INDUSTRIAL TRAINING REPORT:
PEJABAT KESIHATAN DAERAH LANGKAWI

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Alhamdulillah, grateful to Almighty God who granted me health and long life for giving me the opportunity to finish my five months industrial training successfully at the Information Technology Department at Pejabat Kesihatan Daerah Langkawi (PKD Langkawi). I would like to express my sincere gratitude to my organization supervisor, Dr. Lai Fong Chin for giving me the opportunity to have my industrial training in this department. With this opportunity I have learned so many things in this department that help equipped myself with knowledge and skills that can be added value to myself. Not to forget, greatful thanks to all the PKD Langkawi staff for their support and guidance throughout the industrial training programme. Besides that, I also want to express my deepest thanks to the faculty supervisor, Madam Nurul Annisa Abdullah who always giving advice that very helpful advice without any doubt. Last but not least, I would like to express my special gratitude to my beloved parents for being very supportive to me in finishing this industrial training.

ABSTRACT

Industrial training program that offered by Faculty of Information Management, University Technology Mara Kelantan Branch brought an opportunity for the student in order to apply their theoretical knowledge that have they learned in the syllabus classes into the reality of working environment. Industrial training is an important phase of a student life. A well planned, properly executed and evaluated industrial training helps a lot in developing a professional attitude. Hence, this industrial programme requires student to spend five (5) months training at the organization in the department of Information Technology at Pejabat Kesihatan Daerah Langkawi (PKD Langkawi). The main task for students to complete in order to pass the industrial training is to develop a system that is known as Vaccine Registration System (VRS), from the starting of planning until the maintenance of the system. Besides that, within the duration of 5 months, student has been exposed to the nature of work in Information Technology field. This report has details explanation regarding all the activities that being done by the student include the development of the system.

Keywords: Faculty of Information Management, Internship, PKD Langkawi, system development, vaccine system.

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Introduction

1.1 Background of the Organization

Pejabat Kesihatan Daerah Langkawi (PKD Langkawi) was known to be established as a main office for health care in Langkawi which focused on Rural Clinics, Inspectorate & Legal Unit, Langkawi Pharmacy Division. The organization is focusing to help an individual in order to achieve and maintain a standard of health to enable him to lead a productive economic and social life. However, to achieve the goal, they must provide most efficient, appropriate and effective incentive, as followed with providing treatment and rehabilitation services with emphasis onto the less fortune in the city.

1.1.1 Motto, Vision and Mission

Motto

"Kami Sedia Membantu"

Vision

The country is mobilizing energy towards better health.

Mission

The mission of the Ministry of Health is to lead and work together towards goal.

1.1.2 Objectives

I. To facilitate and enable the people to reach their full potential in health.
II. To facilitate and enable the people to take responsibility and positive action for their health.
III. To ensure a high-quality health system towards community.

1.1.3 Functions

The functions of Pejabat Kesihatan Daerah Langkawi (PKD Langkawi) are stated as follows:

- To make sure health care system is enforced in high-quality state as it prioritizes customer which is not burdensome towards customer as the technology can be adapted according to the innovative and pleasure environment by emphasizing the work, caring, apply professionalism and teamwork, as well as put respect for the human dignity and engage with community for a better value.

- Function of PKD Langkawi is also focused to deliver public health services and to manage resources within a district. It is led by a Public Health Physician as it acts as a body to oversee the execution of the national health policies as well as strategies at the ground level and serves in order to enforce existing health related legislation. It is also responsible within disease monitoring and surveillance as well and not to forget for the achievement of specific health indicators for each activity. There are six major services provided by the District Health Office, namely the Family Health, Disease Control, Occupational Health, Food Quality Control, Health Education, as well as Environmental Health and Water Supply Services.

