2021

SOFTWARE REQUIREMENT SPECIFICATION (SRS)

MyCovHealth Management System

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1. INTRODUCTION

This section should describe the project and the software product being to be built.

1.1 PURPOSE

A Software Requirement Specification (SRS) is a document that describes what the product does and how it's expected to perform. It also illustrates the item's usefulness in meeting the needs of all partners for example company and clients.

In summary, the goal of this SRS record is to provide a complete explanation of the product item, its boundaries, and its aims. This report includes the venture's target audience as well as the UI, equipment, and programming requirements. It establishes customer's, groups', and crowd's perception of the item and its utility. In any event, it can assist any designer or engineer in the product lifecycle (SDLC) processes. The goal of this section is to gather and analyse all of the numerous ideas that have emerged. This is used to identify the framework and its requirements for clients.

Likewise, this helps to predict and figure out how this item can be utilized. This helps to gain a better understanding of the venture, and the concepts diagram that are implemented. All the ideas gathered are documented and considered but some of them are discarded as the item develops to best suit its efficiency.

1.2 SYSTEM IDENTIFICATION

This document represents the title as below:

System title	: MyCovidHealth management system
System abbreviation	: MyCovHealth
System identification number	: 15 230 000
System release number	: 2021
System version number	: 1.0

15 230 000 is the system identification number assigned to our system. The system release number is determined by the year in which this system is being documented, which

is 2021. The version number for MyCovHealth system is 1.0. For the system version number, it is written following the semantic version standard, which includes major, minor, and revision numbers. 1 represents the major number, 0 represents the minor number, and 0 represents the revision number. Since there are no minor bug fixes implemented on the MyCovHealth system yet, the revision version remains unwritten.

The MyCovHealth functional requirements have been assigned the following requirement identification. R-n is the standard of writing the requirements identification. 'FR' symbol signifies the term for functional requirement. 'n' denotes numerical variables If the system receives new requirements, the 'n' variables will be incremented by 1.

1. FR-1: Registration and handle user and dependents profiles.
2. FR-2: Manage user check-in and checkout movement.
3. FR-3: Manage user vaccination status.
4. FR-4: Manage user quarantine record.
5. FR-5: Manage COVID-19 information and notification messages.
6. FR-6: Manage quarantine center record.

In assigning the Use Case ID, it follows the standard 'MyCovHealth_REQ_xxx'. 'xxx' signifies Use Case number, MyCovHealth is the abbreviated form of the system name, and REQ is the term for requirement. Use Case ID for this document is as stated below:

1. FR-1: Registration and handle user and dependents profiles.
    - MyCovHealth_REQ_100 - Registration
    - MyCovHealth_REQ_101 - Login
    - MyCovHealth_REQ_102 - Handle User Dependent

2. FR-2: Manage user check-in and checkout movement.
    - MyCovHealth_REQ_200 - Record User Check-in and Checkout Movement

3. FR-3: Manage user vaccination status.
    - MyCovHealth_REQ_300 - Manage User Vaccination Record

4. FR-4: Manage user quarantine record.
    - MyCovHealth_REQ_400 - Manage User Quarantine Record

5. FR-5: Manage COVID-19 information and notification messages.
    - MyCovHealth_REQ_500 - Manage COVID-19 Information
    - MyCovHealth_REQ_501 -Manage COVID-19 Notification Messages

6. FR-6: Manage quarantine center record.
    - MyCovHealth_REQ_600- Manage Quarantine Record Centre

1.3 SYSTEM OVERVIEW

This application mobile MyCovHealth is utilized by the Government of Malaysia which is for the Kementerian Kesihatan Malaysia to monitor the citizen's health progress and to control the vaccination process during pandemic COVID-19 that nowadays the cases is increasing. This application also allows the user to monitor their own health progress through MyCovHealth. There are several modules that are implemented in MyCovHealth system.

First module is for registration and handling of users and dependents, where users have to login the system and users also can create their account if they are first time users. Users also can update their personal details by using MyCovHealth system. Moreover, users can add, update, their dependents and also can view the dependents data that users already insert. For Admin, they can store the record of user and dependants profile.

The second module of MyCovHealth system is for users to manage check-in and checkout movement. The users such as Malaysia citizen and Malaysia visitor are able to check-in by scanning the QR-code with mobile phone camera when they enter into a premise and click the checkout button when they leave a premise. Next, they are also able to view their check-in and checkout information throughout their visit to the premises. At the same time, the system stores the history data of check-in and checkout in the system database. The Admin staff of the Ministry of Health (MOH) are able to view and track close contact data if some of the users had a close contact with people that are infected with COVID-19.

The third module of this system is to manage user vaccination records. To register the vaccination, firstly the user has to update their COVID-19 status. Users also can view their own vaccination status after they have already taken the vaccine. Manage user vaccination records where it allows the user to register and get vaccination appointments. Update their vaccination status if they are visitors as well with a swab test result. Users are able to view certificates by MOH through the MyCovHealth application. Admin are able to verify their personal details, update users about vaccination appointments.

Next, the fourth module of this system is to manage the user quarantine record. MOH staff as admin add, update, delete the Malaysian citizen or visitor quarantine information whether their quarantine at home or hospital through the MyCovHealth system. MOH staff also can view the user quarantine view by searching the Malaysia citizen or visitor name. After MOH staff has already updated the users quarantine record, the users can update their quarantine details such as date, quarantine place, the symptoms and body temperature. They also can view their own quarantine record.

Fifth module that is in this system is to manage COVID-19 information and notification messages. Admin staff of the Ministry of Health (MOH) add new information about COVID-19 and also, they can update the COVID-19 information such as COVID-19 cases day by day. Admin can delete the information of COVID-19 if necessary. After the admin already updates the information of COVID-19 , users can view the COVID-19 information through this system. Both Admin staff and users also can search any information that they need in the system. Admin staff also can add, update, delete and view the notification message to all users so that users can be aware of any messages that are sent by KKM. Admin also can delete the notification messages if necessary.

Lastly, a module that is embedded in MyCovHealth is managing quarantine record centre. Admin can manage the data of its user based on the information gathered in user quarantine records. This information is updated and stored in the MOH database/server. This can help to facilitate the workers to search and view patient’s medical records by scanning the patient’s QR Code in case of emergency.

Our company has carried out the system development of this system through the requirement analysis, design, development and testing, implementation and documentation. During this process, MyCovHealth was successfully deployed and began operating in Malaysia. Because updates and upgrades are continuing operations, maintenance, such as the replacement of obsolete software and the continuous improvement of our MyCovHealth that has been done regularly.

1.4 REFERENCES

1. Project Question (2021). (Azma Binti Abdullah). Retrieved November 20, 2021, From Kalam Ump.

2. Software Requirement Specification Template Schema (2021). (Azma Binti Abdullah). Retrieved November 20, 2021, From Kalam Ump.

3. MySejahtera. (n.d.). Mysejahtera.malaysia.gov.my. https://mysejahtera.malaysia.gov.my/intro/

4. Knowledge and Learning Management Platform: Log in to the site. (n.d.). Kalam.ump.edu.my. Retrieved December 16, 2021, from https://kalam.ump.edu.my/course/view.php?id=289

5. Vaccines Management System for response to COVID-19 | Department of Health. (2021, May 6). Health. https://www.health-ni.gov.uk/vaccines-management-system-response-covid-19

1.5 DOCUMENT OVERVIEW

The document should consist all the planning processes in the MyCovHealth system in order to develop the system. The purpose of this document is to collect critical planning information aid in steering the project in the proper direction, receive approval from stakeholders and decision-makers, and produce a clear project delivery plan. This provides a clear understanding to stakeholders about the system in a short period of time.

This document contains Chapter 1 which is an introduction. This chapter includes the system purpose, system abbreviation, system identification number, system overview, reference and document overview. In this chapter, the stakeholders can get the information about how the system works.

For Chapter 2, the document should contain the product description which is the product perspective, user interface, product functions, user characteristics, constraints, and assumptions and dependencies.

For Chapter 3, this document should comprise the specific requirements such as explaining specifically about software product features and external interface requirements. These requirements should include a full description of the software system's inputs and outputs.

For Chapter 4, the document should include the table list of requirements in the requirement traceability. For instance, the table should have the requirement ID, requirement details statement and the requirement sources.

For Chapter 5, the document should provide acronyms and abbreviation to interpret properly the term of the software requirement specification.

2. PRODUCT DESCRIPTION

2.1 Product Perspective

Context diagram below defines the boundary between the system and the actors which are Malaysia Citizen, Malaysia Visitor and MOH Staff.

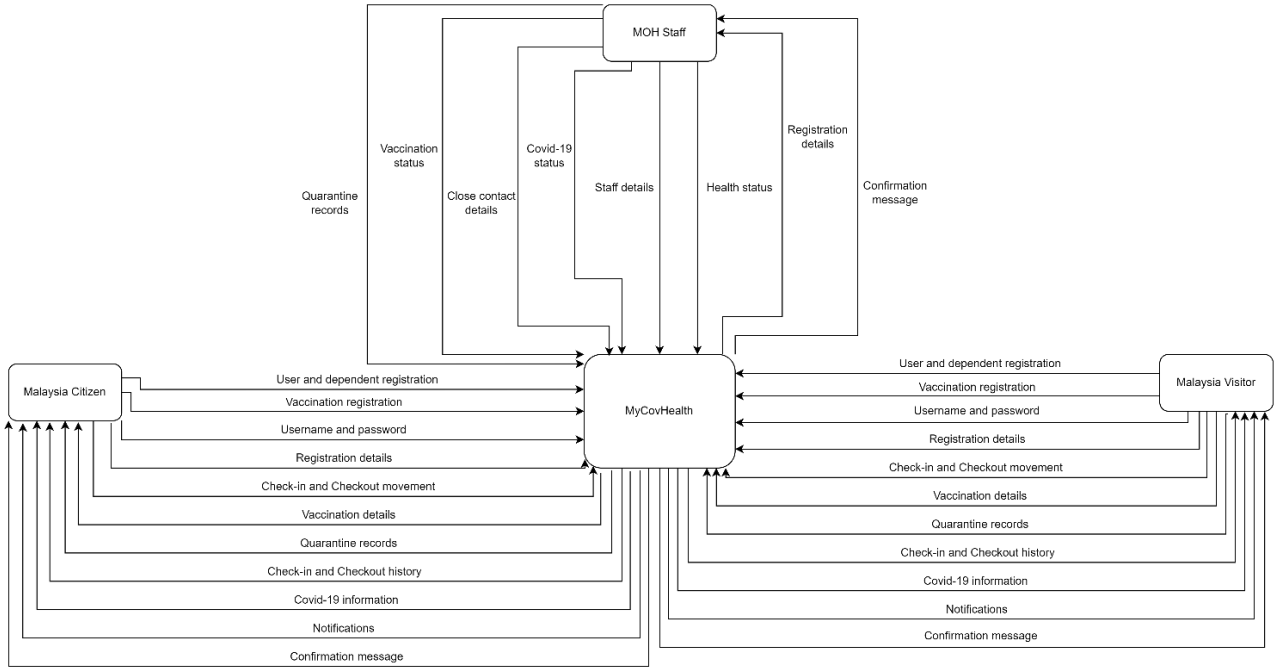


Figure 2.1 MyCovHealth Management System Context Diagram

2.2 System Interfaces

In order to establish this mobile application MyCovHealth, the user must log in first. For the first time user using this app they have to register an account first in order to enter the main page of MyCovHealth Application.

