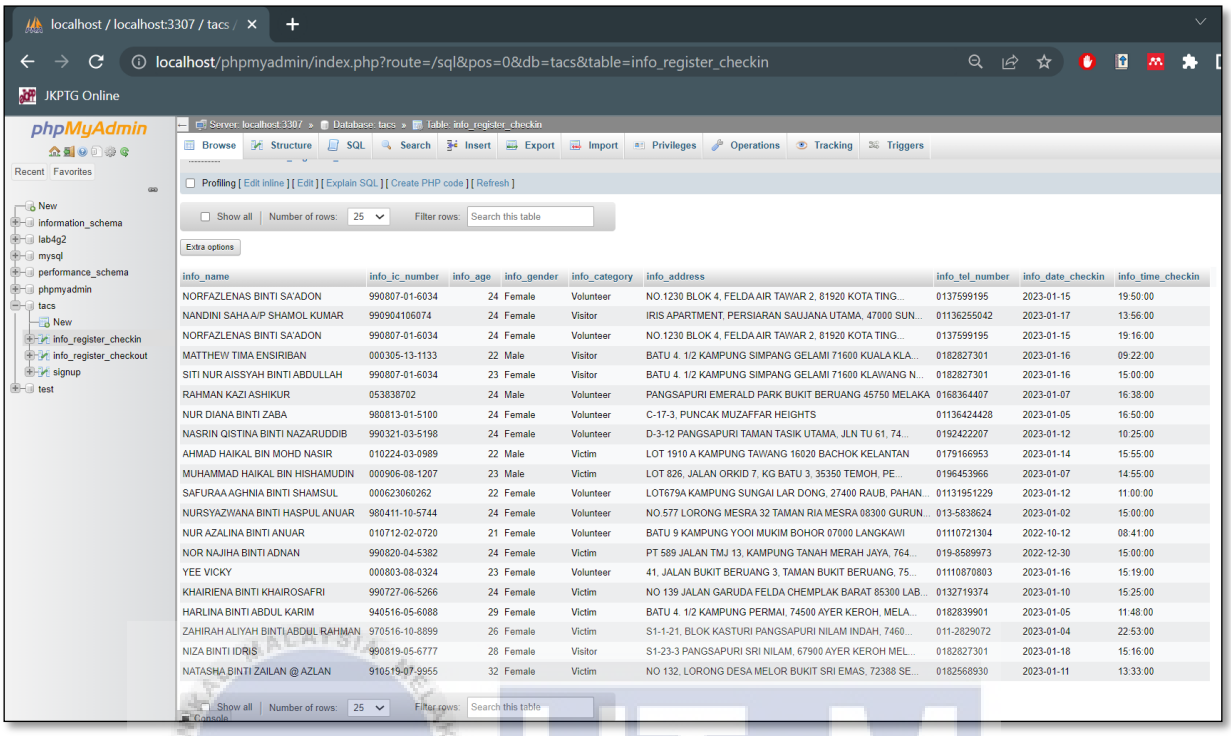

Figure 4-7 Table browse for 'info_register_checkin'

From *Figure 4-7*, all of this information can be displayed through the website as well (index.php page).

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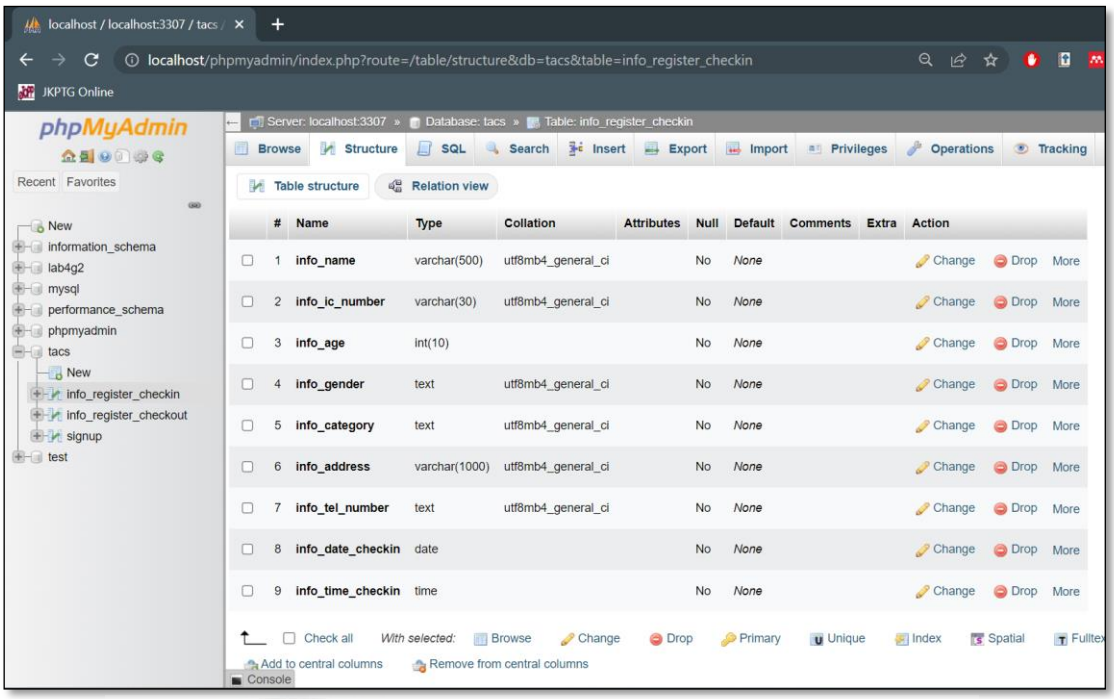

Figure 4-8 Table structure for 'info_register_checkin'

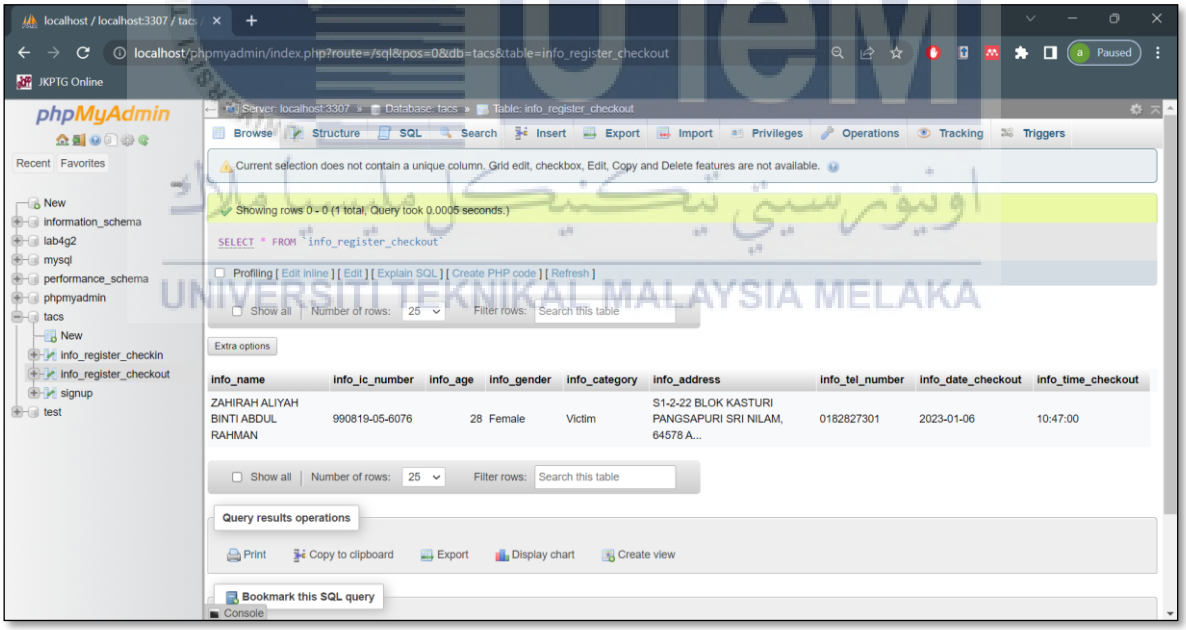

Figure 4-9 Table browse for 'info_register_checkout'

