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**MALAYSIA JAPAN INTERNATIONAL  
INSTITUTE OF TECHNOLOGY  
SECJ3303 INTERNET PROGRAMMING  
GROUP PROJECT - SECTION 15**

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# **Project Report**

## **Flood Relief Centre Management System (Natural Disaster)**

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## **Overview**

Heavy rain and flooding that have affected thousands in Peninsular Malaysia, (in specific Kedah, Malacca, Negeri Sembilan, and Selangor States as well as Kuala Lumpur Federal Territory) causing flash floods and mudflows, resulted in several damages and evacuations. According to the National Disaster Management Administration (NADMA), an estimated 6,241 families and 23,776 people have been affected by the floods. Victims took shelter at dozens of relief centers in Malaysia's east coast states as heavy flooding continued to inundate villages and block roads. Malaysian Red Crescent Society (MRCS) are providing medical and humanitarian support by conducting relief and recovery operations, such as distribution of food items, first aid kits, hygiene kits and providing psychosocial care to affected families. Relief centers hold compartments for each family acting as an enclosed space to rest and recuperate. Forms will be given to fill up personal particulars. Then, available compartments are assigned to registered families after verification.

## **Problem Statement**

Malaysian Red Crescent Society (MRCS) resources management should be facing difficulties providing equal and efficient services, considering the vast number of victims. Pen-and-paper registration forms are filled in manually, raising the likelihood of human error and take a long time to complete, may include illegible handwriting, wrong calculations and different types of mistakes. Additionally, waste a lot of time in manual data entry. Paper forms have hidden costs. Printing, transporting, and storage costs all add up, not to mention time gathering, uploading and analyzing information. Communication seems not very efficient due to the crowded and rushing environment at relief centers populating desperate victims finding service providers, resulting in delayed assistance.

## **Proposed Solution**

A web-based application. in many ways provides functional attributes, acting as a medium for victims to manage their needs and requirements while taking shelter at a relief center. Victim family's leaders are required to register an account to declare their necessities online to ensure crucial services can be delivered orderly and as soon as possible because various communities from different age groups are depending on it. Moreover, administration can be highly functional, structured and well organized. The management will have the details of all victims and their requirements under their watch. Hence, assistance is to be provided at a reasonable timespan. Web application online forms help to gather and submit data in real-time so they can instantly share it with the main office or service providers in other departments or locations. Hence, making the data collection, as well as submission immensely faster. Other than that, using online forms, management can automatically update spreadsheets with pre-submitted data, and data from the field can be submitted at the click of a button using a laptop/mobile device and organization can reduce the number of errors substantially.

## **Functional Modules**

### **Module 1: Login**

#### **Actors: User, Admin**

The Login Module presents site visitors with a form consisting username and password fields, acting as a portal module that prompts users/admin to type in valid credentials. Users/admin can access additional resources after the process of creating an account by registering.

### **Module 2: Registration**

#### **Actors: User**

Registration module provides functionalities for a user to create an account in the system. It is an open-source module to integrate a login-registration part.

### **Module 3: Health Status Declaration**

#### **Actors: User**

Via Health Status Declaration module, users are able to declare their own health status daily by answering simple standardized questions with options. Profile updated accordingly displaying current health status.

### **Module 4: Manage Dependents**

#### **Actors: User**

Manage dependent modules enables users to manage their dependents (children and senior citizen). Dependents can be added to registered user profile since some may not have tech knowledge or access to smartphones.

### **Module 5: Ration Distribution**

#### **Actors: Admin**

Admin administers and approves the ration distribution to the victim families depending on requirement.

## **Module 6: Compartment Assignment**

### **Actors: Admin**

Admin assign available compartments to families after registration. Assignment details can be viewed on the user profile.

## **Module 7: Manage Profile**

### **Actors: User**

Manage profile module displays user's registered information in a profile page. Compartment details displayed once assigned by the admin.

## **Module 8: Services Feedbacks**

### **Actors: User**

Comments and constructive criticism regarding administration/services and improvements can be expressed via a Services Feedback module. The feedbacks are sent to admin to be reviewed and take necessary actions.