Figure 2.2.1 Mobile Interface

Figure 2.2.1 is the main interface of MyCovHealth application. This interface for the Users. There are several functions that we implement in the MyCovHealth application. In the header, there are six (6) menu functions such as Quarantine Record Centre, Check-In, Vaccination, Manage Dependents, User Quarantine Record, and More. Menu function of the Quarantine Record Centre is that the user views the Quarantine Centre by searching the name of the state. Menu function for Check-In is for the users to check-in and checkout movement by scanning QR-code with a mobile phone camera. The Vaccination menu function is to display the user status vaccination that they have been registered through this app and if it doesn't display the vaccination status, they have to register vaccination first to get the vaccination status. Menu function of Manage Dependents is for the user to add, update, view

and delete the details of their family members. User Quarantine Record menu function is for users able to search by date and quarantine place and view their quarantine record. Also, users can update their quarantine info by updating the date, symptoms and body temperature. The More menu function has other menus such as Covid-19 status, additional resources, Standard Operating Procedure (SOP) and more.

However, we also implement the function of the COVID-19 information as “Thing to know” and notification message as “Thing to do”. In this part we decided to design a slideshow of information so it is more minimalist for users to know the information of COVID-19 and notification messages that admin already add and update.

In MyCovHealth we also have a menu function in part of the footer such as “Home” that displays the homepage of this app, “Help” it is for communicating with helpdesk if the user has some problem in this application. Moreover, there is also a “Profile” that is for users to update their personal details and also can view their COVID-19 status, vaccination certification and also list of their dependent status.

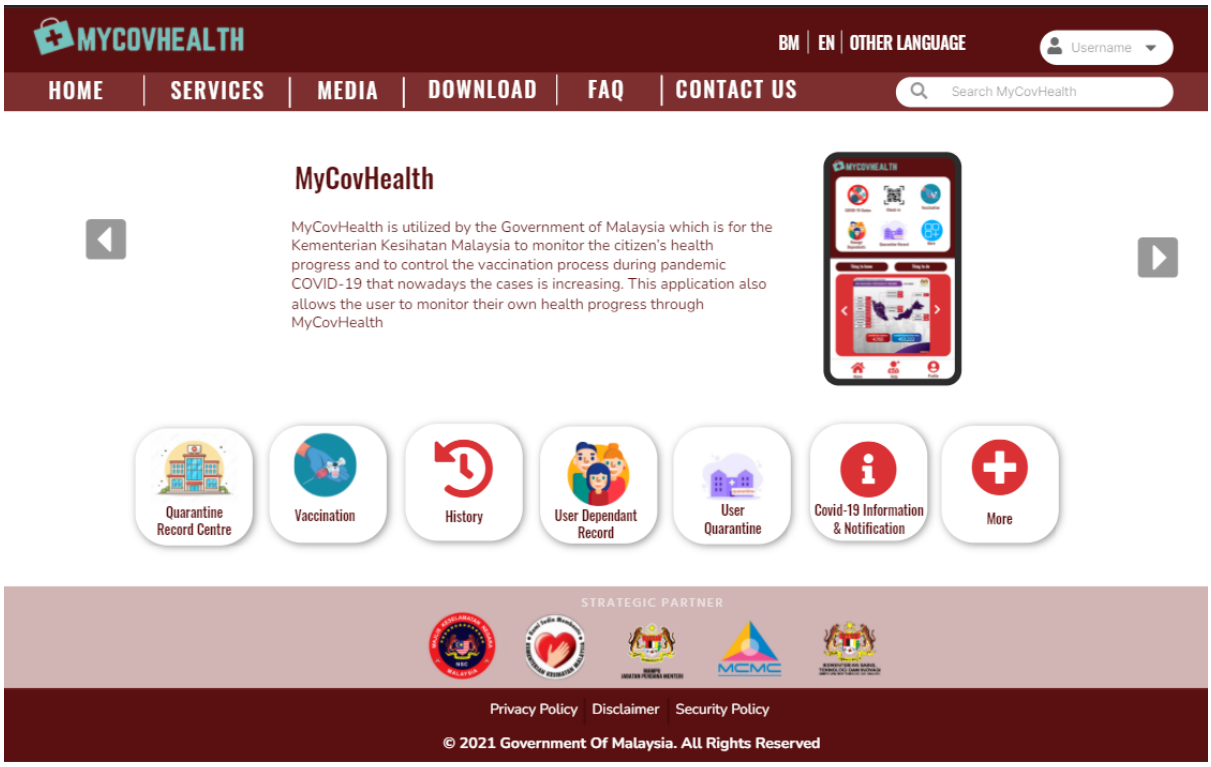


Figure 2.2.2 Web-Based Interface

Figure 2.2.2 is the main interface of the Web-based interface MyCovHealth. This web-based is for MOH staff as an admin. In Figure 2.2.2, there are six (6) menu functions such as Quarantine Record Centre, History, Vaccination, Use Dependents Record, User Quarantine, Covid-19 Information & Notification, and More. Quarantine Record Centre menu function, admin able to add, update, delete the quarantine record centre and also admin view the record of quarantine centre by searching the name of state. History menu function is for the admin to search and view close contact data of users. Menu function of vaccination is admin able to update and delete the user vaccine registration and vaccine verification detail, able to update the vaccination status, generate the vaccination certificates and view the user vaccination record. Menu function of User Dependents Record, admin view user dependent record and user record. For the menu function of User Quarantine, admin can add new user quarantine info, update and delete the user quarantine info also admin can view the user quarantine record by searching the name of user. Covid-19 Information & Notification menu function, admin add new Covid-19 information and notification, update and delete the Covid-19 information and notification also view the Covid-19 information and notification by searching the title of information and notification. Admin also can add and update the additional resources, Standard Operating Procedure (SOP) and view the record of user Covid-19 status.

2.3 Product Functions

Figure 2.3 Use case diagram is the use case that was gathered to build the system from the requirement.

Figure 2.3 MyCovHealth Management System Use Case Diagram

This area of the SRS should contain a list of the significant functions that the product fulfilled. For example, an SRS for an accounting system uses this section to cover client account support, client articulation, and receipt planning without referring to the extensive amount of information that each of those capacities needs. This section establishes a usage case graph for the frameworks.

Figure 2.3 illustrates the MyCovHealth utilization use case graph. There are nine distinct use cases, which are as follows:

1. Registration
2. Login
3. Handle User Dependent
4. Record User Check-In and Checkout Movement
5. Manage User Vaccination Record
6. Manage User Quarantine Record
7. Manage COVID-19 Information
8. Manage COVID-19 Notification Messages
9. Manage Quarantine Record Centre

MyCovHealth is an application developed by a group of Software Engineer Students from the University Malaysia of Pahang (UMP). This system aims to assist the government and Health Ministry Department in dealing with Coronavirus outbreaks in Malaysia. It enables clients/users to conduct self-evaluations of their own and their family's well-being. Clients can also track their health progress throughout the Coronavirus infection. Furthermore, MyCovHealth enables the Ministry of Health (MOH) to screen clients' medical issues; and take timely action in providing the necessary therapies.

2.4 User Characteristics

Table 2.4 User Characteristics

User	Education Level	Background Experiences
MOH Staff	- Degree in any medical field courses	- Has knowledge on Covid-19
Malaysia Citizen	- At least Primary School	- Able to understand basic instructions. - Has knowledge on how to use an app.
Malaysia Visitor	- Any Level	- Able to understand basic instructions. - Has Knowledge on how to use an app. - Able to understand basic Malay language.

2.5 Constraints

Following the implementation of the MyCovHealth system, there are a few constraints that have been highlighted as the most important to handle:

- The system developer should process and protect Malaysia citizen, Malaysia visitor and admin personal data following the regulation of Malaysia's Personal Data Protection Act 2010 (PDPA).
- The system should not be used by people that do not have Malaysia contact number.
- The system faces delay every 12am until 2am to update information such as data statistics.
- The time delay for the admin to update the vaccination and quarantine status in the MyCovHealth system after the status has been verified. It should take less than 72 hours for vaccination status and less than 24 hours for quarantine status.
- The system cannot be accessed when it's time to update the new features and fix bugs of the system which take less than 2 minutes.

- When the new MyCovHealth system encounters a problem, the old system is used for a short period of time to perform similar tasks.
- MyCovHealth system is only supported by web based, IOS and android operating systems.

2.6 Assumptions and Dependencies

1. System Database: In our system MyCovHealth, we assumed that the system could store the history of the users' check-in and checkout data in the database. The history data that is stored can automatically be saved in the system. Else, we not be able to track the visited location of users where they may or may not have close contact with people that are infected with Covid-19.

2. Security: The MyCovHealth system should provide One-Time Password (OTP) for Admin and Citizen (users) through the phone's message or email automatically to verify the personal information after they sign in. This is to avoid false personal information being entered and prevent the information from being leaked. Else, without the OTP, our system might be hacked by the malicious users.

3. System Performance: The MyCovHealth system can only be used if there is a timely internet connection that users need to check-in or checkout their location. Else, the users cannot access the system and the system also cannot detect the location of the users.

4. System Interface: The MyCovHealth system should be designed using the mobile interfaces. It is to provide convenience to all the users that are involved in the system. They can scan the check-in QR code easily before going into the shop. Else, if we use the website interface, it can cause some trouble to the users such as the users not being able to scan the QR-code when they check-in and checkout.