1.1.4 Logo of Organization

Figure 1: Logo Pejabat Kesihatan Daerah Langkawi

1.2 Organizational Structure

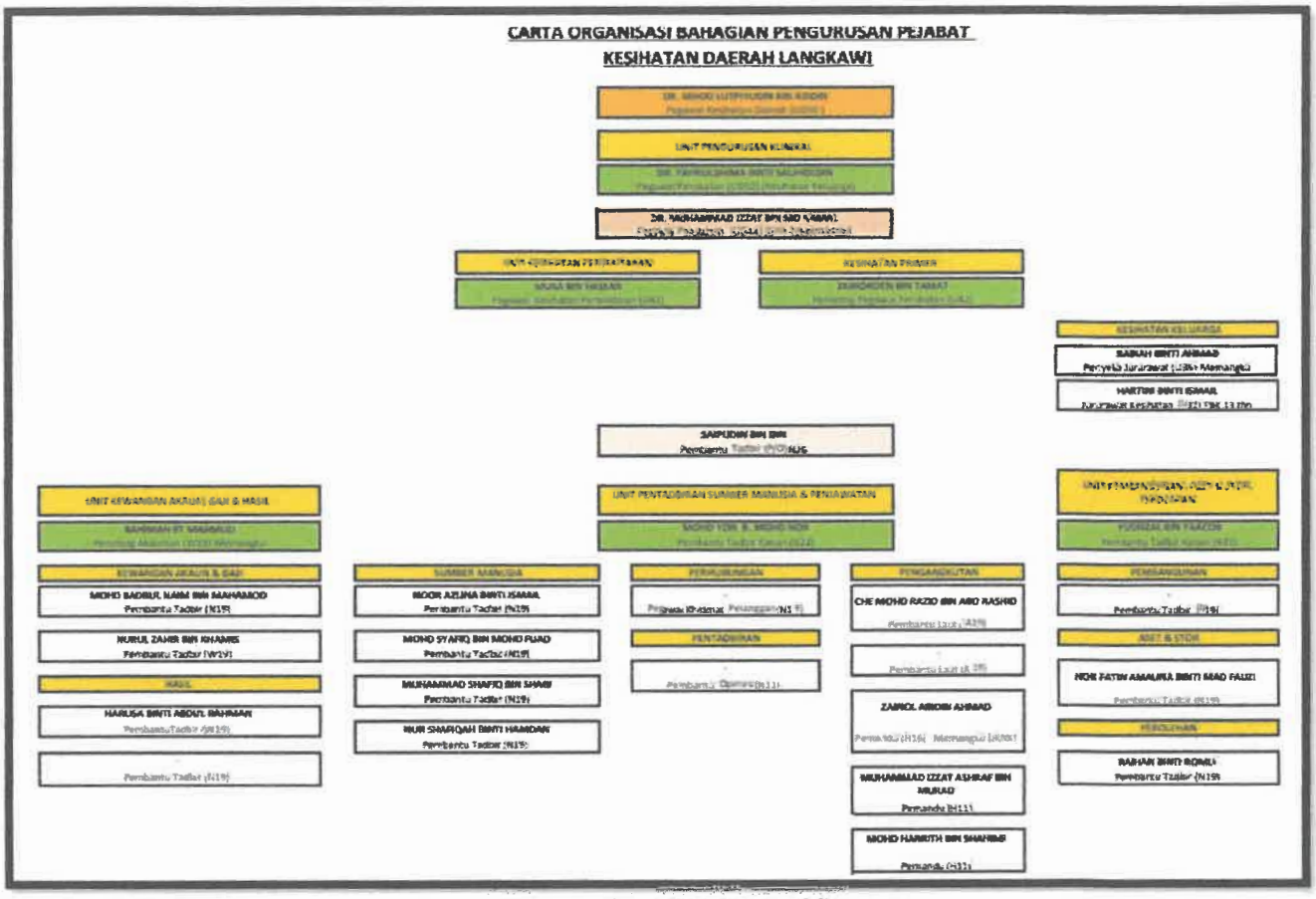


Figure 2: PKD Langkawi ***Organizational Structure***

Chapter 2:

Organization Information

2.1 Department Structure

There are four departments in PKD Langkawi, which is divided with Finance Department that mainly focus on accounts and salaries and 'Hasil'. Next, Administration Department that is mainly focus on human resource, communication, administration and transportation unit as well. Follow with next department which is Development Units, Assets and Stores, Procurement Department. Last but not least, Information and Technology Department in the organization.

ICT Department of PKD Langkawi is one of the departments that well-collaborate with Langkawi Development Authority (LADA) as its building is the centre of many organizations and its departments. Their officers and staff of department are focused on the service of the organization in order to run the management within department as it provided ICT support service towards the colleagues of PKD Langkawi as well as it responsible for the development and the coordination of ICT within organization.

This department is headed by an Information Technology Officer F41/44 and be assisted by two Assistant Officer F29 and two (2) FT17 Computer Technician. The department has four (4) main functions to support the ICT-related matters, namely ICT planning, technical and operations, Application management and security. All four of these functions are led by Information Technology Officer F41.

2.1.1 Vision and Mission

Vision

- To make ICT as the main driver for PKD Langkawi's ICT development.

Mission

- Providing ICT services effectively, efficiently and safely to ensure effectiveness in the management of safety in PKD Langkawi.

2.1.2 Objectives

- To coordinate, monitor and improve the use of the latest computer technology to all officers and staff at the Pejabat Kesihatan Daerah Langkawi.
- To increase the efficient management of ICT in order to support the strategic needs within Pejabat Kesihatan Daerah Langkawi and the use of ICT towards the citizens.

2.1.3 Department Function

In line with the organization vision and mission, the function of ICT department are:

1. To ensure that technical support for computers and office machines are well working.

2. To provide ICT and technical assistance needed to all Division / Unit under Pejabat Kesihatan Daerah Langkawi (PKD Langkawi) included in the Health Clinic.

3. To monitor the implementation of programs and activities of ICT that have been assigned to the department to be more productive, efficient and effective in carrying out its functions.

2.1.4 Departmental Chart

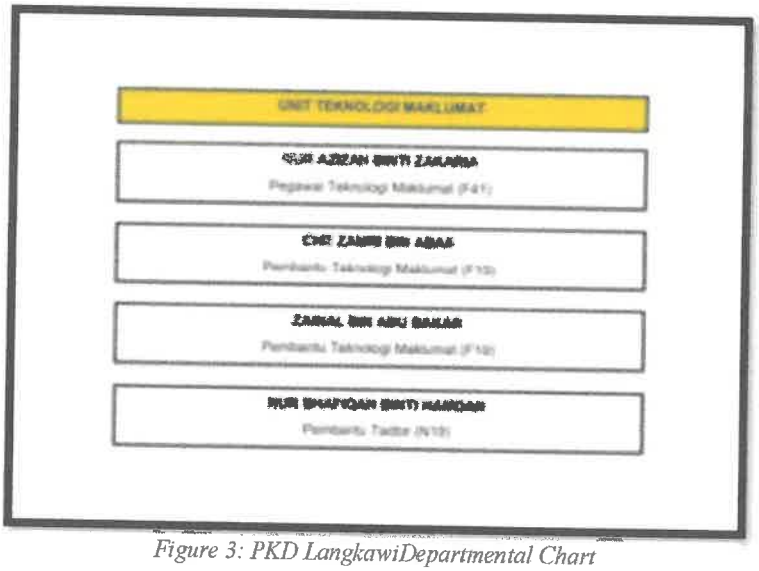


Figure 3: PKD LangkawiDepartmental Chart

Chapter 3:

Industrial Training Activities

3.1 TRAINING ACTIVITIES

Within this section, it will discuss regarding activities that are performed during internship period at Pejabat Kesihatan Daerah Langkawi. The internship period is started from 1st March 2021 until the end of July, on 31st July 2021. Based on the experience, student only spent irregularly in the office since the organization is allowing their staffs to Work From Home (WFH) since the outbreak of Corona Virus 2019 (Covid19). From my point of view, Pejabat Daerah Langkawi (PKD Langkawi) spent for about only 3 months to work from the office, and the rest of the months required their staffs to WFH since Movement Control Order (MCO) is implemented.

During internship period with working at the office, student have given the chances to learn about new things and getting exposed with job scope and working environment. Students are getting the chances to get exposed with real working situation within the field of information technology since the student is required to follow the task given and, in the meantime, they are able to learn from experience along with the guidance from person in charge. As for organizational person in charge, a supervisor has been appointed to monitor student's performance, which Dr. Lai Fong Chin has been appointed for in charge during my internship period within the organization.