## **Module 9: Access (F.A.Q)**

### **Actors: User**

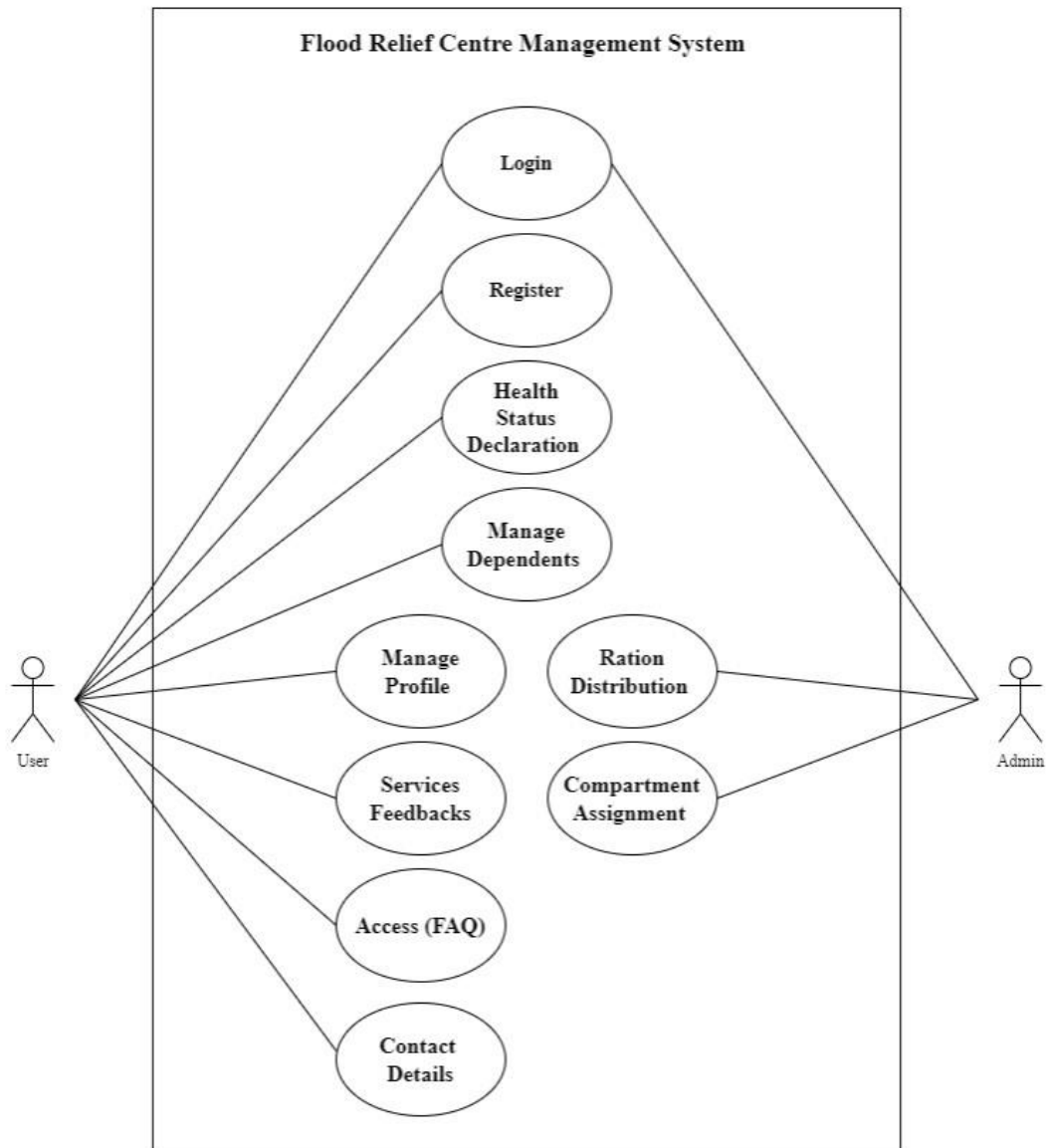
Answers for repeatedly asked questions will be posted through a Frequently Asked Questions (F.A.Q) forum, enlightening users on queries addressed to the management.