3. SPECIFIC REQUIREMENTS

3.1 Software Product Features

3.1.6 Use Case Manage User Quarantine Record

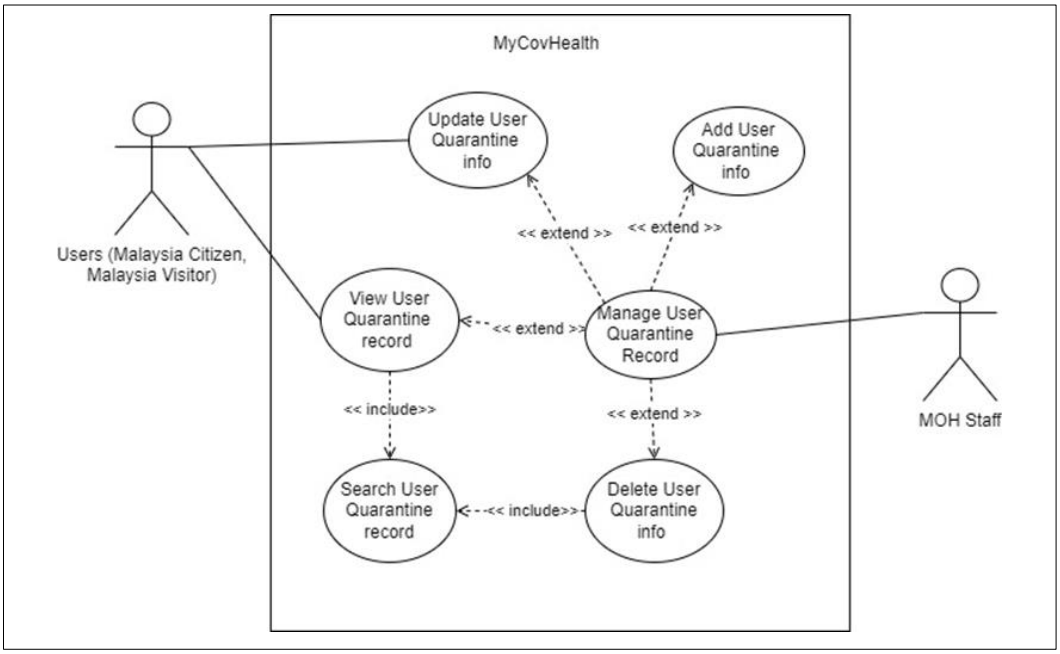


Figure 3.6 Use Case Manage User Quarantine Record - Diagram

Table 3.6 Use Case Manage User Quarantine Record

Use Case ID	MyCovHealth_REQ_400
Brief Description	This use case is initiated by User (Malaysia Citizen, Malaysia Visitor) and MOH Staff as admin. It provides the MOH staff the capability to managing the user quarantine record by add, update, delete and view the User Quarantine Record. The User can view and update all their quarantine record by MOH Staff.
Actor	User (Malaysia Citizen, Malaysia Visitor) and MOH Staff as Admin.
Pre-Conditions	The MOH staff and User already login into the MyCovHealth System.

Basic Flow	1. The use begins for MOH Staff go to user quarantine menu. 2. The MOH staff able to do in user quarantine: a. Add new user quarantine information to get quarantine. **[A1: Add User Quarantine Info]** b. Update the user quarantine info. **[A2: Update User Quarantine Info]** c. Delete the user quarantine info. **[A3: Delete User Quarantine Info]** d. View the user quarantine record. **[A4: View User Quarantine Info]** 3. The system will save the record of user quarantine in the MyCovHealth system. **[C1: Response time to save the record]** 4. The user goes to user quarantine menu. 5. The user able to do in user quarantine: a. View their quarantine record. **[A5: View User Quarantine Info]** b. Update the user quarantine info. **[A6: Update User Quarantine Info]** 5. The system will save the record of user quarantine in the MyCovHealth system. **6. [C1: Response time to save the record]** 7. The use case ends.
Alternative Flow	**A1: Add User Quarantine Info [MyCovHealth_TREQ_400_01]** 1. MOH staff will key in Full Name, IC Number, Age, Gender, Citizen, Passport Number, Swab Test Result, Date Admit Covid-19, Quarantine Place, Quarantine Address, Symptoms, Body

	Temperature and Blood Pressure. **[R1: required fill in information]** 2. The system will verify the User Quarantine Info, if the data of user quarantine is duplicate **[E1: Data Duplicate]** and MOH staff have to key in the data of user quarantine again. 3. The MOH staff need to click <<SUBMIT>>button. 4. The system will save the record of user quarantine info after MOH staff Add in the system. **[C1: Response time to save the record]** 5. The use case continues to step number 3 in basic flow. **A2: Update User Quarantine Info [MyCovHealth_TREQ_400_02]** 1. MOH staff have to search by insert the name of user that already quarantine. **[R2: required insert name of user]** 2. MOH staff need to click <<SEARCH>>button and it display list of name user that MOH staff have insert. **[C2: Response time to search the record]** 3. MOH staff need to click <<UPDATE>>button and go to the update user quarantine info. 4. MOH staff will update the user quarantine info by key in the date, Swab Test Result, Quarantine Place, Symptoms, Body Temperature, Blood Pressure, Doc. Description and Note. 5. The system will verify the User Quarantine Info, if the data of user quarantine is duplicate **[E1: Data**

	Duplicate] and MOH staff have to key in the data of user quarantine again. 6. The MOH staff need to click <<UPDATE>>button. 7. The system will save the record of user quarantine info after MOH staff Update in the system. **[C1: Response time to save the record]** 8. The use case continues to step number 3 in basic flow. **A3: Delete User Quarantine Info [MyCovHealth_TREQ_400_03]** 1. MOH staff have to search by insert the name of user that already quarantine. **[R2: required insert name of user]** 2. MOH staff need to click <<SEARCH>>button and it display list of name user that MOH staff have insert. **[C2: Response time to search the record]** 3. MOH staff need to click <<DELETE>>button and go to the delete user quarantine info. 4. MOH staff have to search by insert the date to delete the user quarantine info by date. **[R3: required insert date]** 5. MOH staff need to click <<SEARCH>>button and it display list of date that MOH staff have insert. **[C2: Response time to search the record]** 6. MOH staff will select the user quarantine info to delete the information of user quarantine by tick the radio button. 7. The MOH staff need to click <<DELETE>>button.

	8. The system will save the record of user quarantine info. **[C1: Response time to save the record]** 9. The use case continues to step number 3 in basic flow. **A4: View User Quarantine** **[MyCovHealth_TREQ_400_04]** 1. MOH staff have to search by insert the name of user that already quarantine. **[R2: required insert name of user]** 2. MOH staff need to click <<SEARCH>>button and it display list of name user that MOH staff have insert. **[C2: Response time to search the record]** 3. MOH staff need to click <<VIEW>>button and go to the view user quarantine record. 4. MOH staff have to search by insert the date to view the user quarantine record by date. [**R3: required insert date]** 5. MOH staff need to click <<SEARCH>>button and it display list of date that MOH staff have insert. **[C2: Response time to search the record]** 6. The use case continues to step number 3 in basic flow. **A5: View User Quarantine Info** **[MyCovHealth_TREQ_400_05]** 1. The User need to click the menu <<Quarantine Record>> button to view their quarantine record. 2. The User have to search by insert the date, quarantine place and quarantine address to view

	the user quarantine record. **[R4: required insert date, quarantine place and address]** 3. The User need to click <<SEARCH>>button and it display their quarantine record. **[C2: Response time to search the record]** 4. The use case continues to step number 6 in basic flow. **A6: Update User Quarantine Info [MyCovHealth_TREQ_400_06]** 1. The user needs to click the menu <<Update Quarantine Record>> button to update their quarantine record. 2. The user will update their quarantine record by key in the Date, Quarantine Place, Symptoms and Body Temperature. 3. The system will verify the User Quarantine Info, if the data of user quarantine is duplicate **[E1: Data Duplicate]** and the users have to key in the data of quarantine again. 4. The user needs to click <<UPDATE>>button. 5. The system will save the record of user quarantine info after User Update in the system. **[C1: Response time to save the record]** The use case continues to step 6 in basic flow.
Exception Flow	**E1: Data Duplicate [MyCovHealth_TREQ_400_07]** 1. The MOH Staff will key in the information of user quarantine in Add New User Quarantine Info Page. 2. The system will check whether the data is duplicate or not.

	3. If duplicate, it will display the error message. The use case continues to step 2 in alternative flow A1.
Post-Conditions	The user quarantine information must been record and updated.
Rules	**R1: required fill in information [MyCovHealth_TREQ_400_08]** 1. The MOH staff required to fill in all the information that require. **R2: required insert name of user [MyCovHealth_TREQ_400_09]** 1. MOH staff must not leave empty on the name of user textbox. **R3: required insert date [MyCovHealth_TREQ_400_10]** 1. MOH staff must not leave empty on the date textbox. **R4: required insert date, quarantine place and address [MyCovHealth_TREQ_400_11]** 1. User must not leave empty on the date, quarantine place and address textbox.
Constraints	**C1: Response time to save the record [MyCovHealth_TREQ_400_12]** 1. The response time to save the record of user quarantine is 15 minutes. **C2: Response time to search the record [MyCovHealth_TREQ_400_03]** 2. The response time to search the record of user quarantine is 10 minutes.