3.1.1 Developing a system

Student are required to develop a system that called Vaccine Registration System (VRS). Basically, this system will help PKD Langkawi in the process of the evolvement of vaccination information from the beginning of the phase till the end of the total vaccinees has been vaccinated. In order to allow this system to become more efficient, it will be equipped with the purpose of monitoring the vaccinee records. In order to make sure the system to become more significantly function, it has been equipped with the function of where the vaccines, and vaccinees records are stored and viewed through the system. The idea of this system is given by Dr. Aini and Dr Roshayati as an idea in order to help their vaccine

enforcement by developing a system in a way to monitor vaccination progress and also to store information regarding vaccine program as well. They indirectly contribute to the idea of what content that need to be developed, its interface, storyboard and not to forget, some support and guidance from the supervisor as well in order to get done with the system and report as well. The student needs to show the progress of the development of system in order to track and not misleading with any information. Based on the internship period, it takes only five months in order to develop the system by referring to the system development methodology in which PADIM stages.

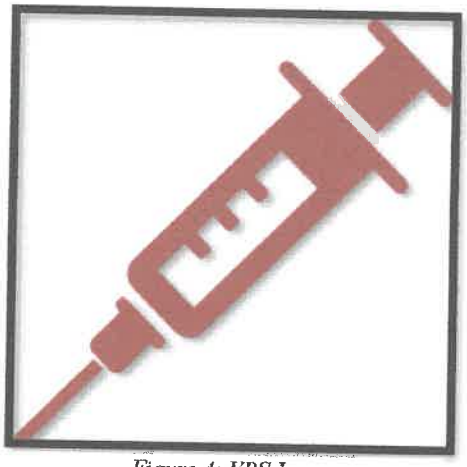


Figure 4: VRS Logo

3.1.2 Vaccine Verification

For the internship activities, sometimes the student is assigned with the process to verify the vaccination process. The process takes only 10 minutes in order to verify the system with the help of other colleagues. All vaccinees that has taken their vaccine shot will be given a card and also digital certification as the sign of they have already completed their dose. The vaccine verification needed their personal information such as their name, identification number and their MySejahtera ID. Hence, every vaccinees that already get their vaccine, will need to get through at verification station in order for them to verify their vaccine.

3.1.3 Troubleshooting

During the time where we are not going to vaccination centre, the student needs to attend office in weekdays. In Pejabat Kesihatan Daerah Langkawi, there are only three internship students with different field of study. Based on my point of view, we are needed to learn how to troubleshoot every issue regarding computers. As our department is having a room that is occupied with unused computers, non-functional devices and also other issues such as common problems that always face by department, which is printer problems, computers that are running slowly, and not to forget problem such as slow internet, the computer does not recognize the USB devices and help restoring deleted files, hence, it needs to be monitored regularly by the staffs. The problems and solution have been done by the student with the help of colleagues such as:

- Computers running slowly

  Common solutions that have been done by student is to close running programs if there are too many running at the moment and next student help to scans and update because it might be the computer is carrying out, scans and updates on the background without staff knowledge.

- Slow internet

  Student shut all the updates during office and peak hours and suggest the updates being carry out during lunch hour and after office hours. Running many windows while browsing also can be the reasons internet slows down.

- Restoring files

  When a user loses some important information, staff tends to panic. Some people think that once files go to the Recycle Bin, they are gone forever. However, if the files are not in the Bin, the next option is to advise the staff not to use the drive until the data is restored.

3.1.4 Learning coding

In addition, during internship period, the student has been given a chance to learn new things such as learning coding. In the process of learning coding, the exposure of skills is various such as learn to read database, write maintainable code in which the staff in charge responsible to teach on how to read, understood, and also to alert with any improvement or any changes to allow the code is maintainable.

3.2 Special Project

During internship period, student need to perform special project since it acts as an essential task to get done in order to complete this industry training. Student is under supervised by the organization to allow in making sure that all of the information is completed, and any steps needed will be performed immediately.

3.2.1 Project Overview

Vaccine Registration System (VRS) is a system whereby it acts a method to achieve great successes of biomedical sciences as well as the public health and the representation of the most effective efforts in order to prevent the disease. By developing this system, it focuses on the vaccine registration process whereby it allows vaccination centre which is health clinic to monitor vaccinee registration as well as other information needed to be kept such as its dose, types of vaccine, data of every shot that vaccinees has taken which it stays at organized place, which is this Vaccine Registration System.

Within vaccination centre, which is Kuah Health Clinic (KHC) which is under Pejabat Kesihatan Daerah (PKD) Langkawi has received numbers of patients in a day, hence they will provide a form for them to fill in which it asked regarding their consent for Covid-19 vaccination programme. Though this effort helps patients for their vaccine registration, however, it is not really organized since they just get it physically and it takes numbers of step in order to completely register their personal information.

Hence, Vaccine Registration System (VRS) will ease the process of keeping details information about vaccinees who are agreeing to take two shots for vaccination. The process will focus on the moment patients come to the clinic and staff nurse in charge will ask for some information or maybe their consent either they are agreeing or otherwise for Covid-19 vaccination programme.

3.2.2 Problem Statement

3.2.2.1 Uses ineffective ways to collect data or information

To be exact, patients need to fill in the details for consent manually which it only uses a piece of paper and then they will give to the staff nurse to collect the data in that day. This method will occur some issues whereby patients are forgotten to fill in and give it back to the staff nurse since its focuses are elsewhere.

3.2.2.2 No exact system to keep all information regarding vaccines taken

Basically, any dose taken will be given a piece of paper for person in charge to key in the data into the system, hence they have no system to store all information regarding the name, batch number, expiry date, total vials used, and other else in which it requires much data to store.

3.2.2.3 Handwritten been mistakenly written

By filling in the personal information manually through paper-based form, it tends to be mistakenly written by patients. As example, identification number is not enough number, wrong number filled in and the name spelling might also be the same example of mistakenly written.

3.2.3 Objective

In order to produce well-functioning system that gives benefits to the PKD Langkawi, it is essential for us to ensure that all objectives for this project can be achieve. The major objectives of VRS listed below:

- To coordinate digital support and also the enablement of vaccine centre towards the response to the preparation of additional burden.

- To monitor the vaccination information, starting with the name given by public until the total dosage has been given completely to the vaccinees.
- To determine vaccinees status in order to aid clinicians, health departments to monitor their dosage used.