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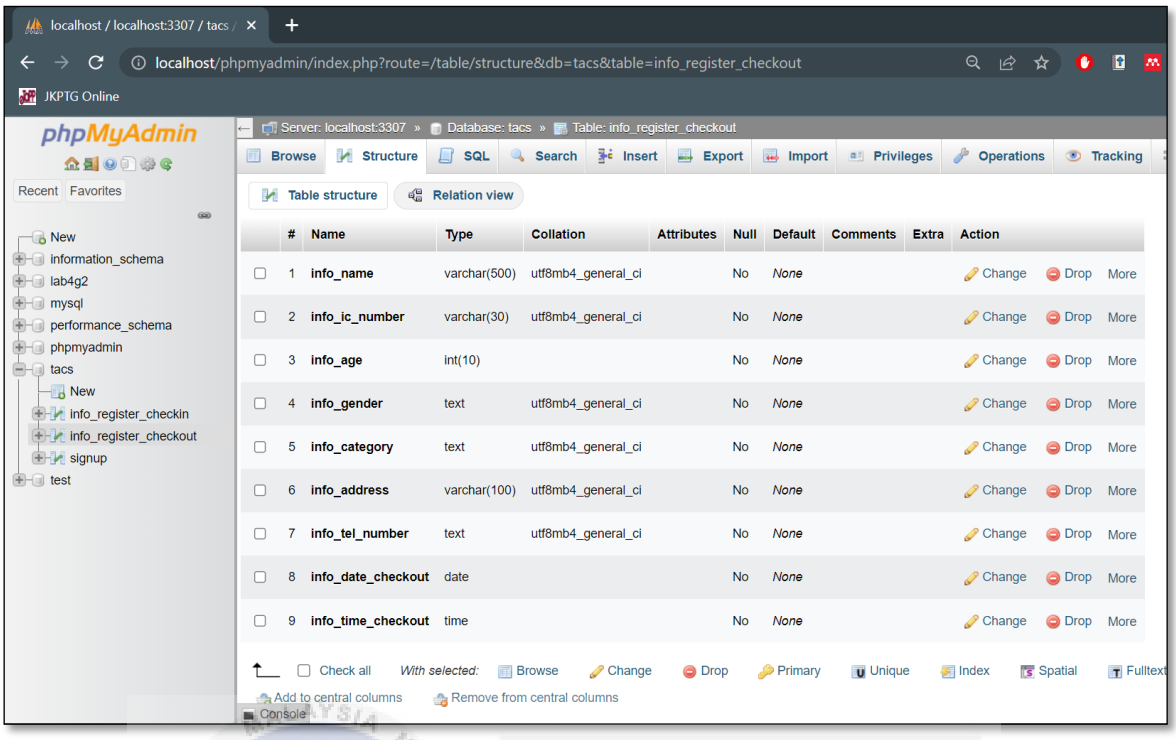

Figure 4-10 Table structure for 'info_register_checkout'

Inside this database, all the tables are using the same variable names as in the data dictionary in previous chapter 3. Overall, in this part shows all the related content that can be browse in 'phpMyAdmin' from the information stored inside the tables in the database to the database's information.

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4.2.3 Website

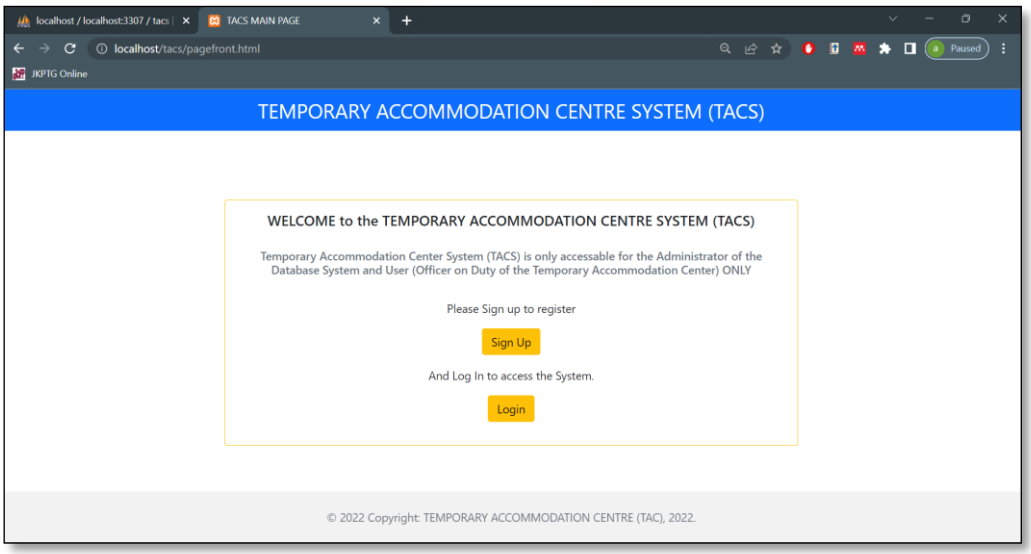

Figure 4-11 Mainpage website designed for the project.

The mainpage for the website design which to help the user to register before used and access the information databases system. And then, only the related user can login to the website and used the system designed. This is to prevent any unauthorized access as to protect all the information stored in the database as it is include private information such as flood's victims IC number, address and contact information.

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4.2.4 Testing and Running

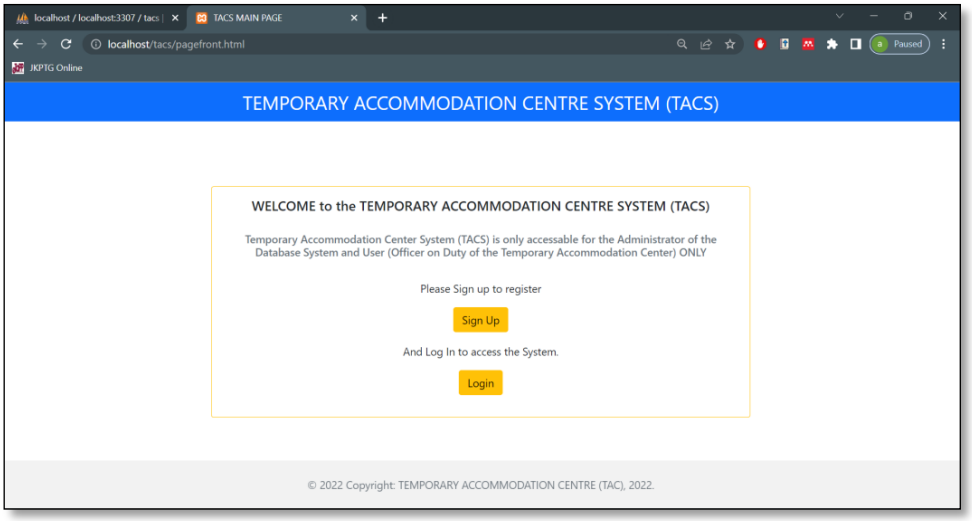

Figure 4-12 Mainpage website designed for the project.

The mainpage for the website design which to help the user to register before used and access the information databases system. And then, only the related user can login to the website and used the system designed.

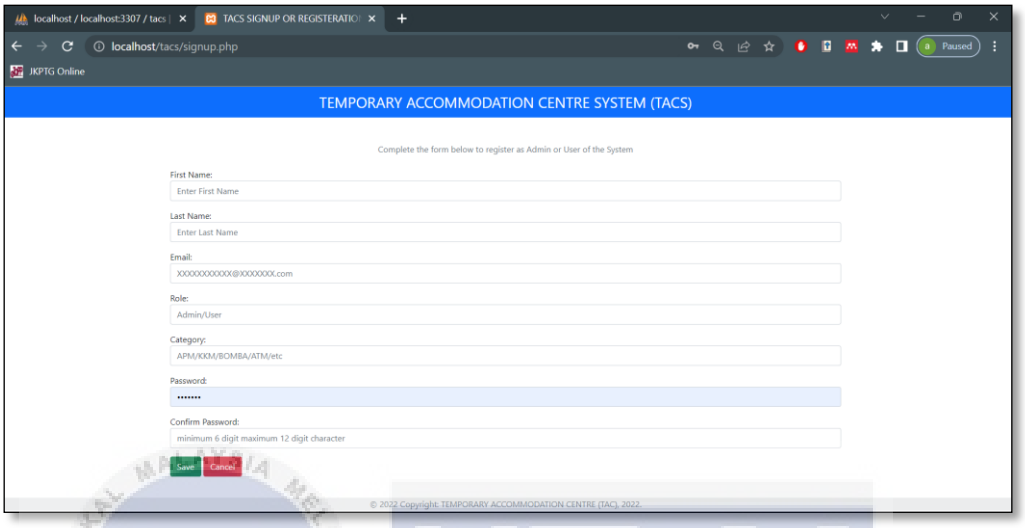

Figure 4-13 Signup page form designed for website project.

The user needs to complete this signup form to register in order to use the database designed system and to access further the websites feature. All related information is gathered for the database system identification and this information would be helpful for later to track the user login and logout from the system and also can be extract for documentation purposes to trace for the each person who register and used the database system designed.