Sequence Diagram	Refer Appendix A-6.1: Sequence Diagram Manage User Quarantine Record – Basic Flow A-6.2: Sequence Diagram Manage User Quarantine Record – Alternative Flow A-6.3: Sequence Diagram Manage User Quarantine Record – Exception Flow

3.2 External Interface Requirements

3.2.1 User Interfaces

Figure 3.10 Dialogue Diagram is the sequence of interaction between the system and the user

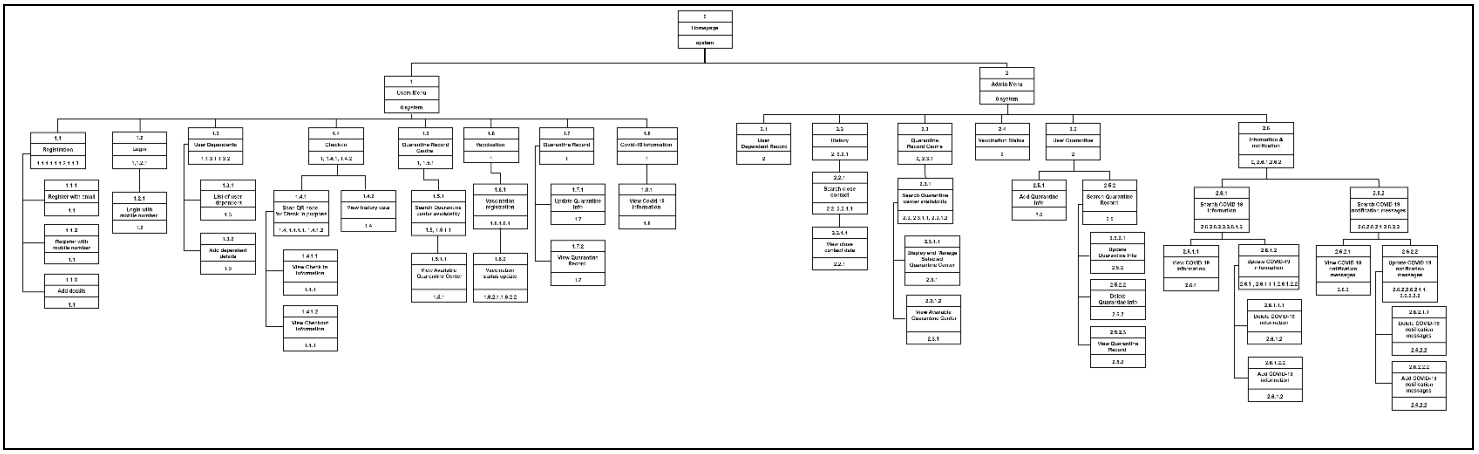


Figure 3.10 Dialogue Diagram

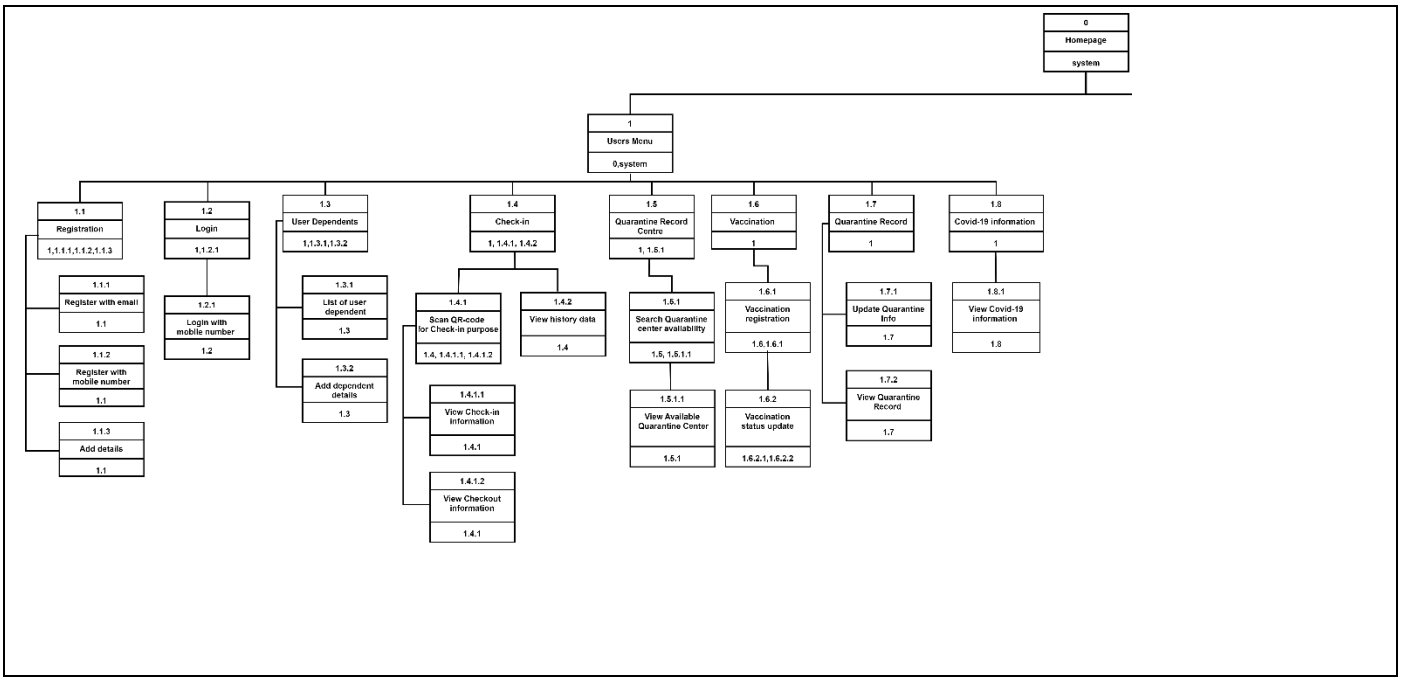


Figure 3.10.1 Cropped Dialogue Diagram (Left Side)

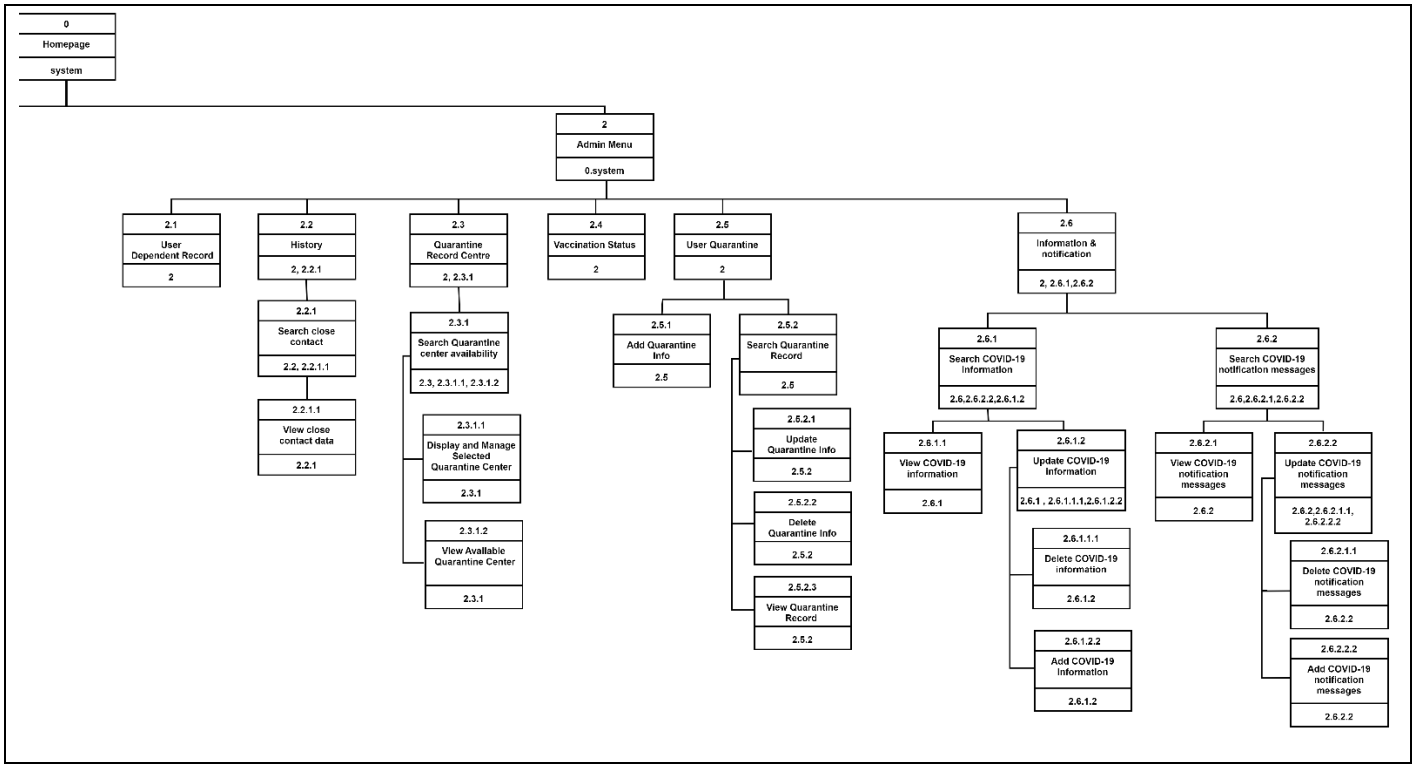


Figure 3.10.2 Cropped Dialogue Diagram (Right Side)

Table 3.10 User Interfaces Description

User Interface Name or Number	**Description**	**User Interface Layout**
Register with email interface for users	MyCovHealth system allows users to register with email.	Refer Appendix B-1.1
Register with mobile number interface for users	MyCovHealth system allows users to register with a mobile number.	Refer Appendix B-1.2
Details form to register interface for users	User shall fill in the details form in order to register into the system.	Refer Appendix B-1.3
Create password interface for users	User shall create a password for their own account in the system.	Refer Appendix B-1.4
Login with mobile number interface for users	MyCovHealth system allows users to login with a mobile number.	Refer Appendix B-1.5
Login with email interface for users	MyCovHealth system allows users to login with email.	Refer Appendix B-1.6

List of dependents interface for users	MyCovHealth system allows users to view the list and add dependents.	Refer Appendix B-1.7
Dependents details form interface for users	User shall fill in the details form in order to add dependents into the system.	Refer Appendix B-1.8
Dependent search interface for MOH Staff	MyCovHealth system allows staff to search dependent details.	Refer Appendix B-1.9
Dependent list interface for MOH Staff	MyCovHealth system displays a list of dependent results.	Refer Appendix B-1.10
Dependent details interface for MOH Staff	MyCovHealth system displays dependent details.	Refer Appendix B-1.11
Check-in main interface for users	MyCovHealth system allows users to choose the <<Scan QR-code>> button or << History>> button.	Refer Appendix B-2.1
Scan QR-code interface for users	MyCovHealth system allows users to scan QR-code for Check-in purpose.	Refer Appendix B-2.2
Invalid QR-code interface for users	MyCovHealth system allows users to Check-in again with tap <<Retry>> button.	Refer Appendix B-2.3
Check-in information interface for users	MyCovHealth system displays Check-in information when users successfully Check-in to the premises.	Refer Appendix B-2.4
Checkout information interface for users	MyCovHealth system allows users to tap <<Checkout>> button when users leave the premises.	Refer Appendix B-2.5
View history interface for users	MyCovHealth system displays detailed history data which is Check-in and Checkout history data.	Refer Appendix B-2.6
Search close contact interface for MOH Staff	MyCovHealth system allows users to choose the specific regions then click <<Search close contact>> button.	Refer Appendix B-2.7