3.2.4 Scope of Project and User Target

Table 1: Scope of project and user target

No.	User	Scope
1.	Front desk (FD)	This user needs to register through this system in order to make them available to login and register future vaccinees. Through this interface, staff will get to register and monitor the names, vaccines information, either it already registered or yet to be registered.
2.	Higher Management (HM)	This interface able to view and monitor vaccination report regarding the vaccines that has completely get first and second dose, along with the vaccine information at the vaccination centre. The report includes all the information about the vaccinees list, vaccines dosage and not to forget all of the confidential information regarding the vaccination program.
3.	System Administrator (SA)	As the person in charge need to modify any changes related to the system, this user has authority to make change towards the password and user id if there any requirement for them to do it. Besides, this user able to create account for the Front Desk and the HM.

3.2.5 Tools Used for Development

Table 2: Tools used for development

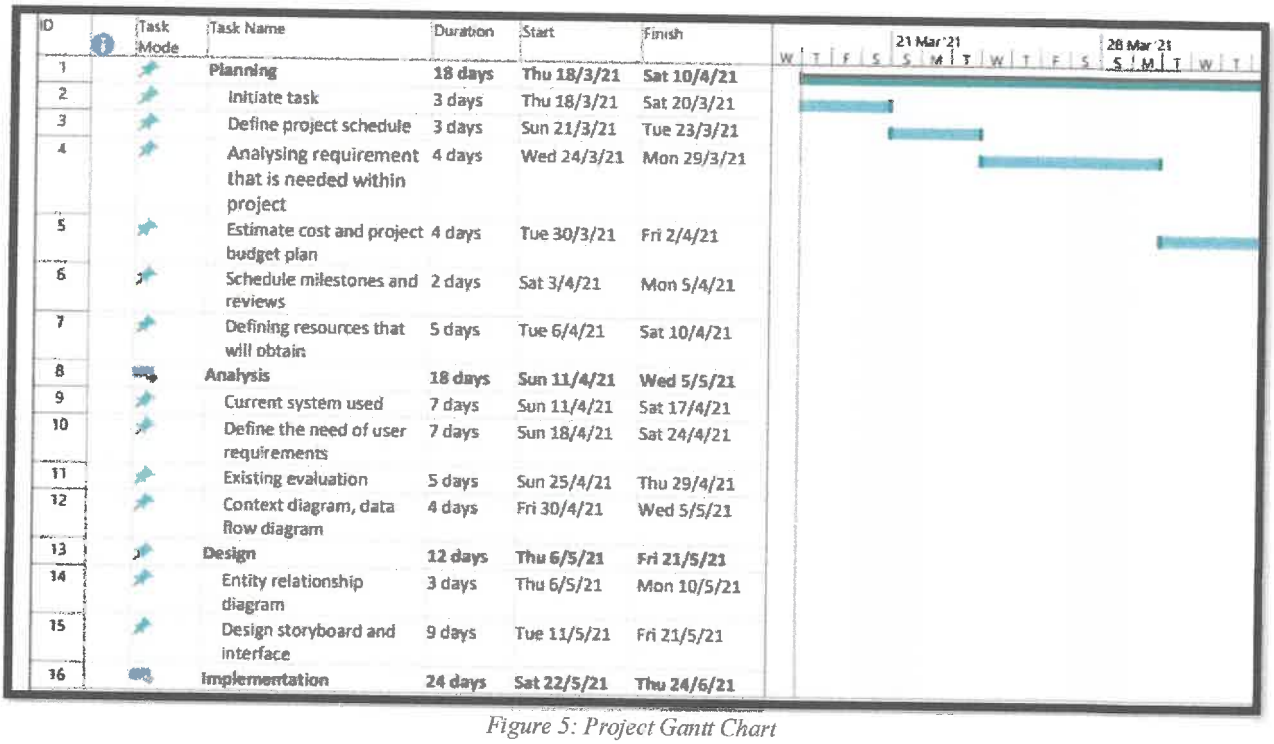
No.	Items	Description	Estimated Price
1.	**Laptop HP**	- Intel Pentium N3710 Processor - Windows 10 - Integrated Intel HD Graphics - Memory 4 GB DDR3 - Storage 1 TB HDD	RM1700
	Windows 10 Professional	**Windows 10 Professional** Operating system that updated with new features and improve PC performance	RM350
	Adobe Dreamweaver CS6	**Adobe Dreamweaver CS6** Software program for designing web pages, essentially a more fully featured HTML web and programming editor.	RM80
	Sublime Text 3	**Sublime Text 3** Sublime Text is a proprietary cross-platform source code editor with a Python application programming interface (API).	No Charge
	MySQL Server	**Mysql Server** This allows developer to store all information in databases to make them accessible when to access.	No Charge
	Wamp Server 64bit	**Wamp Server 64bit** This software used for the web development and to test the PHP coding	No Charge
TOTAL			RM2130.00

3.2.6 Project Planning

Table 3: Project planning for system development

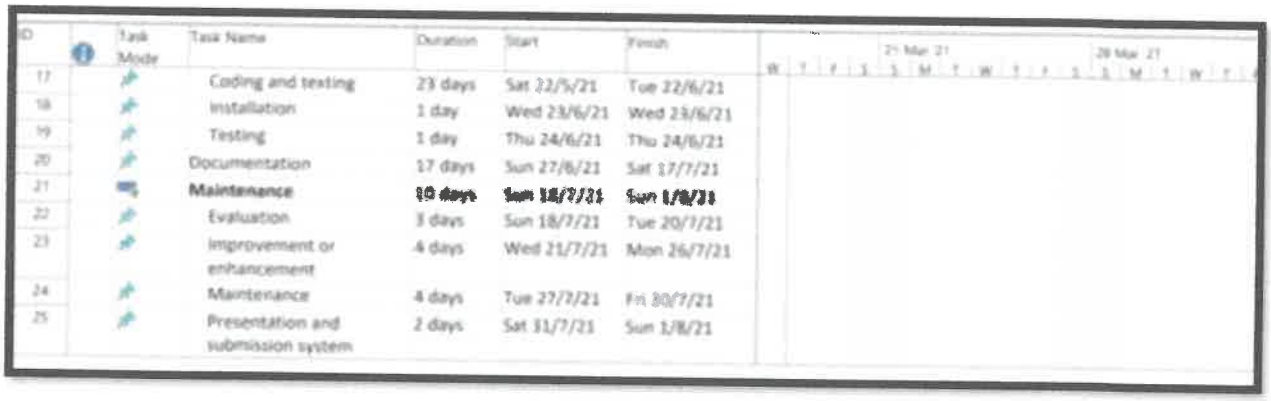
Task	Duration	Start	Finish
Planning			
Initiate task	2	18/3/2021	20/3/2021
Define project schedule	2	21/3/2021	23/3/2021
Analysing requirement that is needed within project	5	24/3/2021	29/3/2021
Estimate cost and project budget plan	3	30/3/2021	2/4/2021
Schedule milestones and reviews	2	3/4/2021	5/4/2021
Defining resources that will obtain	4	6/4/2021	10/4/2021
Analysis			
Current system used	6	11/4/2021	17/4/2021
Define the need of user requirements	6	18/4/2021	24/4/2021
Existing evaluation	4	25/4/2021	29/4/2021
Context diagram, data flow Diagram	5	30/4/2021	5/5/2021
Design			
Entity relationship diagram	4	6/5/2021	10/5/2021
Design storyboard and Interface	10	11/5/2021	21/5/2021
Implementation			
Coding and texting	60	22/5/2021	22/6/2021
Installation	1	23/6/2021	23/6/2021
Testing	1	24/6/2021	24/6/2021
Documentation	20	27/6/2021	17/7/2021
Maintenance			
Evaluation	2	18/7/2021	20/7/2021