## **Module 10: Contact Details**

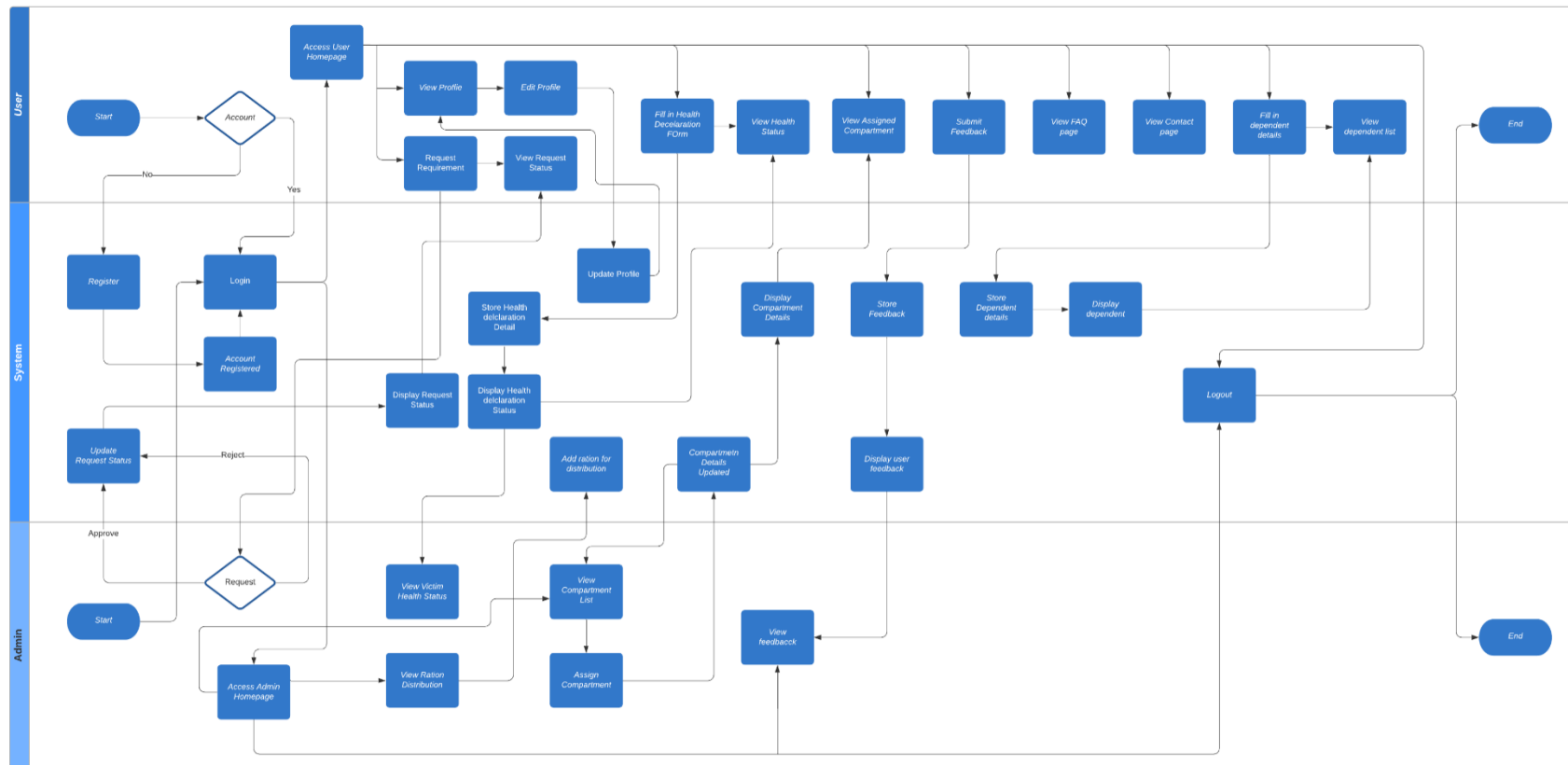
### **Actors: User**

Users can view important contact details, which makes communication much more convenient and effective.

## General Use Case Diagram



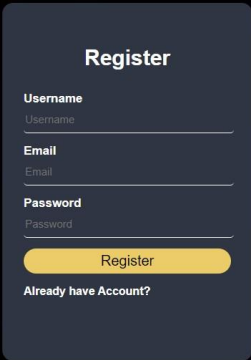
## General swimlane diagram





## Registration Element:

The victim user can register a new account using a Username, Email and Password. Once the user clicks register the input data by the user will be validated, the username limited to 20 characters maximum, verified email format and password will be encrypted and hidden. If all the criteria and validation met, then only the user will be able to register. If the validation process completed successfully then the data will be stored in the user database and the user will grant access to the system using the valid credential to login. The registration can only be done by the flood victim and the admin user will be directly added to the system.



The registration servlet will be called to add registration to the database. The session will be maintained to access the email and password parameter will be passed to the next page.

```
public boolean register(User user) {
    boolean suc = false;
    try {
        //Insert register data to database
        String query = "insert into user(name,email,password,Compartment) values(?,?,?,?)";

        PreparedStatement pt = this.conn.prepareStatement(query);
        pt.setString(1, user.getUserName());
        pt.setString(2, user.getEmail());
        pt.setString(3, user.getPassword());
        pt.setInt(4, 0);

        pt.executeUpdate();
        suc = true;
    } catch (Exception e) {
        e.printStackTrace();
    }
    return suc;
}

String name = request.getParameter("name");
String email = request.getParameter("email");
String password = request.getParameter("password");
//make user object
User userModel = new User(name, email, password);

//create database model
UserDatabase regUser = new UserDatabase(ConnectionPro.getConnection());
if (regUser.saveUser(userModel)) {
    response.sendRedirect("index.jsp");
} else {
    String errorMessage = "User Available";
    HttpSession regSession = request.getSession();
    regSession.setAttribute("RegError", errorMessage);
    response.sendRedirect("User/registration.jsp");
}
```

## User: Registration Page

## Admin Manage User Transaction Element:

The admin can approve or reject requested requirement (user transaction) from user. The admin will be able to view the victims name, email, requested requirement either ration, mattress, or medical kit. The correct cloth size along with the user comment. The initial status of the requested requirement will be pending, and the admin will be able to approve or reject the requirement. The admin can revert back to pending status if the requirement item delivery has been delayed. The status will be maintained in the database and notified to the user. Also, the admin will be able view the approved list as a transaction history for the record.

Requirements from Victims							
Approve List							
Name	Email	Requirement	clothsize	Other	Current Status	Action	
aathi	aathipadayachy@gmail.com	Ration/Matress	2-S / 2-null / 2-L / 1-null / 4-2XL	123	Disapprove	Pending	Update
abc	aathipadayachy@gmail.com	Ration/Matress	2-S / 0-null / 0-null / 0-null / 0-null	12	Approve	Pending	Update
j	aathipadayachy@gmail.com	Ration/Matress/Medical Kit	1-S / 3-M / 4-L	123	Pending	Pending	Update
vimalraj	vimalraj@gmail.com	Ration/Matress/Medical Kit	2-S / 2-M / 3-L	cvbnn	Disapprove	Pending	Update

Approved Requirement List					
Name	Email	Requirement	clothsize	Other	Current Status
abc	aathipadayachy@gmail.com	Ration/Matress	2-S / 0-null / 0-null / 0-null / 0-null	12	Approved

Current Status	Action	
Disapprove	Pending	Update
Approve	Pending Approve Reject	Update

### Admin: Manage Requirement Page

**Your Requirement Request status :**

**Disapprove**

**User: Requirement Request Status Notification**

## Reporting Element:

The flood victim will be requested to fill in a health declaration form to monitor health status. There will be three statuses overall, low risk, high risk and mild risk. Once the user fills in the form the health status will be sent to the admin. The admin will be able to view health declaration status for the past 24hrs in the system. The record will be updated to the current date and the health record for that particular day will be show automatically. If the admin wishes to view all the health status history, then it can be accessed using the view status history button along with the declaration date.