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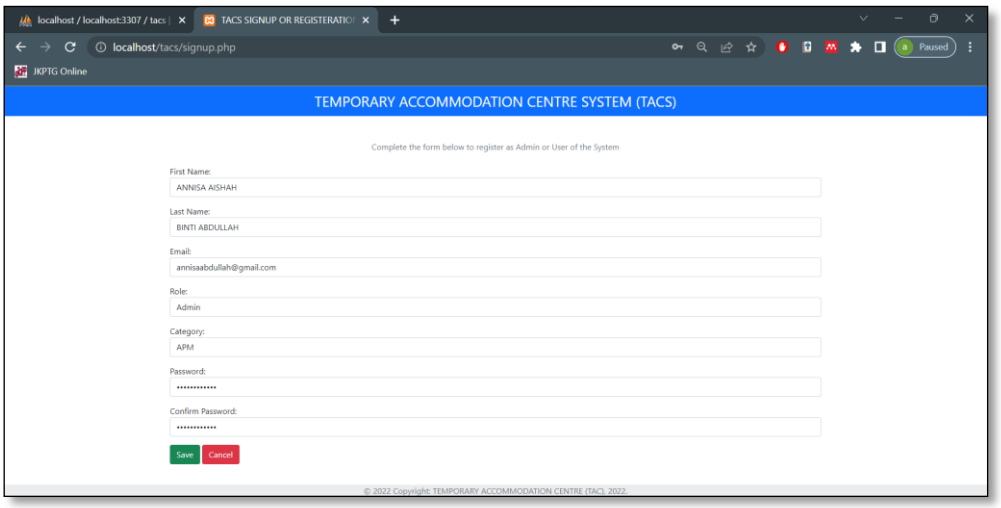

Figure 4-14 The password column are not visible to the user.

The password entered to the column form are displayed as in the point form. One of the requirement of the database system designed is that it will only accept and store the same or matching data for columns ‘password’ and ‘confirm password’. Other than that, the localhost will output a message to the user system and user need to fill-back the form.

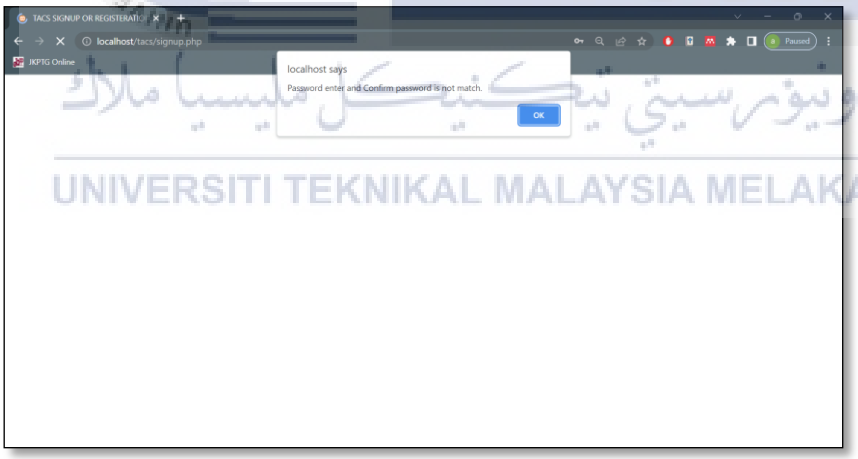

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Figure 4-15 Message displayed for unmatch password.

The message displayed by the ‘localhost’ to the user system and user need to fill-back the form. Only then, the user can proceed to the login page of the website.

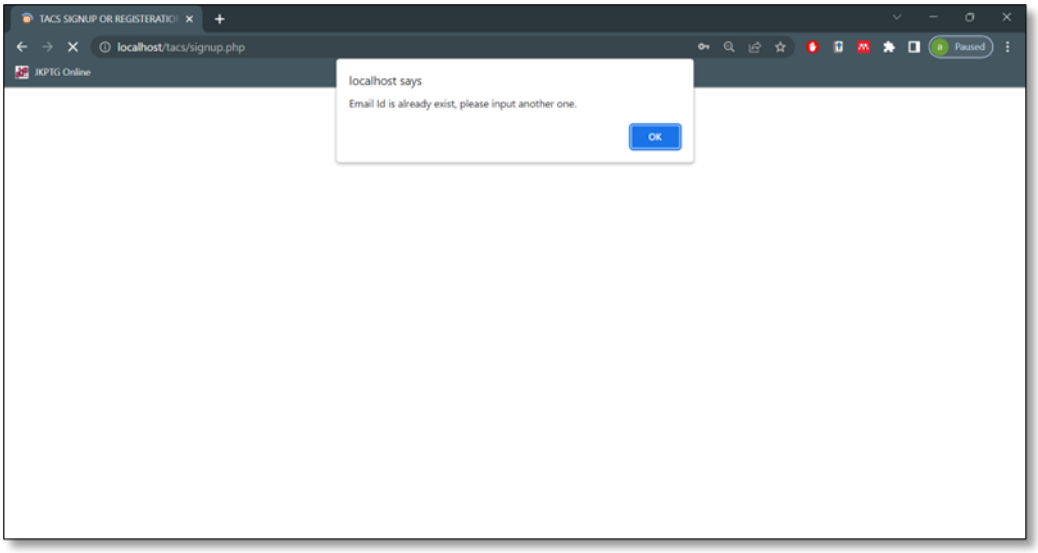

Figure 4-16 Email id entered previously used.

In the phase of registration to use the website and gained the access to the information stored in the database, the user cannot use the same email address as registed previously or already stored in database system.

Figure 4-17 Main features of the project.

The user can register the information of flood's victim who came in and out, visitor of the center who come to visit the center and the volunteer that came in and out do the volunteering activities at the Temporary Accommodation center.

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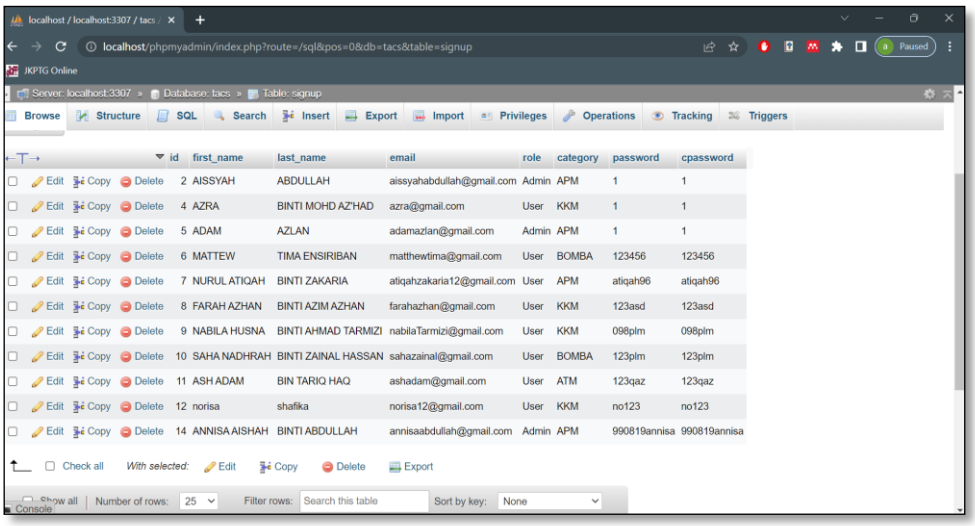


Figure 4-18 Sample data stored in the database.

All the related information for registration into the center stored and kept in the database 'localhost' phpMyAdmin. This data also can be edit and delete inside the phpMyAdmin.