View close contact data interface for MOH Staff	MyCovHealth system displays close contact data that was searched by MOH staff in the related regions.	Refer Appendix B-2.8
Main interface of vaccination (Users)	User shall choose which type of user they are such as Malaysia visitor, Malaysia citizen and foreign worker.	Refer Appendix B-3.1
Interface of vaccination details for users	Users fill in details according to vaccination registration or vaccination verification.	Refer Appendix B-3.2
Digital certificate example on how it will be generated for users	Users will be generated digital certificated once user get vaccination or when vaccination verification.	Refer Appendix B-3.3
Vaccination appointment and status interface (Users)	Users will be able to see when where the appointment and vaccination appointment track.	Refer Appendix B-3.4
Main Interface of User Quarantine (Users)	User shall choose the menu whether User want to click Quarantine Record or Update your Quarantine Record.	Refer Appendix B-4.1
View Interface of User Quarantine (Users)	User shall key-in the date, choose the quarantine place and quarantine address.	Refer Appendix B-4.2
Update Interface of User Quarantine (Users)	User shall key-in the date, quarantine place, symptom and body temperature.	Refer Appendix B-4.3
Main Interface of User Quarantine (MOH Staff)	MOH Staff shall choose the menu whether MOH Staff want to click Add User Quarantine Record or Search User Quarantine Record.	Refer Appendix B-4.4
Add New User Quarantine Record Interface (MOH Staff)	MOH Staff shall key-in the full name, IC number, age, gender, citizen, passport number, swab test result, admit covid-19 date, quarantine place, quarantine address, symptoms and body temperature.	Refer Appendix B-4.5

Search User Quarantine Record Interface (MOH Staff)	MOH Staff shall key-in the name of user to display list of name of user and choose menu whether MOH staff want to update, delete or view.	Refer Appendix B-4.6
Update User Quarantine Info Interface (MOH Staff)	MOH Staff shall key-in the date, covid-19 result, symptoms, body temperature, blood pressure, doc.description and note.	Refer Appendix B-4.7
Delete User Quarantine Info Interface (MOH Staff)	MOH staff shall key-in the date and tick the radio button of user quarantine.	Refer Appendix B-4.8
View User Quarantine Info Interface (MOH Staff)	MOH Staff shall key-in the date to display user quarantine record.	Refer Appendix B-4.9
View menu option for MOH Staff	MOH staff shall choose to update or add information or notification messages.	Refer Appendix B-5.1
View information interface for MOH Staff	MOH staff shall be able to view all information displayed in COVID-19 information interface.	Refer Appendix B-5.2
Add information interface for MOH Staff	MOH staff shall be able to add new information in COVID-19 information interface.	Refer Appendix B-5.3
Information interface for users	Users shall be able to view COVID-19 information.	Refer Appendix B-5.4
Add notification messages interface for MOH Staff	MOH staff shall be able to update and add COVID-19 notification messages.	Refer Appendix B-5.5
View notification messages for users	Users shall be able to view COVID-19 notification messages.	Refer Appendix B-5.6
Manage quarantine record center interface for MOH Staff	Admin shall manage the quarantine data center to keep abreast with current related information.	Refer Appendix B-6.1
Manage quarantine record center interface for users	User shall search the quarantine center information to ease them in choosing quarantine places.	Refer Appendix B-6.2

3.2.2 Hardware Interface

Not applicable.

3.2.3 Software Interface

MyCovHealth is a web-based system for admins who work for the Ministry of Health. It is compatible with Windows and iOS operating systems. Malaysian citizens and visitors can download MyCovHealth through the use of the Galeri Aplikasi Mudah Alih Kerajaan Malaysia (GAMMA), Apple App Store, Google Play Store, and Huawei AppGallery.

4. REQUIREMENT TRACEABILITY

Table 4.6 Requirement Traceability for Use Case Manage User Quarantine Record

Requirements	Description
MyCovHealth_REQ_400	Manage User Quarantine Record Provide Capability for MOH Staff to manage user Quarantine Information and also allows the Users to view and update their Quarantine Information.
MyCovHealth_TREQ_400_01	Add User Quarantine Info MOH staff click the <<Add User Quarantine Info>> to create new user quarantine information.
MyCovHealth_TREQ_400_02	Update User Quarantine Info MOH staff insert the name of the user and click the <<SEARCH>> button to display the list name of the user. MOH staff click the <<UPDATE>> button to update the user quarantine information.
MyCovHealth_TREQ_400_03	Delete User Quarantine Info MOH staff insert the name of the user and click the <<SEARCH>> button to display the list name of the user. MOH staff insert the date and click the <<SEARCH>> to display the list of user quarantine information and click the <<DELETE>> button to delete the selected user quarantine information.
MyCovHealth_TREQ_400_04	View User Quarantine Info MOH staff insert the name of the user and click the <<SEARCH>> button to display the list name of the user. MOH staff insert the date and click the <<SEARCH>> to display the list of user quarantine information.

MyCovHealth_TREQ_400_05	View User Quarantine Info Users click the <<Quarantine Record>> to view their quarantine record. Users insert the date, the quarantine place and quarantine address and click the <<SEARCH>> button to display the list of their quarantine information.
MyCovHealth_TREQ_400_06	Update User Quarantine Info Users click the <<Update Quarantine Record>> to update their quarantine record.
MyCovHealth_TREQ_400_07	Data Duplicate Provide capability for the system to verify whether the data is duplicate or not.
MyCovHealth_TREQ_400_08	Required fill in information The system will not save the information of quarantine records because MOH Staff did not fill in the information that has been required
MyCovHealth_TREQ_400_09	Required insert name of user The system will not display the list of names of user quarantine information because MOH Staff did not insert the name of the user.
MyCovHealth_TREQ_400_10	Required insert date The system will not display the list of user quarantine information because MOH Staff did not insert the date.
MyCovHealth_TREQ_400_11	Required insert date, quarantine place and address. The system will not display the list of user quarantine information because MOH Staff did not insert the date, quarantine place and address.

MyCovHealth_TREQ_400_12	Response time to save the record The system will save the record of user quarantine in 15 minutes.
MyCovHealth_TREQ_400_13	Response time to search the record The system will search and display the record of user quarantine in 10 minutes.