Status	Low Risk
--------	----------

Victims Health Status				
Name	Email	Health Status	Comment	Date
aathi	vinaraj@gmail.com	Mild Risk	123	
aathi	vinaraj@gmail.com	Mild Risk	123	
aathi	vinaraj@gmail.com	Mild Risk	123	2022-01-13
aathi	aathipadayachy@gmail.com	Good	123	2022-01-13
aathi	a@gmail.com	Good	1313	2022-01-22
aanya	aanya@gmail.com	High Risk		2022-01-22
aathi	aathipadayachy@gmail.com	Good	958959	2022-01-23
aathi	aathipadayachy@gmail.com	Mild Risk	958959	2022-01-23
aathi	aathipadayachy@gmail.com	High Risk	958959	2022-01-23
aathi	aathipadayachy@gmail.com	Good	121212	2022-01-24
abc	a@gmail.com	Good	888888	2022-01-25
vinaraj	vinaraj@gmail.com	High Risk	123	2022-01-27
vinaraj12	vinaraj12@gmail.com	Low Risk	123	2022-01-27
vinaraj12	vinaraj12@gmail.com	Low Risk	123	2022-01-27
aathi	aathipadayachy@gmail.com	Low Risk	123	2022-01-29
aathi	aathipadayachy@gmail.com	Low Risk	123	2022-01-29
aathi	aathipadayachy@gmail.com	Low Risk	123	2022-01-29
aathi	aathipadayachy@gmail.com	Low Risk	123	2022-01-29
aathi	aathipadayachy@gmail.com	Low Risk	123	2022-01-29

Victims Health Status			
Victim Status History			
Name	Email	Health Status	Comment
aathi	aathipadayachy@gmail.com	Low Risk	123
aathi	aathipadayachy@gmail.com	Low Risk	123
aathi	aathipadayachy@gmail.com	Low Risk	123
aathi	aathipadayachy@gmail.com	Low Risk	123
aathi	aathipadayachy@gmail.com	Low Risk	123

```
if ("Yes".equals(q1) && "Yes".equals(q2) && "Yes".equals(q3) && "Yes".equals(q4) && "Yes".equals(q5) && "Yes".equals(q6) && "Yes".equals(q7) && "Yes".equals(q8))
    out.println("<tr><td align=center>Status</td>");
    out.println("<td align=center bgcolor='red'>High Risk</td></tr>");
    st.setString(3, "High Risk");
} else if ("No".equals(q1) && "No".equals(q2) && "No".equals(q3) && "No".equals(q4) && "No".equals(q5) && "No".equals(q6) && "No".equals(q7) && "No".equals(q8))
    out.println("<tr><td align=center>Status</td>");
    out.println("<td align=center bgcolor='green'>Low Risk</td></tr>");
    st.setString(3, "Low Risk");
} else {
    out.println("<tr><td align=center>Status</td>");
    out.println("<td align=center bgcolor='orange'>Mild Risk</td></tr>");
    st.setString(3, "Mild Risk");
}
```

The health status record will be fetched and sorted using current system date in the database.

```
String driver = "com.mysql.jdbc.Driver";
String dbName = "jsp_projec";
String url = "jdbc:mysql://localhost/" + dbName + "?";
String userName = "root";
String dbpassword = "";

String query = "SELECT * FROM hd where date='"+java.sql.Date.valueOf(java.time.LocalDate.now())+"'";
Class.forName(driver);
Connection con = DriverManager.getConnection(url, userName, dbpassword);
Statement st = con.createStatement();
ResultSet rs = st.executeQuery(query);
```

## Admin: Victims Health Declaration Status

## Data management - CRUD + activation:

The CRUD part will be included in the manage dependent module for the user. The user can firstly, add new dependent by keying in required detail in the form, once the dependent is added successfully the user will be able to manage the dependent list. The **Create** segment will be dependent addition, **Record** will be added to the database and fetched result will be displayed to the user. The **Update** part the user will be able to edit the dependent detail and update it in the system. Lastly, the **Delete** function will allow the user to delete dependent from the list.

### Enter Dependents Details here

[View Dependent List](#)

Name:	<input type="text"/>
Relation:	<input type="text" value="Child"/>
Age:	<input type="text"/>
Gender:	<input type="text" value="Male"/>
Current Address:	<input type="text"/>
Postcode:	<input type="text"/>
State:	<input type="text" value="Johor"/>

[Clear](#) [Add](#)

```
String a = request.getParameter("id");
out.println(a);
String driver = "com.mysql.jdbc.Driver";
String dbName = "jsp_projec";
String url = "jdbc:mysql://localhost/" + dbName + "?";
String userName = "root";
String dbpassword = "";
Class.forName(driver);
Connection con = DriverManager.getConnection(url, userName, dbpassword);

PreparedStatement st = con.prepareStatement("delete from dependent where id=?");
st.setString(1, a);

st.executeUpdate();
st.close();
con.close();
response.sendRedirect("userViewDependent.jsp");
```