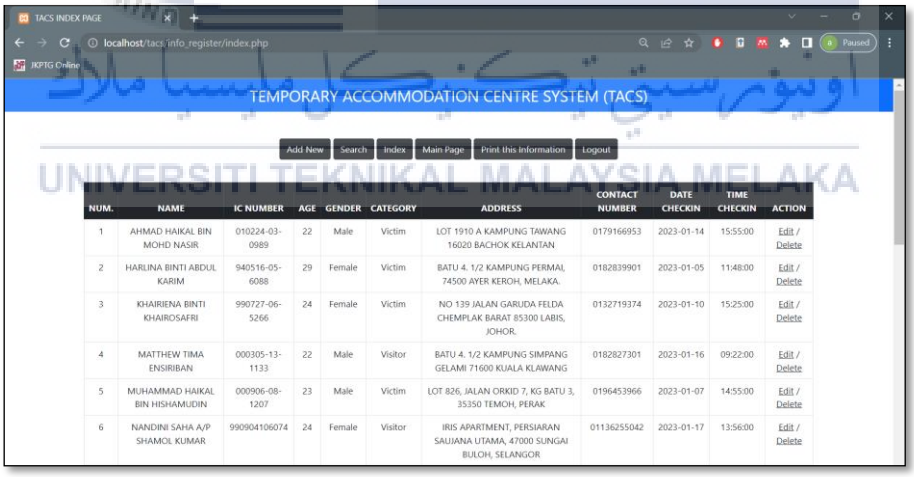
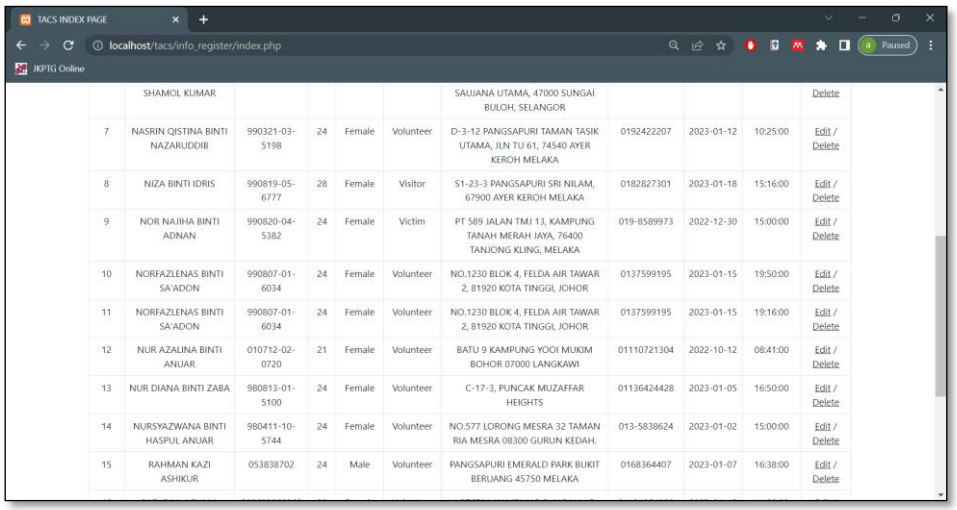


Figure 4-19 Sample data from database output display to the user in index page.

All the related information for registration into the center for any purposes stored and kept in the database 'localhost' phpMyAdmin. This data also can be edit and delete inside the phpMyAdmin.



	SHAMOL KUMAR					SAUJANA UTAMA, 47000 SUNGAI BULOH, SELANGOR				Delete
7	NASRIN QISTINA BINTI NAZARUDDIB	990321-03-5198	24	Female	Volunteer	D-3-12 PANGSAPURI TAMAN TASIK UTAMA, JLN TU 61, 74540 AYER KEROH MELAKA	0192422207	2023-01-12	10:25:00	Edit / Delete
8	NIZA BINTI IDRIS	990819-05-6777	28	Female	Visitor	S1-23-3 PANGSAPURI SRI NILAM, 67900 AYER KEROH MELAKA	0182827301	2023-01-18	15:16:00	Edit / Delete
9	NOR NAJIHA BINTI ADNAN	990820-04-5382	24	Female	Victim	PT 589 JALAN TMJ 13, KAMPUNG TANAH MERAH JAYA, 76400 TANJONG KLING, MELAKA	019-8589973	2022-12-30	15:00:00	Edit / Delete
10	NORFAZLENAS BINTI SA'ADON	990807-01-6034	24	Female	Volunteer	NO.1230 BLOK 4, FELDA AIR TAWAR 2, 81920 KOTA TINGGI, JOHOR	0137599195	2023-01-15	19:50:00	Edit / Delete
11	NORFAZLENAS BINTI SA'ADON	990807-01-6034	24	Female	Volunteer	NO.1230 BLOK 4, FELDA AIR TAWAR 2, 81920 KOTA TINGGI, JOHOR	0137599195	2023-01-15	19:16:00	Edit / Delete
12	NUR AZALINA BINTI ANUAR	010712-02-0720	21	Female	Volunteer	BATU 9 KAMPUNG YOOI MUKIM BOHOR 07000 LANGKAWI	01110721304	2022-10-12	08:41:00	Edit / Delete
13	NUR DIANA BINTI ZABA	980813-01-5100	24	Female	Volunteer	C-17-3, PUNCAK MUZAFFAR HEIGHTS	01136424428	2023-01-05	16:50:00	Edit / Delete
14	NURSYAZWANA BINTI HASPUL ANUAR	980411-10-5744	24	Female	Volunteer	NO.577 LORONG MESRA 32 TAMAN RIA MESRA 08300 GURUN KEDAH.	013-5838624	2023-01-02	15:00:00	Edit / Delete
15	RAHMAN KAZI ASHIKUR	053838702	24	Male	Volunteer	PANGSAPURI EMERALD PARK BUKIT BERUANG 45750 MELAKA	0168364407	2023-01-07	16:38:00	Edit / Delete

Figure 4-20 Sample data from database output display to the user in index page.

All the related information for registration into the center for any purposes of visit or volunteering or as a victim will be stored and kept in the database 'localhost' phpMyAdmin and the data can be retrieved back and display in the index page of the websites.

	SA'ADON	6034				2, 81920 KOTA TINGGI, JOHOR				Delete
12	NUR AZALINA BINTI ANUAR	010712-02-0720	21	Female	Volunteer	BATU 9 KAMPUNG YOOI MUKIM BOHOR 07000 LANGKAWI	01110721304	2022-10-12	08:41:00	Edit / Delete
13	NUR DIANA BINTI ZABA	980813-01-5100	24	Female	Volunteer	C-17-3, PUNCAK MUZAFFAR HEIGHTS	01136424428	2023-01-05	16:50:00	Edit / Delete
14	NURSYAZWANA BINTI HASPUL ANUAR	980411-10-5744	24	Female	Volunteer	NO.577 LORONG MESRA 32 TAMAN RIA MESRA 08300 GURUN KEDAH.	013-5838624	2023-01-02	15:00:00	Edit / Delete
15	RAHMAN KAZI ASHIKUR	053838702	24	Male	Volunteer	PANGSAPURI EMERALD PARK BUKIT BERUANG 45750 MELAKA	0168364407	2023-01-07	16:38:00	Edit / Delete
16	SAFURAA AGHNIA BINTI SHAMSUL	000623060262	22	Female	Volunteer	LOT679A KAMPUNG SUNGAI LAR DONG, 27400 RAUB, PAHANG	01131951229	2023-01-12	11:00:00	Edit / Delete
17	SITI NUR AISSYAH BINTI ABDULLAH	990807-01-6034	23	Female	Visitor	BATU 4. 1/2 KAMPUNG SIMPANG GELAMI 71600 KLAWANG NEGERI SEMBILAN	0182827301	2023-01-16	15:00:00	Edit / Delete
18	YEE VICKY	000803-08-0324	23	Female	Volunteer	41, JALAN BUKIT BERUANG 3, TAMAN BUKIT BERUANG, 75450 MELAKA TENGAH, MELAKA.	01110870803	2023-01-16	15:19:00	Edit / Delete
19	ZAHIRAH ALIYAH BINTI ABDUL RAHMAN	970516-10-8899	26	Female	Victim	S1-1-21, BLOK KASTURI PANGSAPURI NILAM INDAH, 74600 AMPANG JAYA, SELANGOR.	011-2829072	2023-01-04	22:53:00	Edit / Delete

Figure 4-21 Sample data from database output display to the user in index page.

All the related information for registration into the center for any purposes of visit or volunteering or as a victim will be stored and kept in the database 'localhost'

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phpMyAdmin and the data can be retrieved back and display in the index page of the websites. The user can view the related information and use it for other purposes.

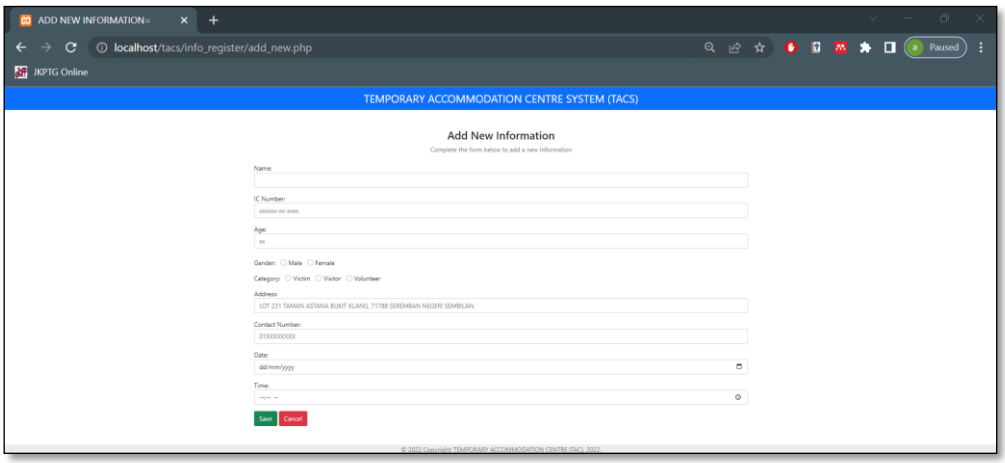

Figure 4-22 Insert new data to the database.