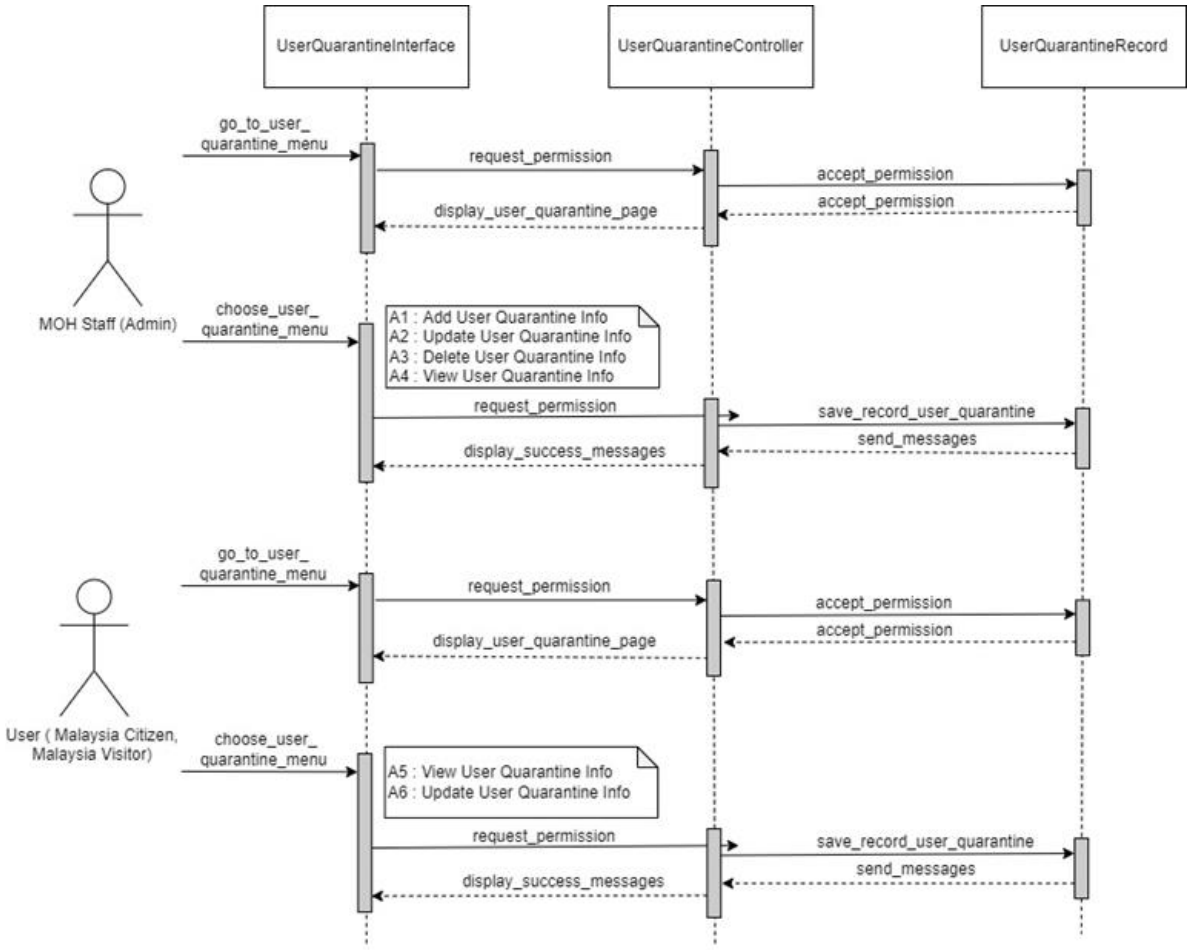
5. ACRONYMS AND ABBREVIATION

Table 5.1 Acronyms and Abbreviation

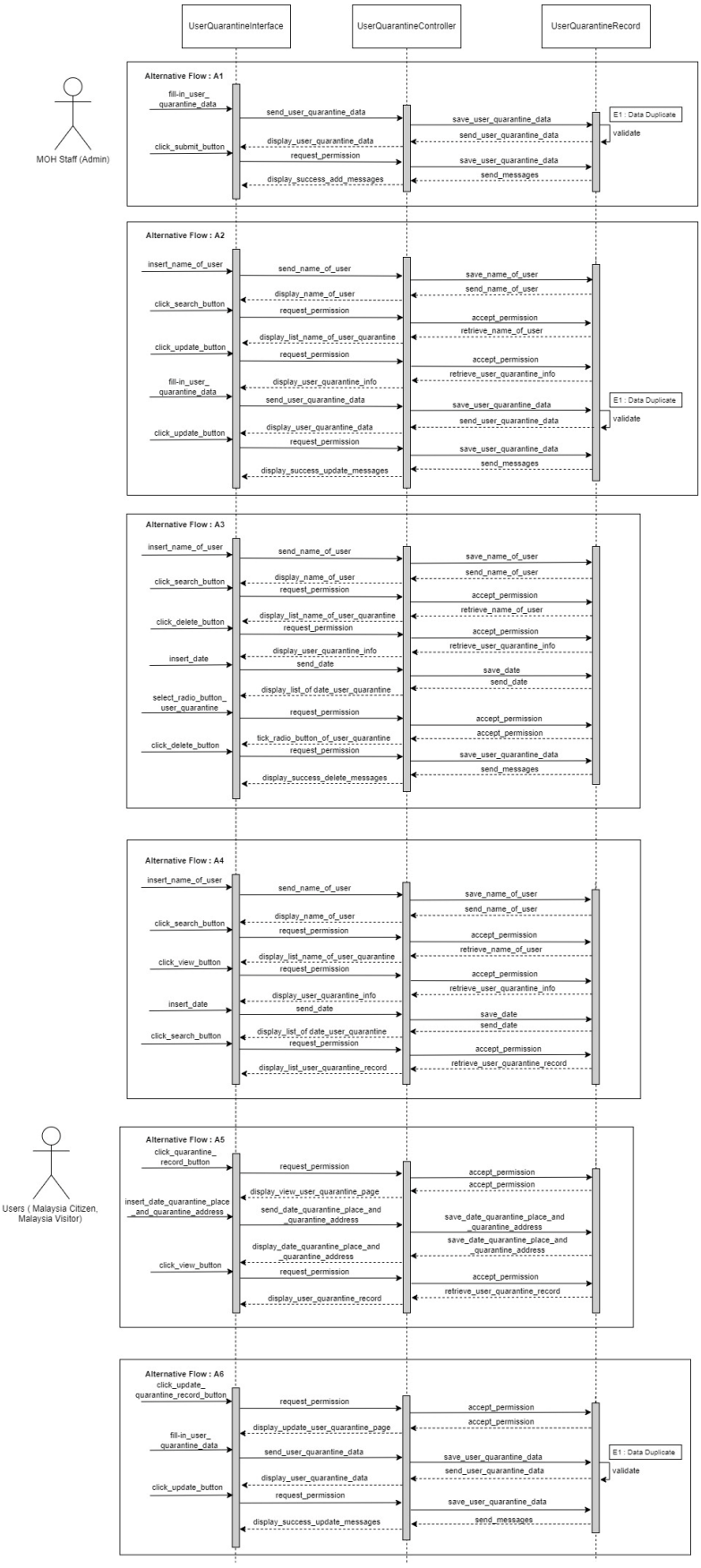
Term	Definition
SRS	Software Requirement Specification
SDLC	Software Development Life Cycle
FR	Functional Requirement
REQ	Requirement
TREQ	Time Requirement
MOH	Ministry of Health
SOP	Standard Operating Procedure
UMP	University Malaysia Pahang
PDPA	Malaysia's Personal Data Protection Act 2010
IOS	iPhone Operating System
OTP	One-Time Password
QR	Quick Response
GAMMA	Galeri Aplikasi Mudah Alih Kerajaan Malaysia

APPENDIX A

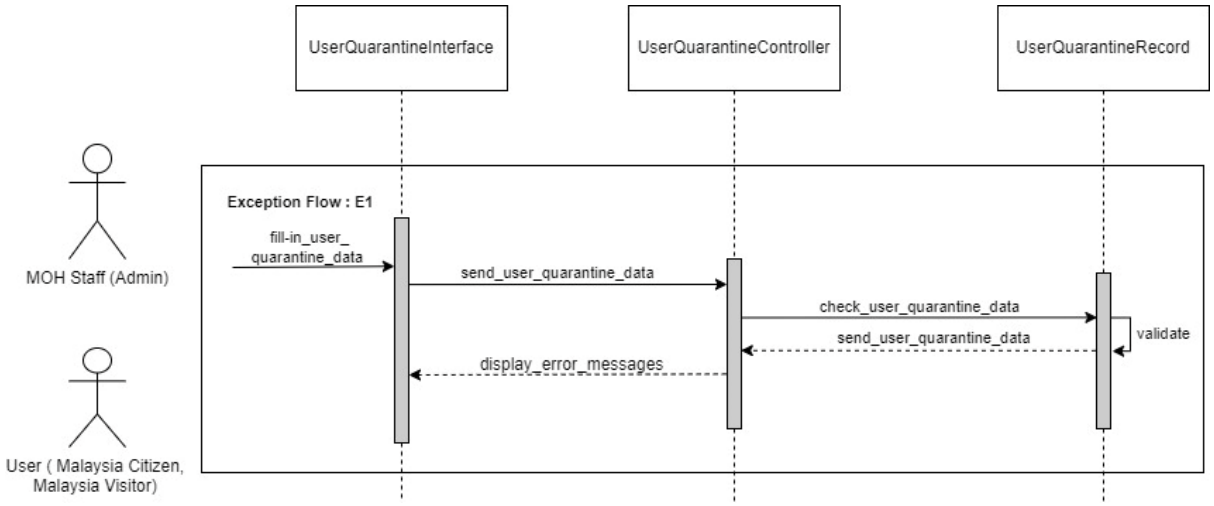
Sequence Diagram



Appendix A-6.1: Sequence Diagram Manage User Quarantine Record – Basic Flow



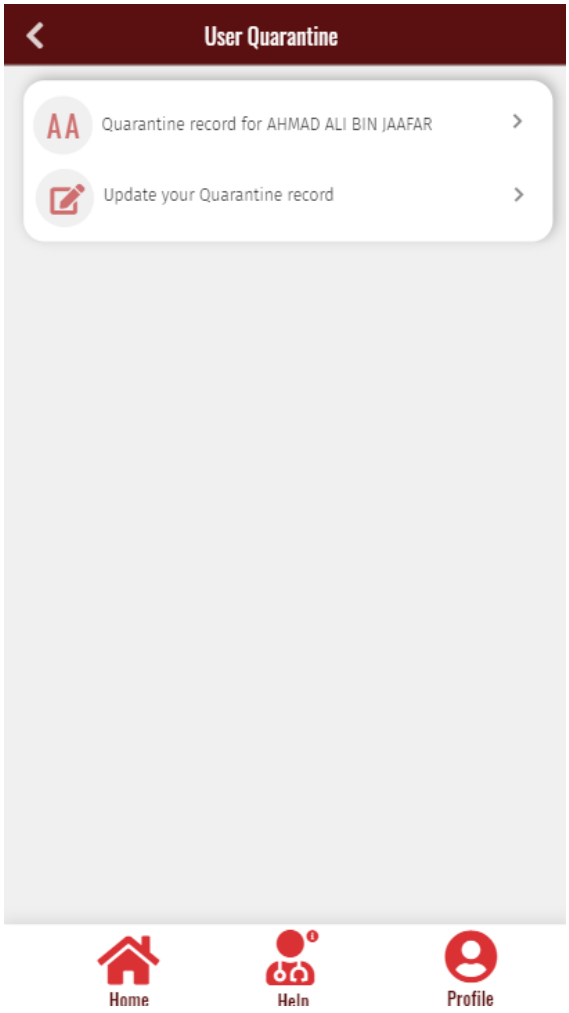
Appendix A-6.2: Sequence Diagram Manage User Quarantine Record – Alternative Flow



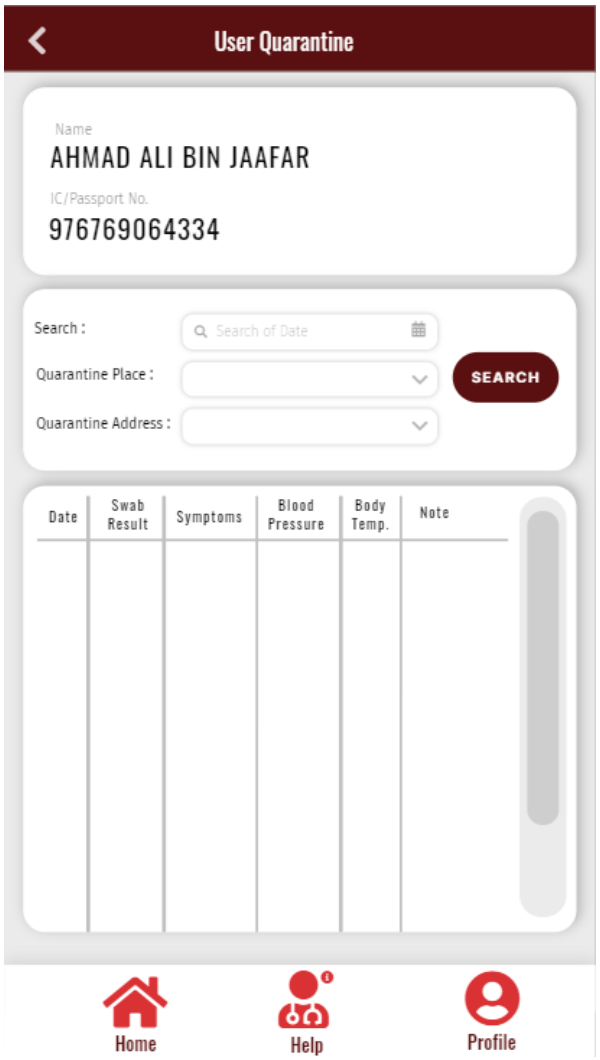
Appendix A-6.3: Sequence Diagram Manage User Quarantine Record – Exception Flow