Improvement/enhancement	5	21/7/2021	26/7/2021
Maintenance	3	27/7/2021	30/7/2021
Presentation and submission system	1	31/7/2021	31/7/2021

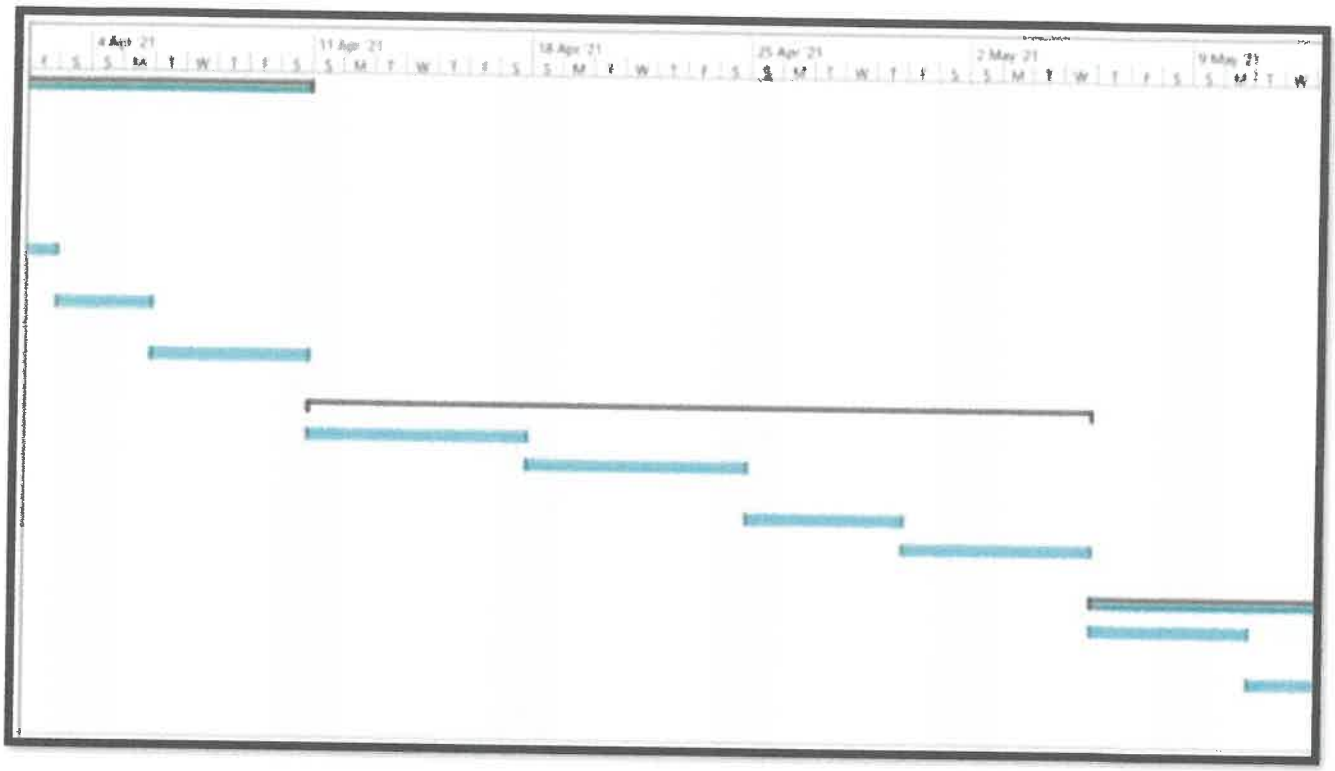


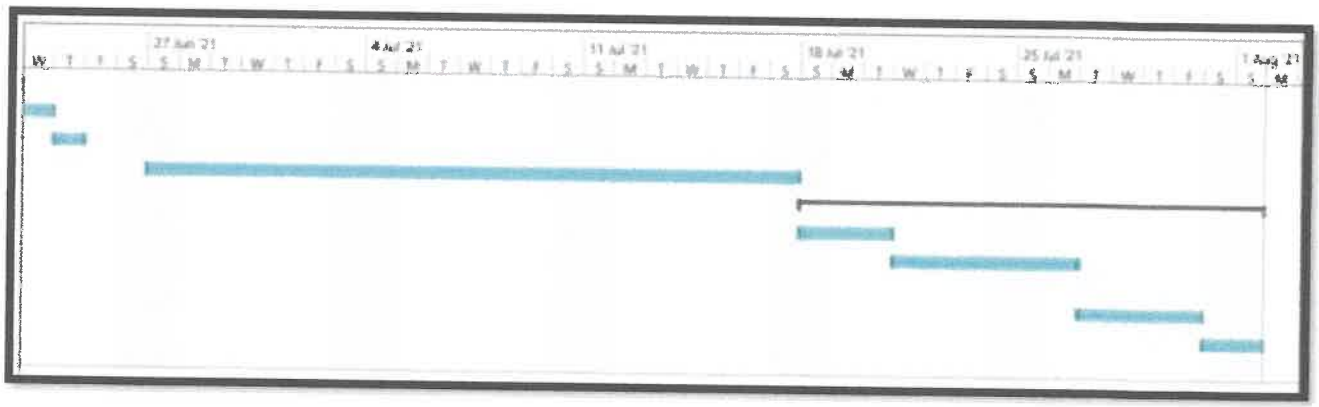
ID	Task Mode	Task Name	Duration	Start	Finish
1		**Planning**	**18 days**	**Thu 18/3/21**	**Sat 10/4/21**
2		Initiate task	3 days	Thu 18/3/21	Sat 20/3/21
3		Define project schedule	3 days	Sun 21/3/21	Tue 23/3/21
4		Analysing requirement that is needed within project	4 days	Wed 24/3/21	Mon 29/3/21
5		Estimate cost and project budget plan	4 days	Tue 30/3/21	Fri 2/4/21
6		Schedule milestones and reviews	2 days	Sat 3/4/21	Mon 5/4/21
7		Defining resources that will obtain	5 days	Tue 6/4/21	Sat 10/4/21
8		**Analysis**	**18 days**	**Sun 11/4/21**	**Wed 5/5/21**
9		Current system used	7 days	Sun 11/4/21	Sat 17/4/21
10		Define the need of user requirements	7 days	Sun 18/4/21	Sat 24/4/21
11		Existing evaluation	5 days	Sun 25/4/21	Thu 29/4/21
12		Context diagram, data flow diagram	4 days	Fri 30/4/21	Wed 5/5/21
13		**Design**	**12 days**	**Thu 6/5/21**	**Fri 21/5/21**
14		Entity relationship diagram	3 days	Thu 6/5/21	Mon 10/5/21
15		Design storyboard and interface	9 days	Tue 11/5/21	Fri 21/5/21
16		**Implementation**	**24 days**	**Sat 22/5/21**	**Thu 24/6/21**

Figure 5: Project Gantt Chart



ID	Task Mode	Task Name	Duration	Start	Finish
17		Coding and testing	23 days	Sat 22/5/21	Tue 22/6/21
18		Installation	1 day	Wed 23/6/21	Wed 23/6/21
19		Testing	1 day	Thu 24/6/21	Thu 24/6/21
20		Documentation	17 days	Sun 27/6/21	Sat 17/7/21
21		**Maintenance**	**10 days**	**Sun 18/7/21**	**Sun 1/8/21**
22		Evaluation	3 days	Sun 18/7/21	Tue 20/7/21
23		Improvement or enhancement	4 days	Wed 21/7/21	Mon 26/7/21
24		Maintenance	4 days	Tue 27/7/21	Fri 30/7/21
25		Presentation and submission system	2 days	Sat 31/7/21	Sun 1/8/21





3.2.7 Methodology

Based on the Vaccine Registration System, it is following basic methodology that being proposed in the system development life cycle which consisted of planning, analysis, design, implementation and maintenance. First and foremost, for planning phase we have made the proper planning for the system development. It is started with identifying problems that have been faced by the PKD Langkawi. So, from there we can decide on developing the system that needed by the organization.

For planning method, we identified existing problems that arise and then plan in creating some possible solution towards problem that arise within organization. All of the solutions are the priorities within system development. Also, we considered about the requirement needs to make the system as well as the duration of time that might include.

As followed with the analysis phase, it makes the collected information towards staffs within department as known as person in charge for internship student intakes has conducted some research in order to gain the information that might relate for system development. Analysis phases require journal and article reviewing that assist to find out the benefits and back draw of systems towards future users in compare with the system requirement or features that enable the existing system can be improved by implementing new system that will be proposed since it will give good impact towards the organization.