The webpage form for insertion of any new data to the database system. Which the user needs to enter the related information of the flood's victims and visitors who came in and out from the Temporary Accommodation Center and for the volunteering that came in and out from the Center to do any volunteering activities.

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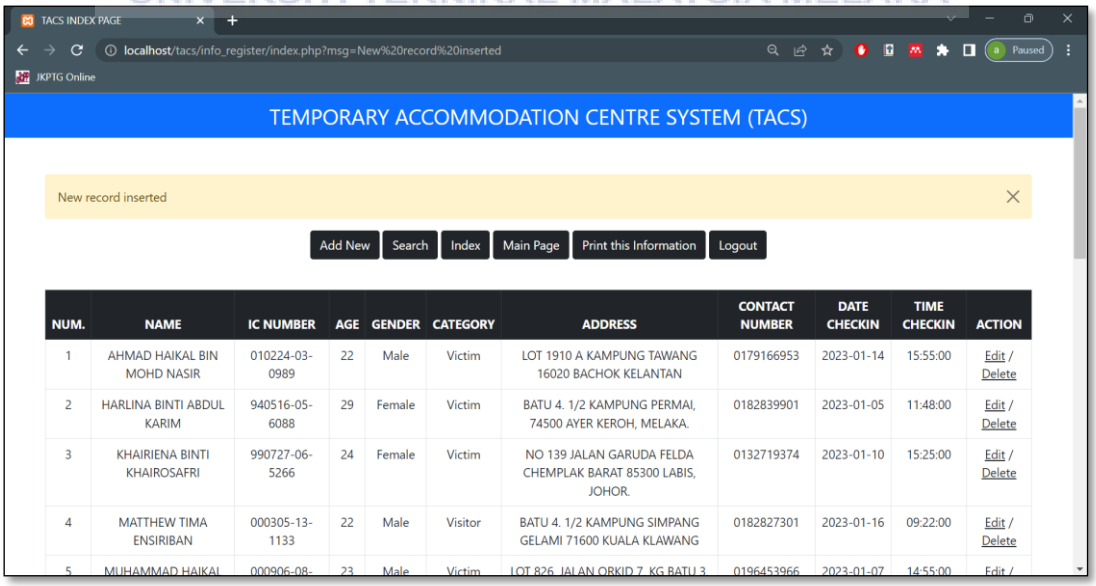

Figure 4-23 The website displayed message of new inserted data.

The website will display a message ‘New record inserted’ of any data inserted to the database system. Users need to click ‘X’ to continue use the website and for further access to other features of the database website.

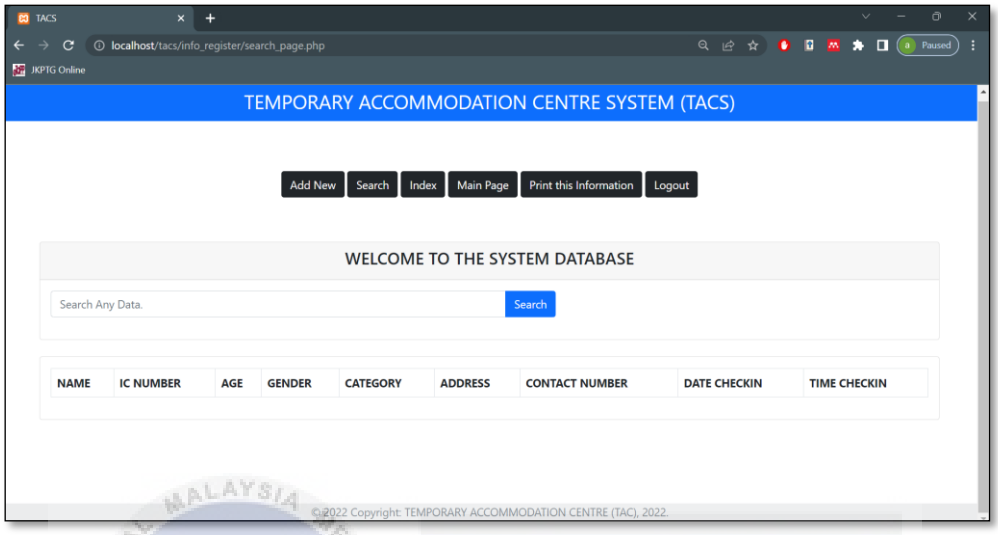

Figure 4-24 Search bar to search for any data inside the database.

The user of the website can access any data from the database system and all the related information of searching query results can be displayed to the website page.

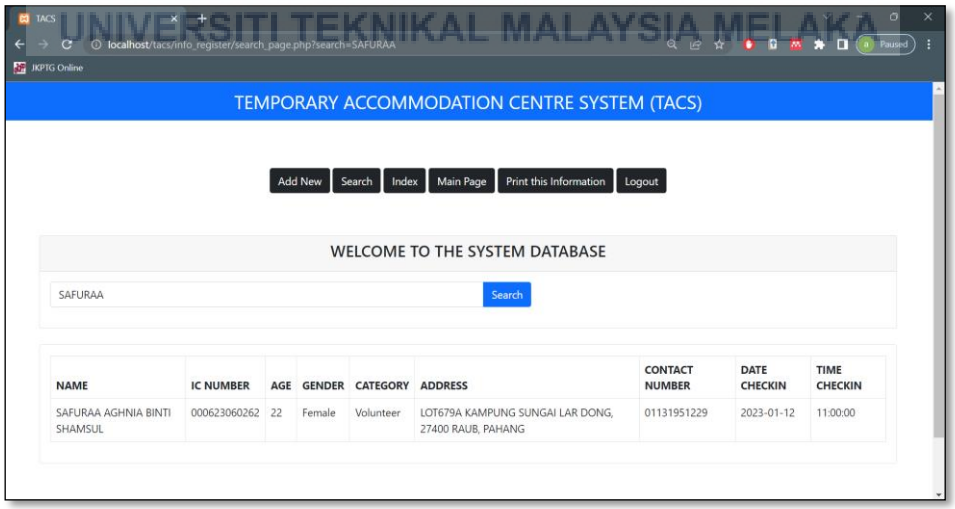

Figure 4-25 Example of searching query of ‘SAFURAA’.

The data that can retrieve from the database using a specific string character such as “SAFURAA”.

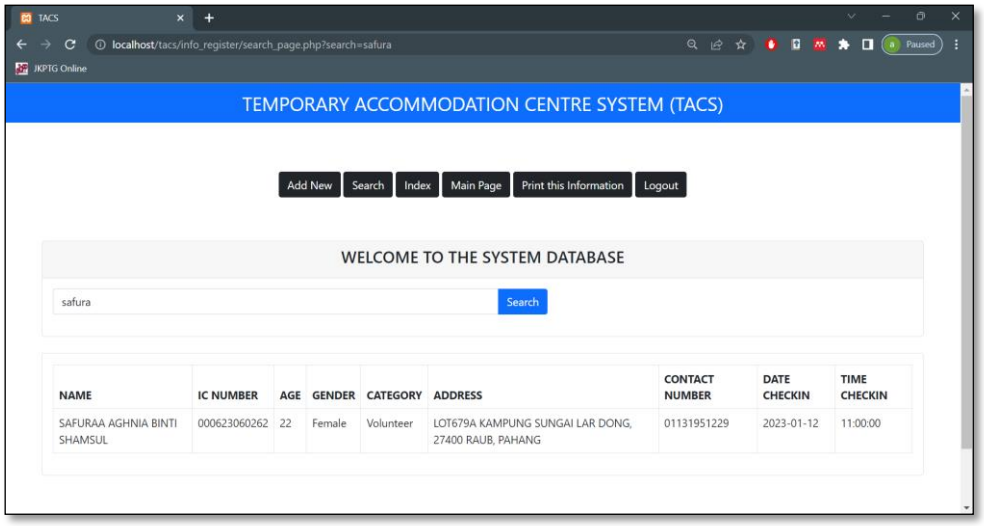

Figure 4-26 Example of searching query of 'safura'.