APPENDIX B

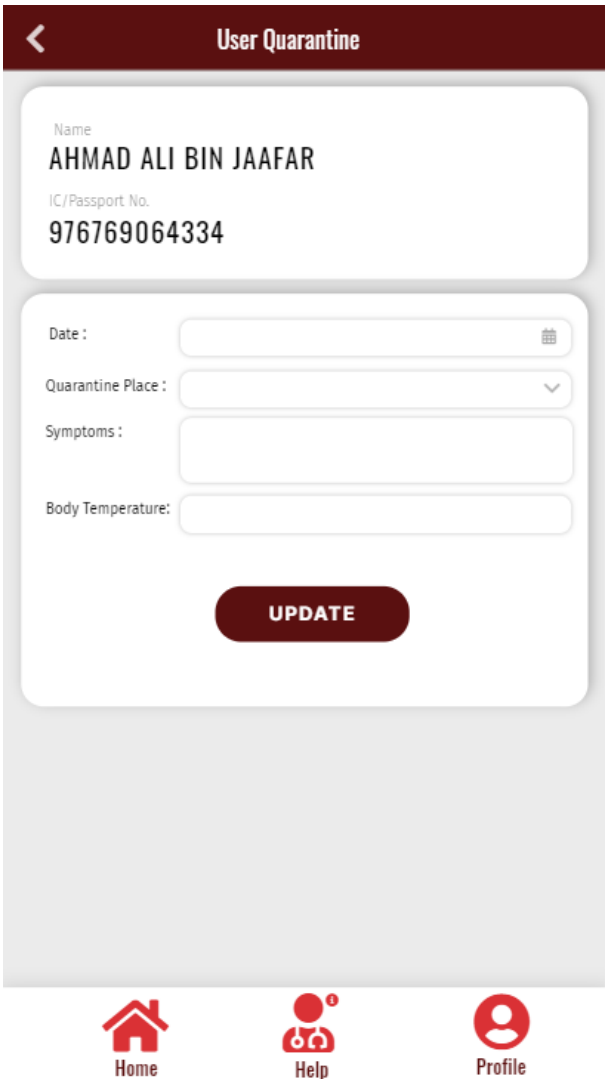
User Interfaces



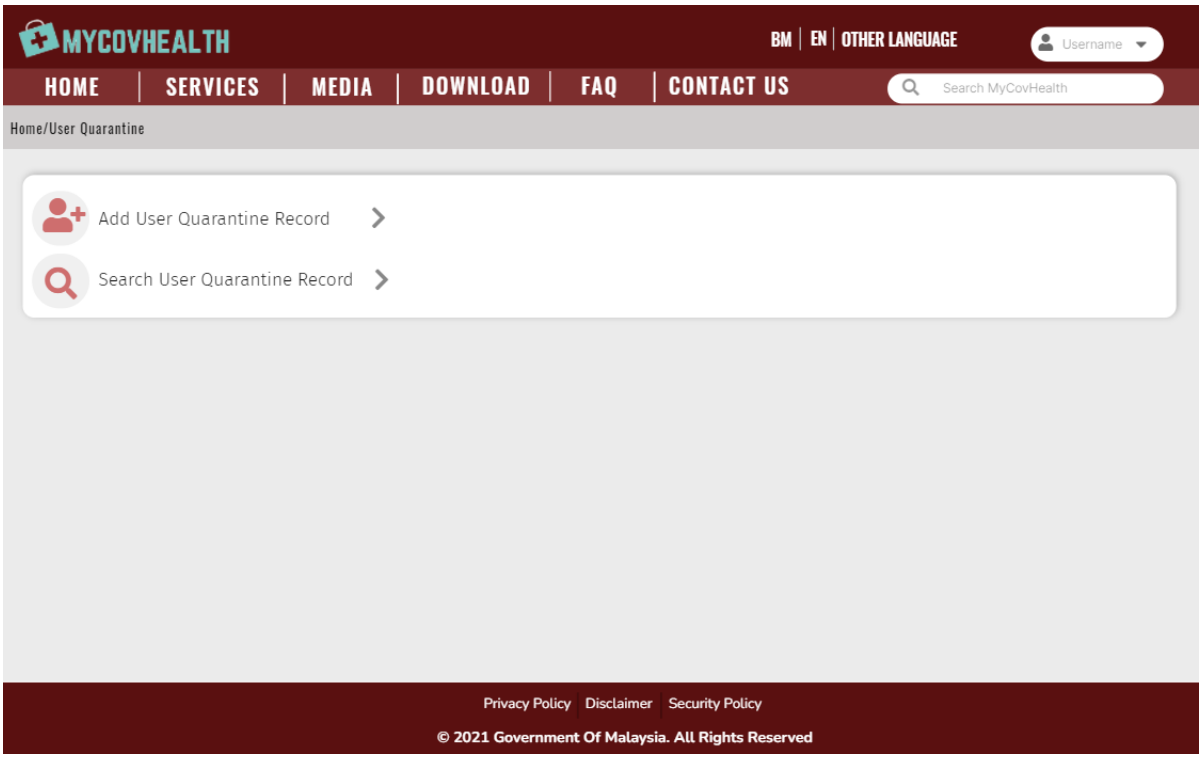
Appendix B-4.1: Main Interface of User Quarantine (Users)



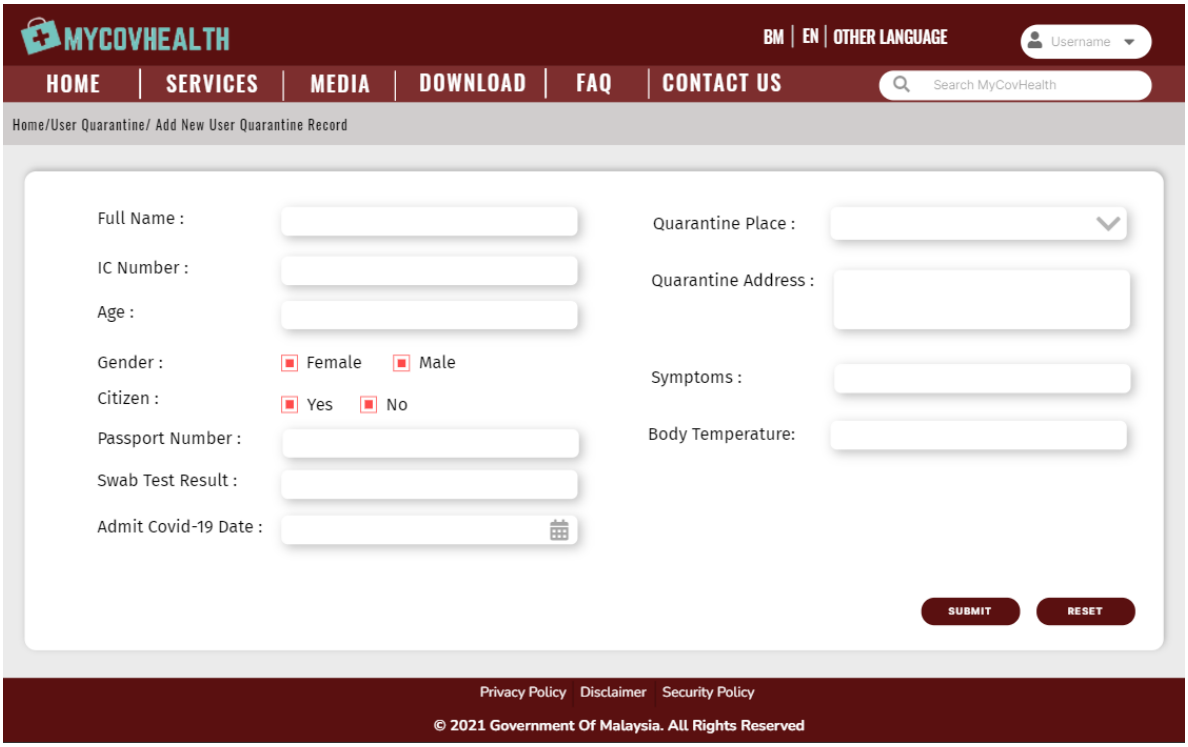
Appendix B-4.2: View Interface of User Quarantine (Users)



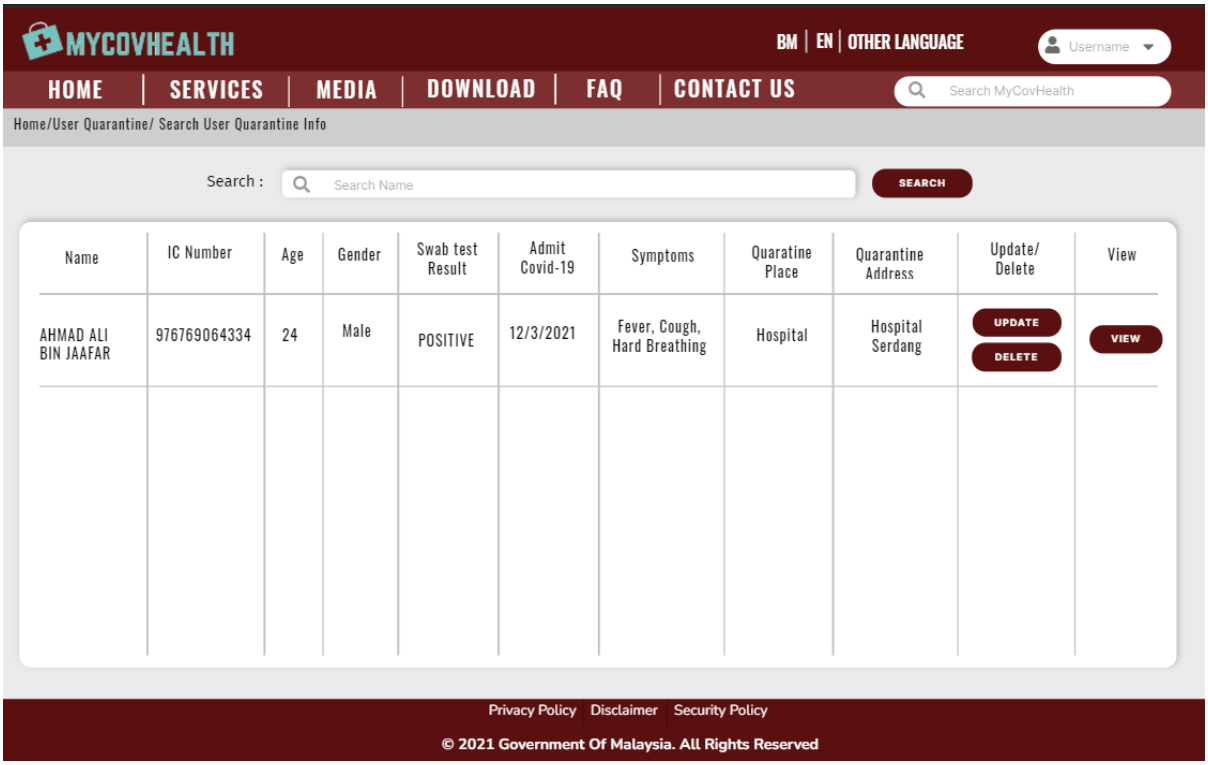
Appendix B-4.3: Update Interface of User Quarantine (Users)