### Current Dependent List

Dependent Name	Relation	Age	Gender	Address	PostCode	State		
aathi	Spouse	54	Female	abc	123	Sabah	<a href="#">Edit</a>	<a href="#">Delete</a>
a1	Siblings	123	Female	abc	1213	Melaka	<a href="#">Edit</a>	<a href="#">Delete</a>

**User: Manage Dependent Page**

## Activision:

The compartment will be assigned to the victims by the admin. The admin will be able to view all the active victim's member account, and the initial compartment assigned. The plan was: Once the victim vacates the compartment, active assigned list will be available, and the vacant compartment status will be deactivated. Then the admin will be able to assign new compartment to new victims. Once the status is activated the admin will be notified during compartment assignation and will be able to assign the vacant compartment. And the updated compartment number will be notified to the user.

Assign Compartment				
Victim List				
UserID	UserName	Email	Current Compartment No	Action
1	vimal	v@yahoo.com	12	<a href="#">Assign</a>
7	aathi	aathipadayachy@gmail.com	17	<a href="#">Assign</a>
14	raj13	raj13@gmail.com	0	<a href="#">Assign</a>

### Compartment for vimal

Enter Compartment No:

[Save](#)[Cancel](#)

```
String driver = "com.mysql.jdbc.Driver";
String dbName = "jag_project";
String url = "jdbc:mysql://localhost/" + dbName + "?";
String username = "root";
String dpassword = "";
Class.forName(driver);
Connection con = DriverManager.getConnection(url, username, dpassword);

PreparedStatement st = con.prepareStatement("update user set Compartment=? where id=?");
out.println("</DOCTYPE html>");
out.println("<br>");
out.println("<head>");
out.println("<title>Assign/</title>");
out.println("</head>");
out.println("<body>");
```

### Admin: Assign and Manage Compartment

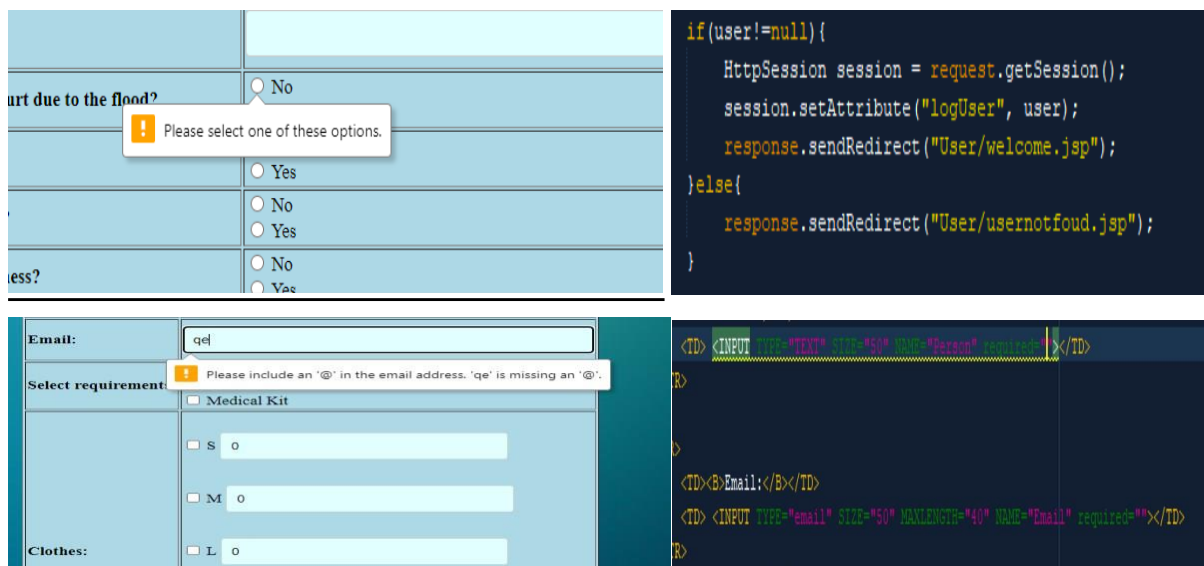
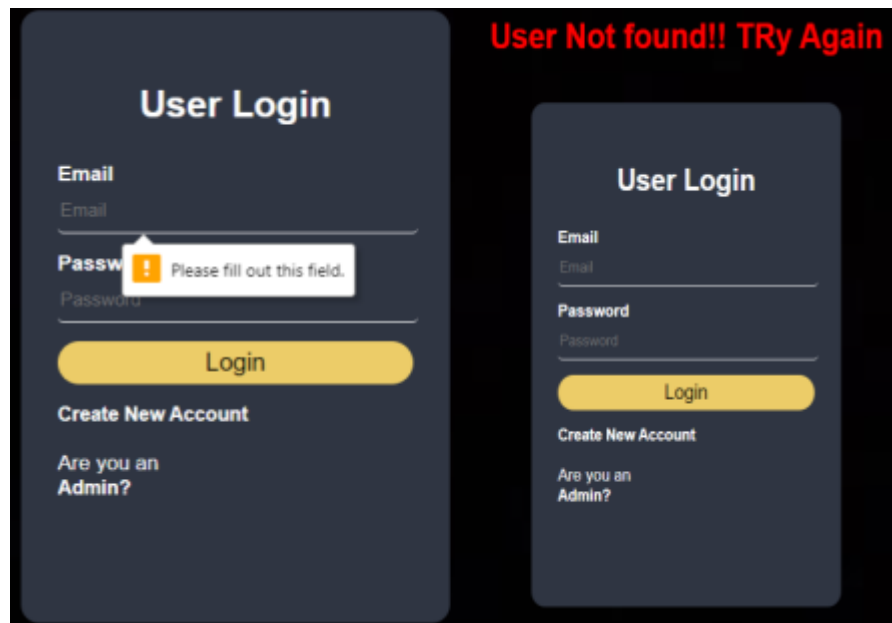
Your Assigned Compartment Number :