The data that can retrieve from the database using a specific string character such as “safura”.

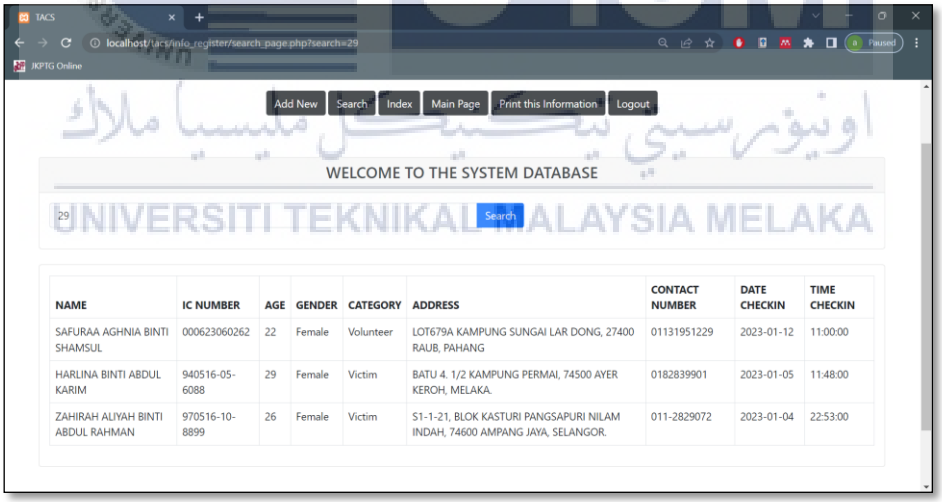

Figure 4-27 Example of searching query.

The data that can retrieve from the database using an input for an integer such as “29”.

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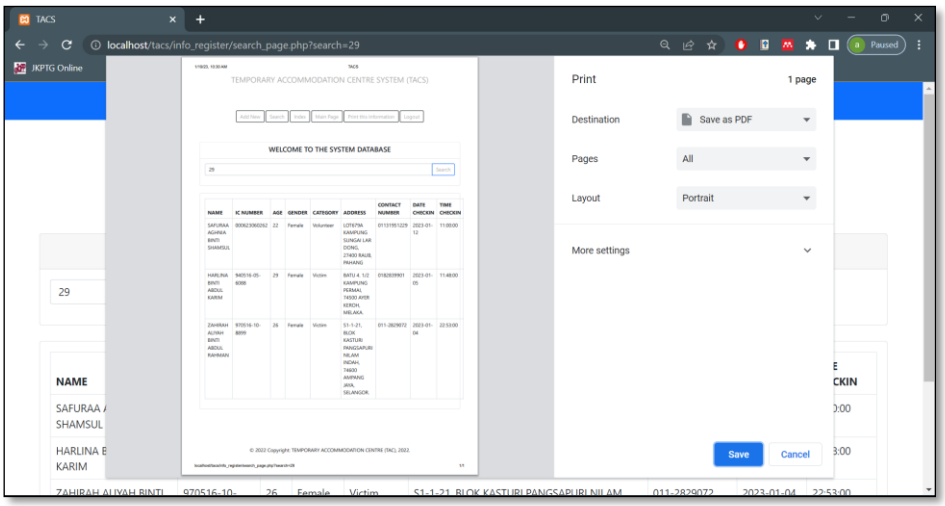
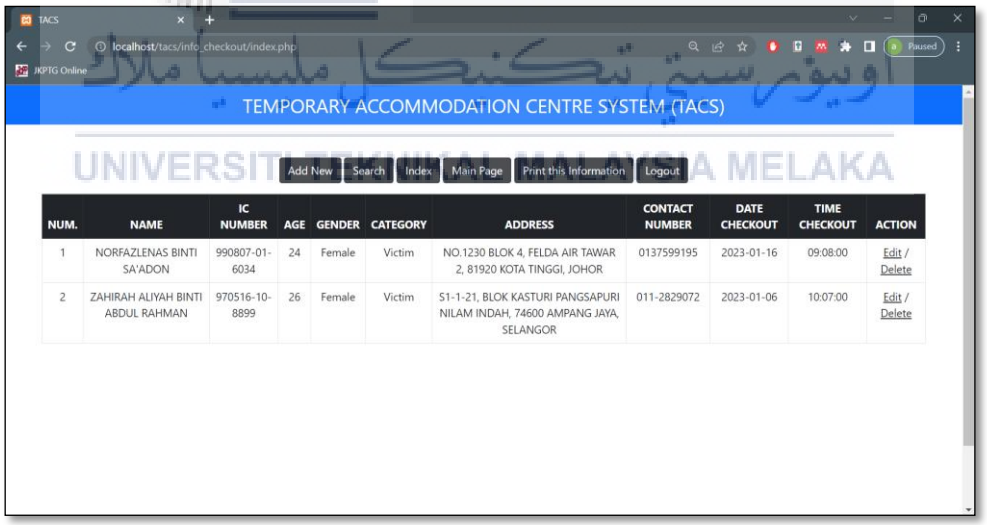


Figure 4-28 Print out function or to save information inside the database directly to the computer.

The results or the index page from the website page can be directly print out or save as the document in the computer's local storage. The saved or downloaded file can be share through email or others sharing files ways.



NUM.	NAME	IC NUMBER	AGE	GENDER	CATEGORY	ADDRESS	CONTACT NUMBER	DATE CHECKOUT	TIME CHECKOUT	ACTION
1	NORFAZLENAS BINTI SA'ADON	990807-01-6034	24	Female	Victim	NO.1230 BLOK 4, FELDA AIR TAWAR 2, 81920 KOTA TINGGI, JOHOR	0137599195	2023-01-16	09:08:00	Edit / Delete
2	ZAHIRAH ALIYAH BINTI ABDUL RAHMAN	970516-10-8899	26	Female	Victim	S1-1-21, BLOK KASTURI PANGSAPURI NILAM INDAH, 74600 AMPANG JAYA, SELANGOR	011-2829072	2023-01-06	10:07:00	Edit / Delete

Figure 4-29 Webpage for registration check out from the center.

The webpage of index page for registration checkout from the center. Also include action for 'edit' and 'delete' the inserted data.

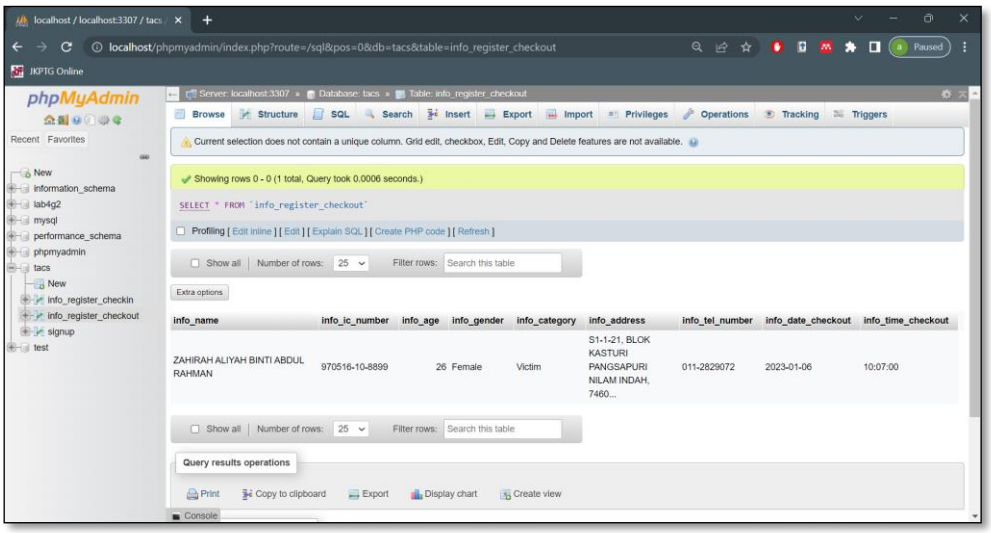


Figure 4-30 Database localhost for registration check out from the center after deletion action used.

The database ‘localhost’ for registration checkout from the center after deletion of inserted data. The inserted data can be deleted or edited through the ‘localhost’.