Within designing phase, it focuses on the recommended solution that will convert into logical and physical system specifications. Hence, by providing the design might give solutions towards existing problem that faced by PKD Langkawi. This will ensure the designs are being functional in order to enhance the business process within the organization.

For the last cycle whereby, it consists of implementation process, it will be tested by the target users whether it has any weaknesses or problems that might arise while using the system. To highlight, the developer will repair and fix it immediately in order to make sure the system functions well as planned. The concern of the upcoming system project and the process of system development is endless cycle in which system project is the project of system application that is rarely finish. Hence, almost additional features as well as the bug fixes are waiting to be designed, developed and will be deployed.

3.2.8 Literature Review

3.2.8.1 Introduction

This section is to review the current system and the existing system that related to industrial training application system.

3.2.8.2 Previous Study

Vaccination is an effective way to lessen the burden of infection of Covid-19. Based on the article that has been studied, the vaccination program is one of the extraordinary efforts and has depend on the high acceptance of the vaccine. Since the Covid-19 pandemic, it has caused severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) has infected more than 108 million people in over 150 countries.

The vaccination programmes are able to lead in order to achieve herd immunity without requires huge numbers of community to be infected to others. The immunity has required sufficient proportion of population to get vaccinated. Vaccination is recognised as an effective way in order to reduce the burden of Covid-19, in which it depends on the populations' willingness in to order to be vaccinated.

Back in the days whereby UNICEF has launched Effective Vaccine Management (EVM) system, it governs the electronic used of vaccine management to capture the management and identify the gaps within the vaccine management system for the action taken refer to vaccine management. The purpose of the Effective Vaccine Management System helps the community in India country to go against the weak VPD surveillance system, poor community awareness, apprehension about adverse events following immunization, poor monitoring mechanisms, improper supply chain, and vaccine management system are impediments.

In addition, it also helps in the wastage of vaccination, in order to intensify the monitoring process, as followed in ensuring the vaccine availability to the last mile, and optimize the vaccine delivery costs, it is absolutely critical to revisit and mend the lacunae within the existing vaccine supply chain management (including cold chain management) and logistics system. This system is to conduct the situational analysis as well as the causality assessment for evidence generation. Hence, UNICEF, Bihar, has introduced and implemented

a mobile health innovation that is called the Effective Vaccine Management (EVM) tool in order to electronically capture the condition of the present vaccine cold chain management system. Importantly, this is the process in order to measure the efficiency of the supply chain system of vaccine against the button-down practice of using the paper forms intended to be used as assessment as well as has been introduced within Assam and Uttar Pradesh as well.