17

### User: Assigned Compartment Notification

## Session and Page Validation:

The page validation is done for the data input type from the user. The input keyed-in by the user will be validated and should be in correct format to proceed. If not, error toast message will be displayed. Some of the validation includes email address format, login credential, required fields input should not be empty. The session is maintained in the to pass the parameter value to the page. The user info is passed in session and the required attribute is set and redirected to the allocated pages.



### User and Admin: Validation

### User Transaction and History:

The ration will be allocated by the admin to the victims. The ration includes meal package for a day, and for each day the admin will assign the designated meal per time. Once the admin assigns the meal, the distribution record will be saved in the system. The compartment number will be available to differentiate ration package. The ration distribution will be monitored using the distribution history. The history can be viewed by the admin to track if the ration being delivered to the victims.

Ration Distribution		
User	CompartmentNo	Action
vimal	12	<a href="#">Add Ration</a>
aathi13	17	<a href="#">Add Ration</a>
raj13	0	<a href="#">Add Ration</a>

User	Ration Package	Assigned Ration	Action
vimal	<input type="radio"/> Breakfast <input type="radio"/> Lunch <input type="radio"/> TeaTime <input type="radio"/> Dinner <input type="radio"/> Supper	package3 / package3 / package1 / Breakfast / Lunch / Tea / Tea / Dinner / Dinner / Breakfast / Lunch / Tea / Dinner / Dinner /	<a href="#">Add</a>