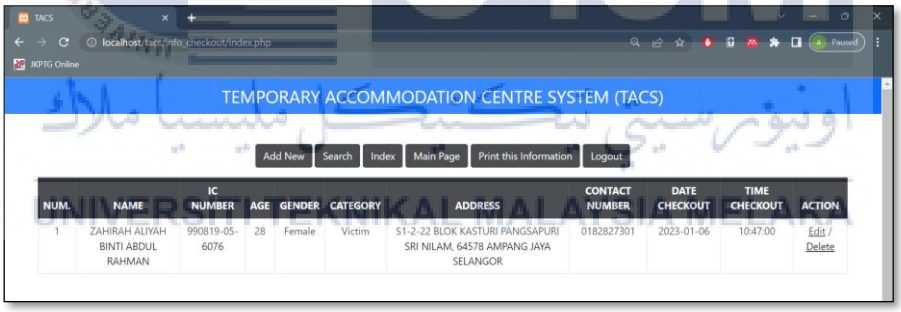


Figure 4-31 Index page for registration check out from the center after deletion action used.

The index page for registration checkout from the center after deletion of inserted data. The deleted data cannot be retrieved back from the ‘localhost’ after click ’Delete’ and the action cannot be undone.

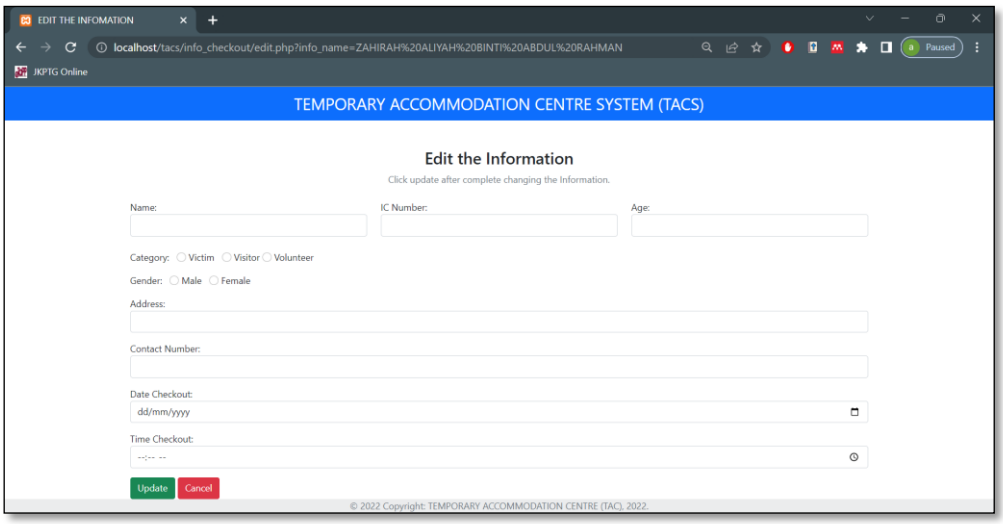


Figure 4-32 Edit the information form.

The flood's victim or the visitor or any related person need to fill in back the correct information to store the data's information to the database 'localhost'.

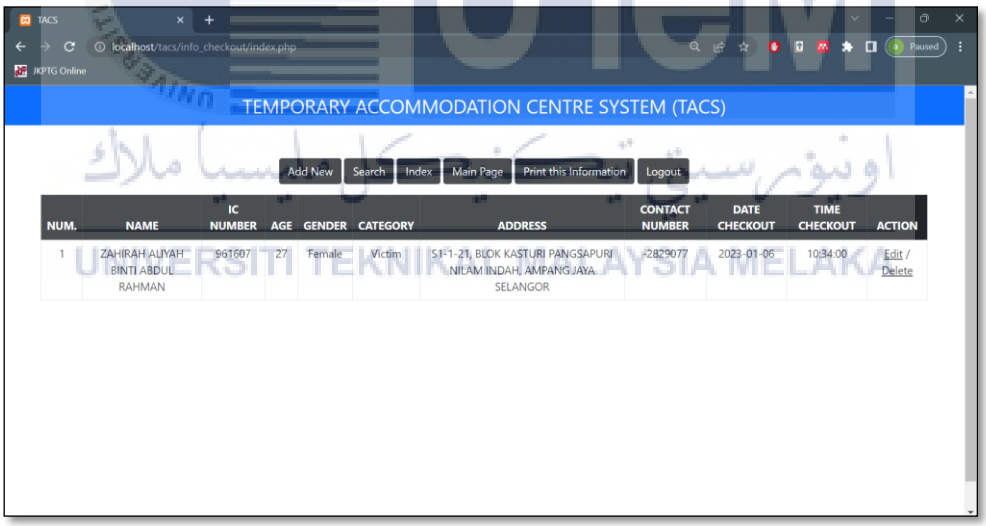


Figure 4-33 Edit the information form and the Index page for registration check out from the center for the 'Edit' action used.

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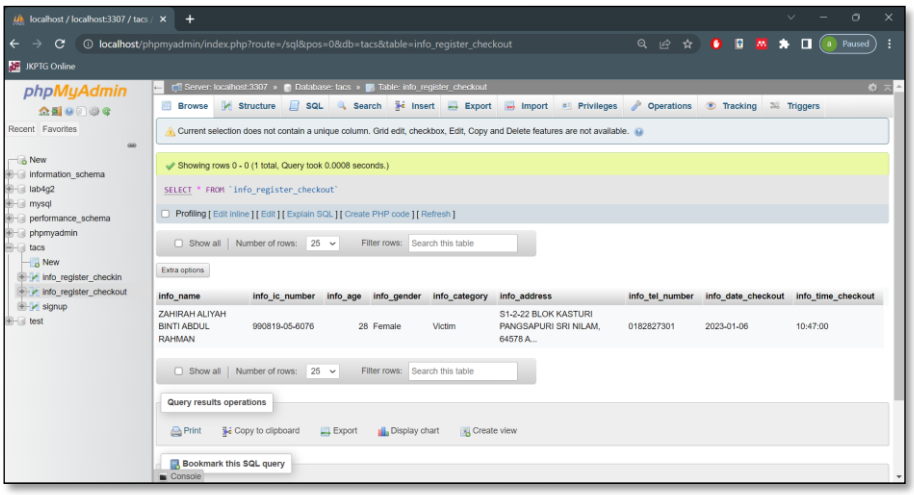

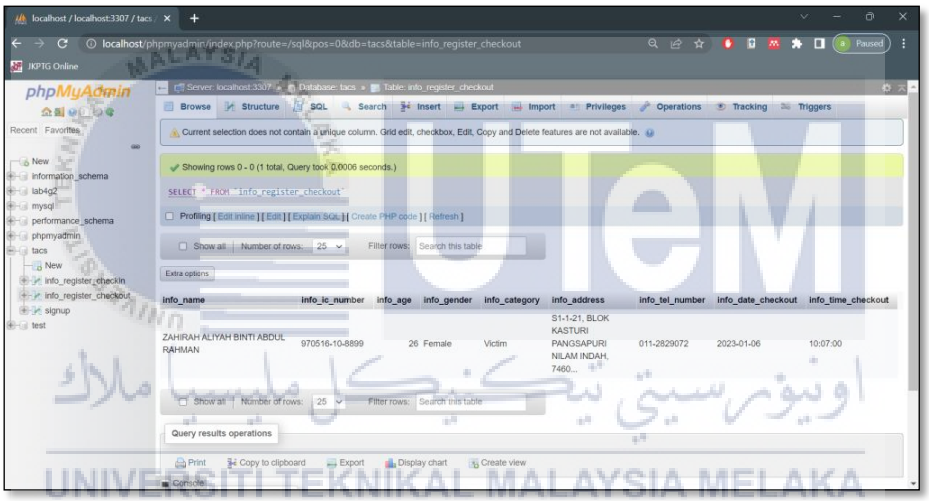

Figure 4-34 Database localhost for registration check out from the center before and after 'Edit' action used.

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4.3 Summary

This chapter presented the case project to demonstrate the applicability of the proposed system for this project of Development of The Temporary Accommodation Center System (TACS) fro Flood Victims using PHP MySQL Database. The project involving around 15 person as to testing the proposed system during the phase of implementation, development and testing of the proposed system.

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CHAPTER 5

CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

This thesis presents a method for developing a database system for storing related information for officer, floods victim, visitor and volunteer in a Temporary Accommodation Center in one affected floods area as the registeration process for entering and out from the center can be conduct and managed much efficiently as it would help to reduce the use of paper and time consuming to fill in the information needed in the paper as well. The efficiently management of the Temporary Accommodation Center is essential for the flood victims until the flood victim can settle down by their own as depends on variety of factors for them to go back to their home.