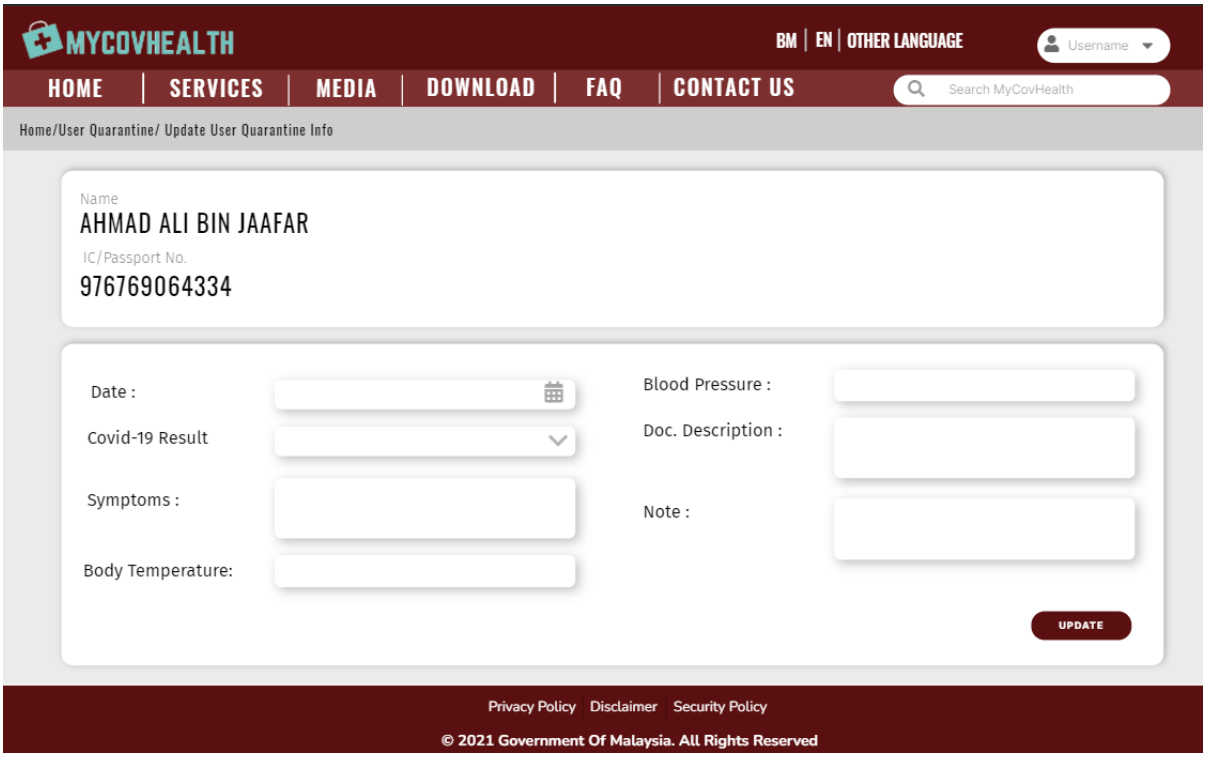
Appendix B-4.4: Main Interface of User Quarantine (MOH Staff)



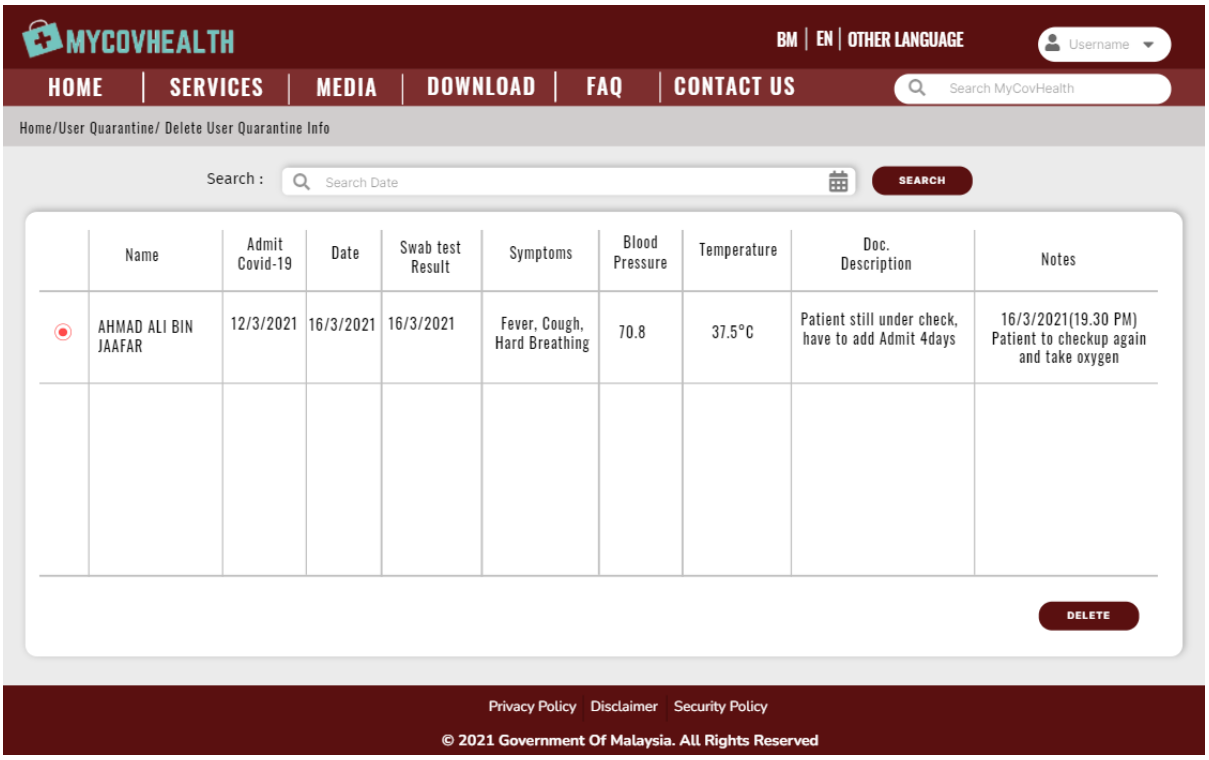
Appendix B-4.5: Add New User Quarantine Record Interface (MOH Staff)



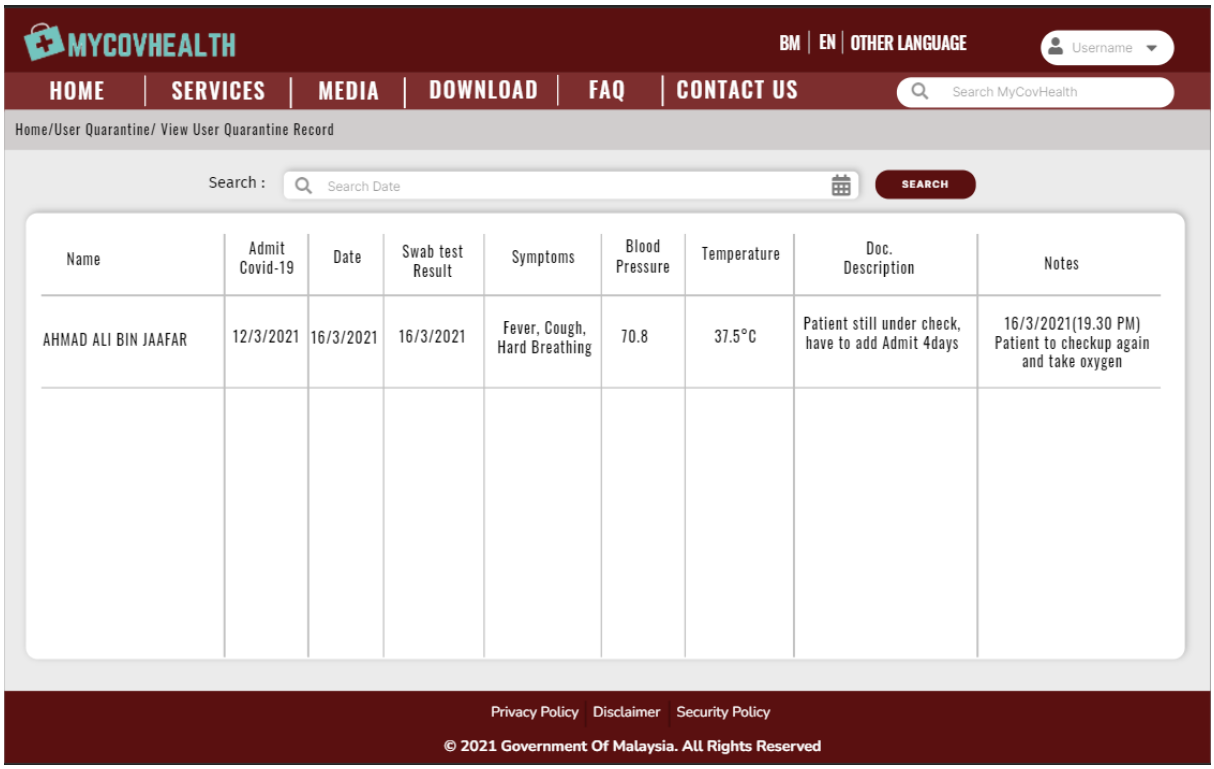
Appendix B-4.6: Search User Quarantine Record Interface (MOH Staff)



Appendix B-4.7: Update User Quarantine Info Interface (MOH Staff)



Appendix B-4.8: Delete User Quarantine Info Interface (MOH Staff)



Appendix B-4.9: View User Quarantine Info Interface (MOH Staff)