### Admin: Ration Distribution

## Notification

**Your Assigned Compartment Number :**

**17**

**Your Requirement Request status :**

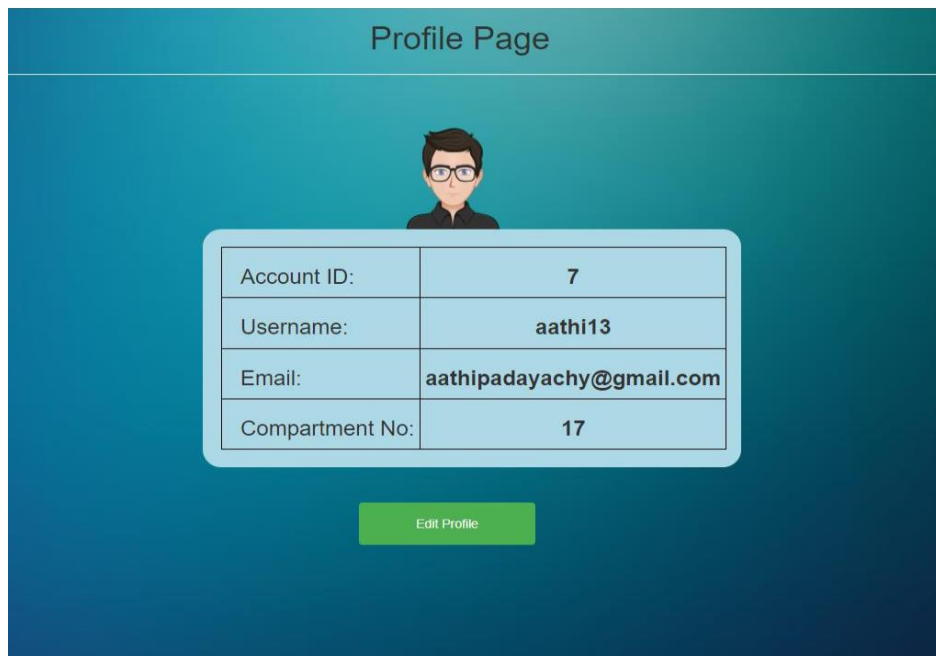
**Disapprove**

### User: Notification Page



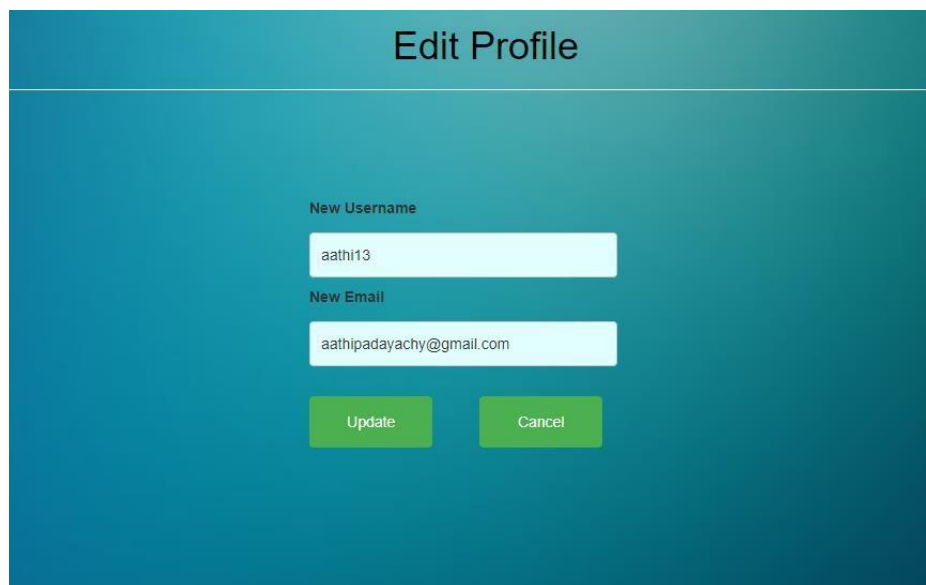
### **View and Edit Profile:**

The user will have access to the profile page from the profile icon in the homepage. The user detail will be displayed to the user, consisting of account id, username, and email. The user can view the profile page to check their assigned compartment number. The edit profile function allows the user to edit username and email of their profile information. Once the profile updated the system will redirect the user to login page, to re-login using new email credential.



The screenshot shows the 'Profile Page' with a teal header. Below the header is a user avatar. A light blue rounded rectangle contains a table with profile details. Below the table is a green 'Edit Profile' button.

Account ID:	7
Username:	aathi13
Email:	aathipadayachy@gmail.com
Compartment No:	17



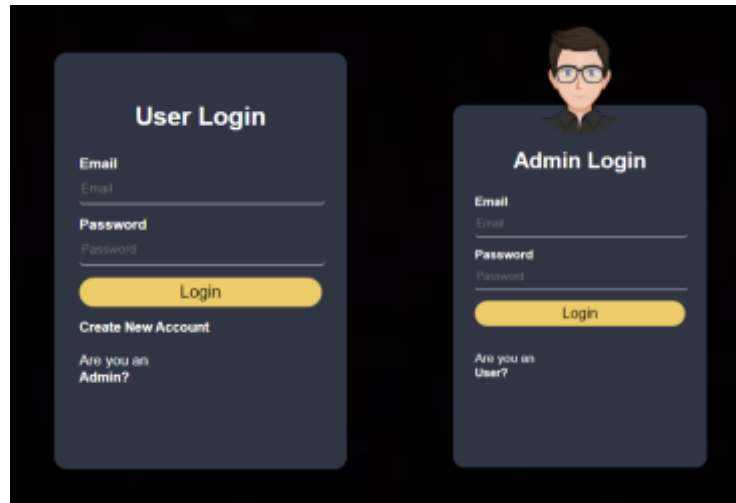
The screenshot shows the 'Edit Profile' page with a teal header. Below the header, there are two input fields: 'New Username' with the value 'aathi13' and 'New Email' with the value 'aathipadayachy@gmail.com'. At the bottom are two green buttons: 'Update' and 'Cancel'.

**User: Manage Profile**



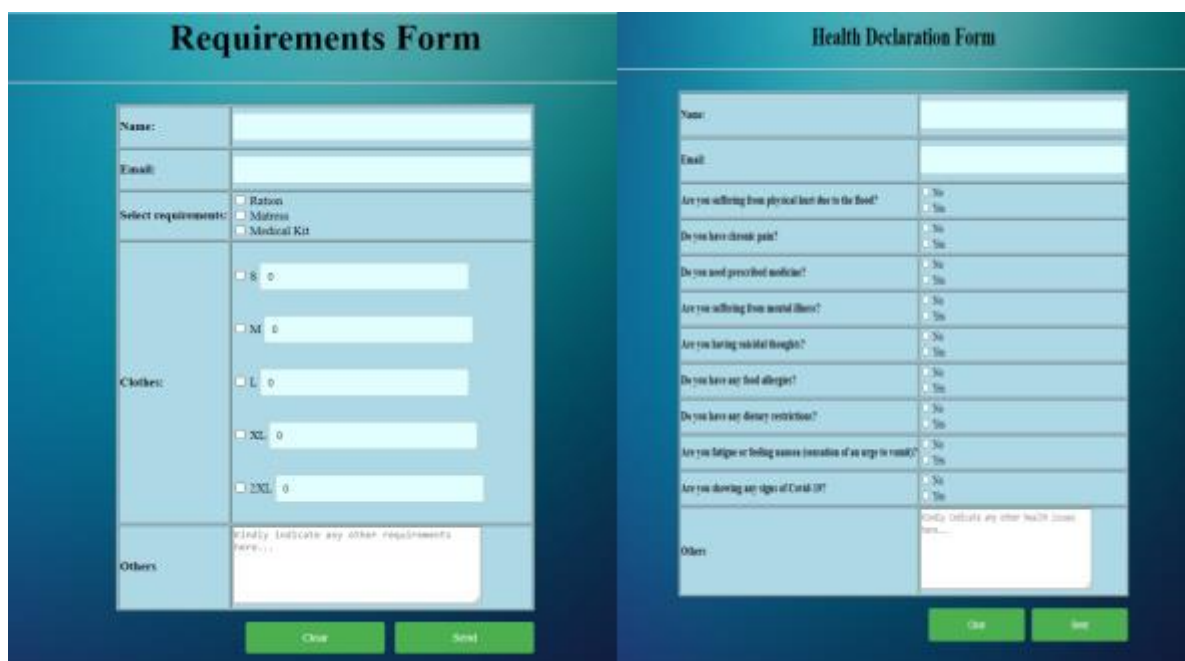
## Consistent GUI:

The user interface is consistent across all pages. The system is simple to use, and the color gradients are not too bright. The layout elements are all standardized aesthetically throughout all pages defined using the same CSS layout stylesheet for all tables, buttons, forms, backgrounds, and element widths. Additionally, all text fields include well-described and constructive labels to enhance user understanding.