The study has been done by putting the indicator to measure different time periods since the initiative is launched. They then collected the indicator data that is related to the vaccine supply and the cold chain management as well. This included the number of vaccine arrivals, temperature control, storage capacity, infrastructure, maintenance, stock management, distribution, vaccine management, and information system. The change in the management system since the launch of the m-health initiative was assessed by comparing the indicators for different time periods.

The result showed that the indicator has provided valuable information regarding the mobile-based EVM (mEVM) initiative. This initiative was launched by UNICEF India in the partnership of Government of Bihar. The study was technically aimed to capture the information electronically with new embedded Android mobile phone as well as to periodically assess some relevant indicators in order to check the workflow and intended to identify the technical gaps as well within the existing vaccine supply chain management system for further appropriate action.

As the study is going through for the first phase and was initiated in July 2014 and widely goes across Bihar, Mobile Android phones were then bought to does its purpose for EVM. It covers health facilities, district, regional as well as the vaccine stores. Then, the mobiles were occupied by teams in which consists of three people, District Immunization Officer, faculty, or postgraduate student from nearby medical college, as well as a cold chain technician.

Since they came to find the result, free open-source software was then built for having far reaching scope, in which it aimed for no-licensing cost, then utilized to build the electronic platform. Also, the Google Open Data Toolkit (ODK) were allowed form build ups that focus for real-time capture of quantitative data, which depicting the existing vaccine management system at the state level. Not to forget, it also provided a web-based system intended for generating the geographical location of the facility as well as an opportunity in order to take photographs as well.

A few noticeable improvements are showed within the structure of the vaccine cold chain management system has already across the state within Bihar. To highlight the purpose of web-based monitoring system were developed by the Ministry of Health and Family Welfare in the partnership with UNICEF, it is explained by the program specialists in which they highlighted the strengthens of this tool. The moment this system is implemented, it was aimed to facilitate the capture of real-time feedback from the field into producing some realistic current data as opposed towards the conventional manual paper-based style of the assessment as well as it provides the information later.

Last but not least, all these data can be used for some real-time action in improving and support their supply chain performance. It is built to promote user friendly model, since the Google Open Data Toolkit (ODK) allows the electronic forms to perform much easier. However, the software is cost-effective as well as it can be utilized multiple times once it is bought. Also, the system is easy to download with easy-to-use interface. Hence, data can be entered and can be uploaded quickly into the software and tracking activities has become easier since the software does include some applications for capturing the images and automatically generate the geographical location of the vaccine stores and the facilities as well.

3.2.9 Analysis

3.2.9.1 Current System

Few observations have been conducted in order to identify the current process and existing system that has been performed ever since. By this way, the existing system that are done by the organization will be viewed for the process of vaccination programs within organization. PKD Langkawi has implemented vaccination program through Kuah Health Clinic, in which public that come to the clinic will be able to give their personal information and vaccine consents before they go back home. This method is useful for people that does not have the application to register, or they also might not know how to use the website, which most probably came from senior citizens group.

To be exact, recent practices within the organization as such clinic will give a form towards patient to be filled in where it consists of the consent information of taking the vaccine or otherwise. After all of the information is collected within that day, the data will be kept into Microsoft Excel and then will be registered through website. All this process took quite efforts to complete for each name. Since the name has been given to the person in charge, all they have to do is wait for their name to be notified via SMS their phone number is given to the staff nurse.

3.2.9.2 System Proposed

Based on the system that has been proposed which is Vaccine Registration System, the system will have three users such as Front Desk (FD) users, Higher Management (HM) users, as well as System Administrator (SA) users. Basically, each of these features have different roles towards the system.

For staff nurse that will be using Front Desk (FD), they need to register through the system in order to make them available to login and register for vaccinees. Through this system, the vaccines will get updated with their vaccination data whether they have injected, then the data will verify the status of injection. Also, they will be able to see the phase info in which the vaccinators will be able to know the list of names will be vaccinated on either Phase 2 or Phase 3. Future vaccinees will be given their date for vaccination as followed with their requirement whether they are senior citizens or they are eligible to get the dose for Phase 3. Basically, Phase

2 vaccinees come from senior citizen and high-risk groups. Meanwhile for Phase 3 is basically people with no chronic disease and youths.

Next, System Administrator (SA) users will revise all of the vaccinees information and their upcoming date of appointment since Front Desk (FD) users are already register them to get the vaccines. After the registration process, Higher Management (HM) will be notified and will be informed of the lists of names and their status in which they are eligible for vaccines in which phase. Higher Management (HM) will revise the registration of future vaccinees and then they will keep the data into this system. They will also receive the report of total vaccinees that will be taken the injection for every day since the registration is made straight after vaccinees consents has been performed.

For the last interface in which Higher Management (HM), the users are able to monitor the report of total dosage used that are taken every day within Langkawi state. This method will enable the admin to know the total number of dosages that have been used in a day to link with the record of vaccinees appointment and the number of dosages taken in the day, which the record needs to be linked with the data. This method is to avoid any waste happened since people are not really follow their appointment date, hence total vials opened need to be used as planned for the day.