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The concept of web-based application for Development Of Temporary Accommodation Center System (TACS) For Flood Victims Using PHP MySQL Database allows the data to be key in and summarize faster compared to the all of the information manually entered on paper, and then the information is summarized on a white board. The important information statistic can also be relay faster to the authorities for further action and plan. The statistic and the information will be helpful and easy to be distributed to the related media as to provide the important information to the public.

The first objective is to design a database system that store all the important needed information of the floods victims. Next, to design the database system, build that can be used as to share the information needed to any related agencies before, during or

after the flood disaster and to develop a system that can help the temporary accommodation centre managed and help the floods victim orderly. Moreover, this develop system are important to help the agencies involved to conduct more in -depth studies to reduce the adverse effects if this disaster recurs in the future. The database system can also be used as an official document for reporting purposes which simplifies the information collection and saves time for all of the officer at the temporary accommodation center.

5.2 Project Potential

This project can help to the manage the temporary accommodation center efficiently, prevent any incorrect information in the report and all the related to documentation can be done effectively for the related government agencies for further plan as the infromation can be shared across the agencies immediately. The statistic and the information will be helpful and easy to be distributed to the related media as to provide the important information to the public.

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5.3 Future Works

For future improvements, the efficiency and accuracy of the system could be improved as follows:

i) The database system can be implement with other database application such as GPS because this system can be used in certain area which updated and approved by admin only.

ii) Provide much accuracy search queries results as the website designed can filtered string and for high accuracy, the user must input the whole keyword.

iii) The database system is only run non-web-based only. But, in the future, it can be implemented together with of mobile based version.

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APPENDICES

Appendix A Coding Lines for main.html file

```
<!DOCTYPE html>
<html lang="en">
<meta charset="utf-8">
<meta name="viewport" content="width=device-width, initial-scale=1">
<title>TACS MAIN PAGE</title>
<!-- Bootstrap -->
<link rel="stylesheet" href="css/bootstrap.css">
<!-- Font Awesome -->
<link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-
awesome/6.2.1/css/all.min.css"
    integrity="sha512-
MV7K8+y+gLIBoVD59lQIYicR65iaqukzvf/nwasF0nqhPay5w/9lJmVM2hMDcnK1OnMGCdVK+iQr
J7lzPJQd1w=="
    crossorigin="anonymous" referrerpolicy="no-referrer">
<title>TEMPORARY ACCOMMODATION CENTRE SYSTEM (TACS)</title>
</head>


<body class="bp-3 mb-2 bg-body-tertiary">
    <nav class="bg-primary text-white navbar navbar-light justify-content-
center fs-3 mb-5">
        TEMPORARY ACCOMMODATION CENTRE SYSTEM (TACS)
    </nav>
    <br><br>
    <center>
        <div class="card border-warning mb-3" style="max-width: 50rem;">
            <div class="card-body">
                <h5 class="card-title">WELCOME </h5>
                <br>
                <h6 class="card-subtitle mb-2 text-muted">REGISTER IN for
Registration In before enter to the Temporary
                    Accommodation Center (TAC) or REGISTER OUT for
registration out from the Temporary Accommodation
                    Centre
                    (TACS).</h6>
                <br>
                <p class="card-text">Choose only one.</p>
                <a href="info_register/index.php" class="card-link">REGISTER
IN </a>
                <a href="info_checkout/index.php" class="card-link">REGISTER
OUT</a>
```

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```
            </div>
        </div>
    </center>

    <footer class="text-center text-lg-start bg-light text-muted">
        <!-- Copyright -->
        <div class="text-center p-4 fixed-bottom" style="background-color:
rgba(0, 0, 0, 0.05);">
            © 2022 Copyright: TEMPORARY ACCOMMODATION CENTRE (TAC), 2022.
        </div>
        <!-- Copyright -->
    </footer>

    <!-- Bootstrap-->
    <script src="js/bootstrap.js"></script>
</body>
</html>
```

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Appendix B Coding Lines for frontpage.html

```
<!DOCTYPE html>
<html lang="en">
<meta charset="utf-8">
<meta name="viewport" content="width=device-width, initial-scale=1">
<title>TACS MAIN PAGE</title>
<!-- Bootstrap -->
<link rel="stylesheet" href="css/bootstrap.css">
<!-- Font Awesome -->
<link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-
awesome/6.2.1/css/all.min.css"
    integrity="sha512-
MV7K8+y+gLIBoVD59lQIYicR65iaqukzvf/nwasF0nqhPay5w/9lJmVM2hMDcnK1OnMGCdVK+iQr
J7lzPJQd1w=="
    crossorigin="anonymous" referrerpolicy="no-referrer">
<title>TEMPORARY ACCOMMODATION CENTRE SYSTEM (TACS)</title>
</head>


<body class="bp-3 mb-2 bg-body-tertiary">
    <nav class="bg-primary text-white navbar navbar-light justify-content-
center fs-3 mb-5">
        TEMPORARY ACCOMMODATION CENTRE SYSTEM (TACS)
    </nav>

    <br><br>
    <center>
        <div class="card border-warning mb-3" style="max-width: 50rem;">
            <div class="card-body">
                <h5 class="card-title">WELCOME to the TEMPORARY
ACCOMMODATION CENTRE SYSTEM (TACS)</h5>
                <br>
                <h6 class="card-subtitle mb-2 text-muted">Temporary
Accommodation Center System (TACS) is only accessable for the Administrator
of the Database System and User (Officer on Duty of the Temporary
Accommodation Center) ONLY</h6>
                <br>
                <p class="card-text">Please Sign up to register</p>

                <a href="signup.php" class="btn btn-warning mb-3">Sign Up
</a>

                <p class="card-text"> And Log In to access the System.</p>
                <a href="login.php" class="btn btn-warning mb-3">Login </a>
            </div>
```

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```
        </div>
    </center>

    <footer class="text-center text-lg-start bg-light text-muted">
        <!-- Copyright -->
        <div class="text-center p-4 fixed-bottom" style="background-color:
rgba(0, 0, 0, 0.05);">
            © 2022 Copyright: TEMPORARY ACCOMMODATION CENTRE (TAC), 2022.
        </div>
        <!-- Copyright -->
    </footer>

    <!-- Bootstrap-->
    <script src="js/bootstrap.js"></script>
</body>
```

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Appendix C Coding Lines for login.php

```
<html>

<head>
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width, initial-scale=1">
    <title>TACS LOGIN PAGE</title>

    <title>TEMPORARY ACCOMMODATION CENTRE SYSTEM (TACS)</title>
    <!-- Bootstrap -->
    <link rel="stylesheet" href="css/bootstrap.css">

    <!-- Font Awesome -->
    <link rel="stylesheet"
href="https://cdnjs.cloudflare.com/ajax/libs/font-
awesome/6.2.1/css/all.min.css"
        integrity="sha512-
MV7K8+y+gLIBoVD59lQIYicR65iaqukzvf/nwasF0nqhPay5w/9lJmVM2hMDcnK1OnMGCdVK+iQr
J7lzPJQd1w=="
        crossorigin="anonymous" referrerpolicy="no-referrer">
</head>

<body class="bp-3 mb-2 bg-body-tertiary">
    <nav class="bg-primary text-white navbar navbar-light justify-content-
center fs-3 mb-5">
        TEMPORARY ACCOMMODATION CENTRE SYSTEM (TACS)
    </nav>

    <br>
    <br>

    <div class="text-center mb-4">
        <p class="text-muted">Admin or User of the System Login Page</p>
    </div>

    <br>
    <br>
    <div class="container d-flex justify-content-center">
        <form action="login_check.php" method="post">
            <div class="row">
                <div class="mb-3">
                    <label for="first_name">Registered Email:</label>
                    <input type="email" class="form-control" name="email"
placeholder="Enter Email Registered">
                </div>

                <div class="mb-3">
                    <label for="password">Registered Password:</label>
                    <input type="password" class="form-control"
```

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```
name="password" placeholder="Enter Password Registered">
                </div>

                <br>
                <div>
                    <button type="submit" class="btn btn-success"
name="login">Login</button>
                    <a href="pagefront.html" class="btn btn-
danger">Cancel</a>
                </div>
            </div>
        </form>
    </div>
    <br>
    <br>
    <br>
    <br>
    <br>
    <br>
    <br>
    <br>
    <br>

    <footer class="text-center text-lg-start bg-light text-muted">
        <!-- Copyright -->
        <div class="text-center" style="background-color: rgba(0, 0, 0,
0.05);">
            © 2022 Copyright: TEMPORARY ACCOMMODATION CENTRE (TAC), 2022.
        </div>
        <!-- Copyright -->
    </footer>

    <!-- Bootstrap-->
    <script src="js/bootstrap.js"></script>
</body>
</html>
```

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