The image shows two login forms side-by-side on a dark background. The left form is titled 'User Login' and the right form is titled 'Admin Login'. Both forms have a 'Email' field, a 'Password' field, and a yellow 'Login' button. Below the 'Login' button, there is a link to 'Create New Account' and a question 'Are you an Admin?' for the user login and 'Are you an User?' for the admin login. The admin login form also features a small cartoon character icon at the top.

**User and Admin: Login Page**



The image shows two forms side-by-side. The left form is titled 'Requirements Form' and the right form is titled 'Health Declaration Form'. Both forms have a 'Name' field and an 'Email' field. The 'Requirements Form' has a 'Select requirements' section with checkboxes for 'Ration', 'Matress', and 'Medical Kit'. It also has a 'Clothes' section with radio buttons for 'S', 'M', 'L', 'XL', and '2XL', each followed by a text input field. There is an 'Others' section with a text area for 'Kindly indicate any other requirements here...'. The 'Health Declaration Form' has a series of yes/no questions: 'Are you suffering from physical hurt due to the flood?', 'Do you have chronic pain?', 'Do you need prescribed medicines?', 'Are you suffering from mental illness?', 'Are you having suicidal thoughts?', 'Do you have any food allergies?', 'Do you have any dietary restrictions?', 'Are you fatigued or feeling anxious (sensation of an urge to run)?', and 'Are you showing any signs of Covid-19?'. It also has an 'Others' section with a text area for 'Kindly indicate any other health issues here...'. Both forms have 'Clear' and 'Send' buttons at the bottom.

**User: Form Element**

## Feedback Form

Feedback:

Kindly state your feedback here...

How would rate the services:

☐ Excellent
 ☐ Good
 ☒ Average
 ☐ Poor
 ☐ Needs an Overhaul

Clear

Send

## Frequently Asked Questions (FAQs)

**Have you made a complaint but still no action?**

Sorry sir/madam, We have immediately forwarded your complaint/information to the State/District Disaster Operations Center and agencies in the field. We will once again immediately forward your complaint/information to the agencies in the field for immediate action. Alternatively, contact the State Operations Room.

**How to get food / health / special needs assistance due to being stranded in a flood?**

Please provide the victim's details (name, address, contact telephone number, illness / special needs) to be extended to the respondent in the field.

**Does the Government provide assistance if my house is affected/destroyed due to floods?**

The Federal Government allocates a number of relief funds for recovery and post-disaster purposes, and a portion is handed over to the State Government. Please consult the State/District Disaster Operations Center from time to time.

**Is my area potentially flooding? How can I get information on floods in my home area?**

Please refer to the State/District Disaster Operations Center, or the NADMA Disaster Portal ( <https://portabencana.nadma.gov.my> ) from time to time.

**How to get food / health / special needs assistance while at flood relief center?**

Please provide the victim's details (name, address, contact telephone number, illness / special needs) at requirements section. Victims are also encouraged to submit feedback to improve the services.

Welcome, aathi

Home Requirements Health/Inclusion Disaster Relief Feedback FAQ Contact Us

Log Out

A total of 5,731 relief centres have been identified nationwide and they are capable of accommodating up to 1.63 million flood evacuees. Relief centers had been identified in preparation for the floods during the northeast monsoon season, which started last October and is expected to end in March 2022. Several states have been hit by floods, namely Kelantan, Terengganu, Pahang, Melaka, Negeri Sembilan and Selangor, whereby a total of 220 relief centers have been opened to accommodate 5.67% families, involving 13,872 evacuees. To curb the spread of Covid-19, all flood victims would be screened before being allowed to enter the relief centers. These relief centers such as shelter and full-fill victims requirements by providing eating and clothing. Ministry had mobilized 1,000 officers and personnel from the Social Welfare Department (JKM) to help victims at the flood-affected locations. There are also 500 volunteers from Masjid Kelabangsa Malaysia who have been mobilized to assist flood evacuees at the relief centres.

Continue

## User Feedback

Feedback Message	Rating
saad3sdasd	Excellent
9229	Average
45613	Average
123	Poor

## Contacts

**Ibu Pejabat**

Flood Relief Center(FRC), Jabatan Perdana Menteri, Aras 6 & 7, Blok D5, Kompleks D, Kompleks Pentadbiran Kerajaan Persekutuan, 62502 Wilayah Persekutuan Putrajaya

T: +603 8870 4800

F: +603 8870 4848

E: [admin@frc.gov.my](mailto:admin@frc.gov.my)

G: 2.937323, 101.704762

User: Standardize GUI Pages