- Context Diagram

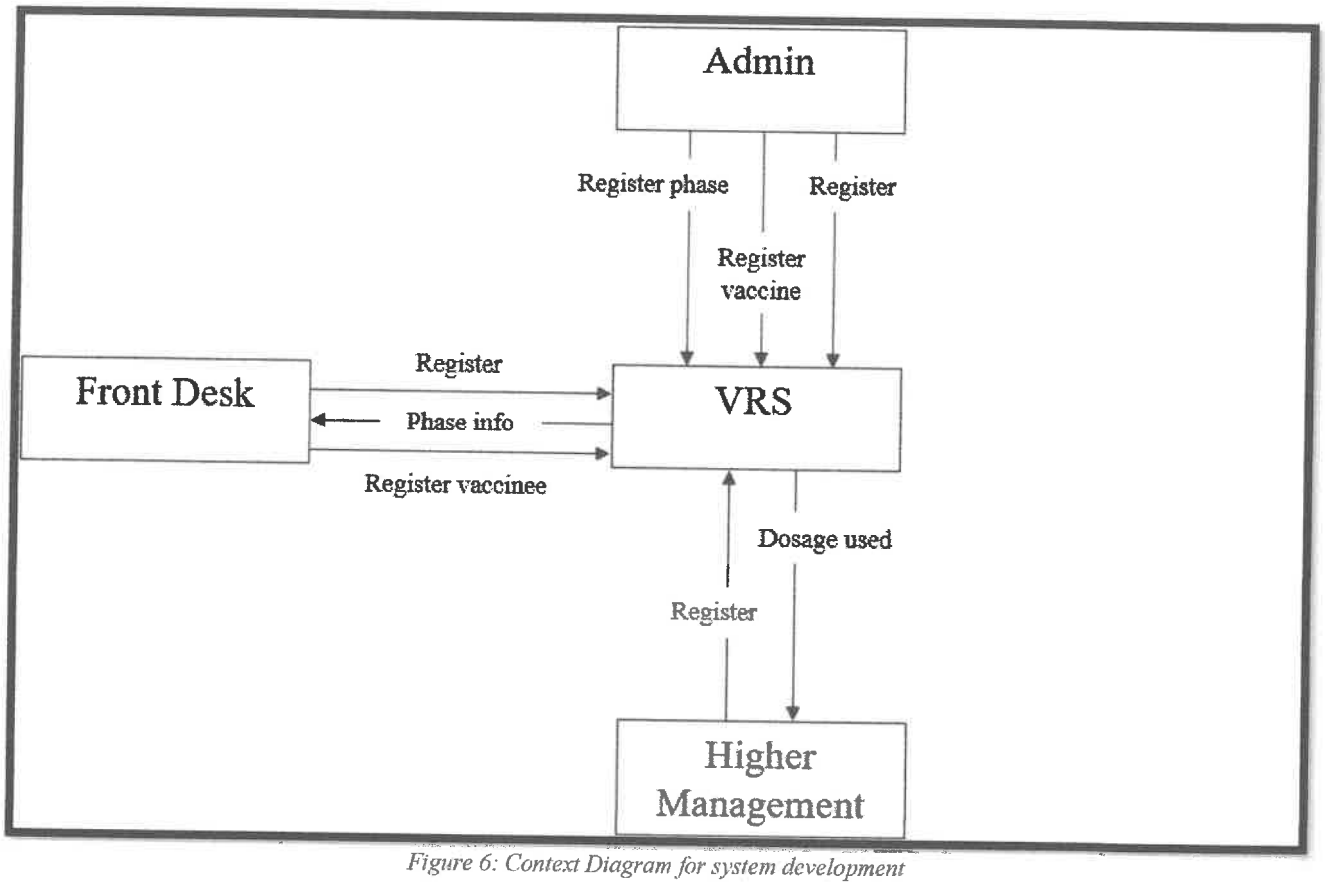


Figure 6: Context Diagram for system development

- Data Flow Diagram

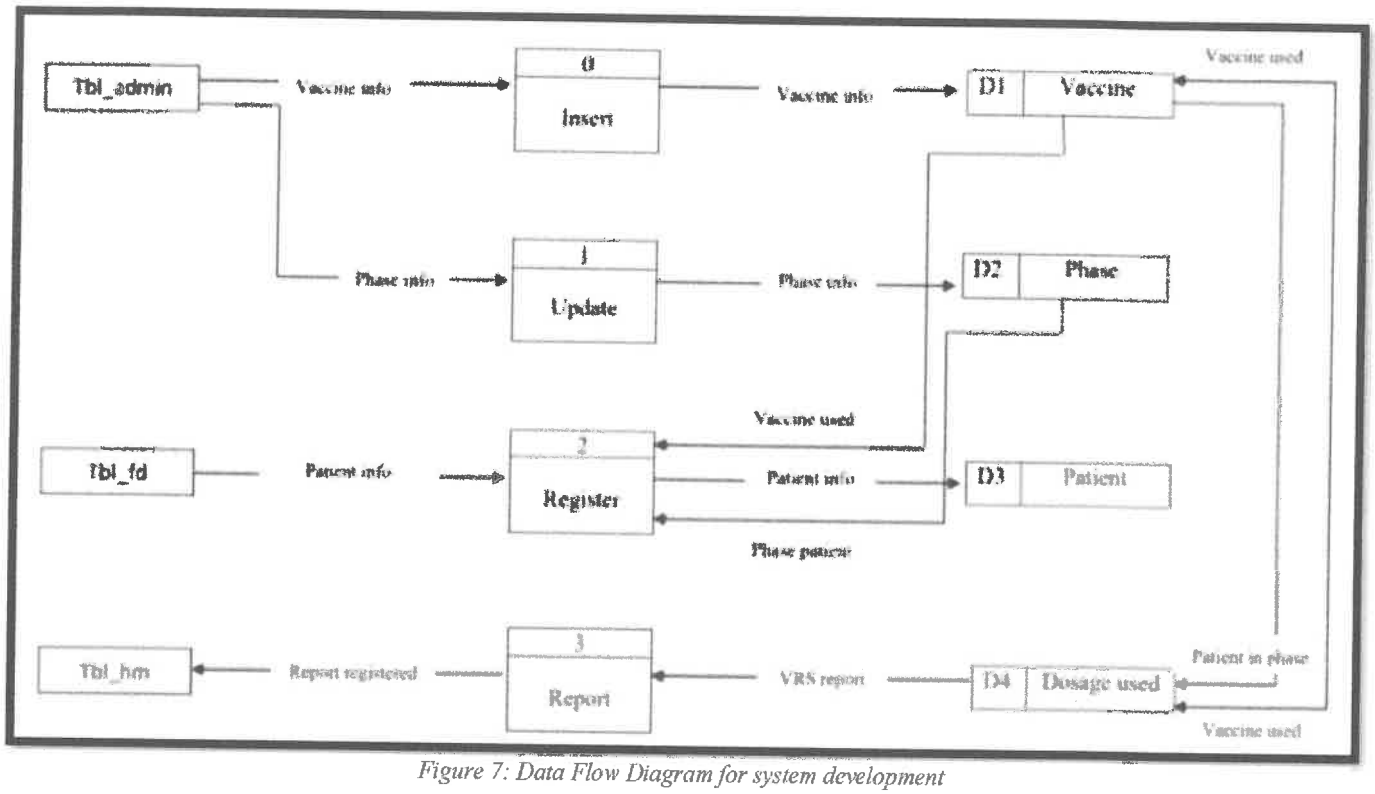


Figure 7: Data Flow Diagram for system development

3.3 Design

3.3.1 Entity Relationship Diagram

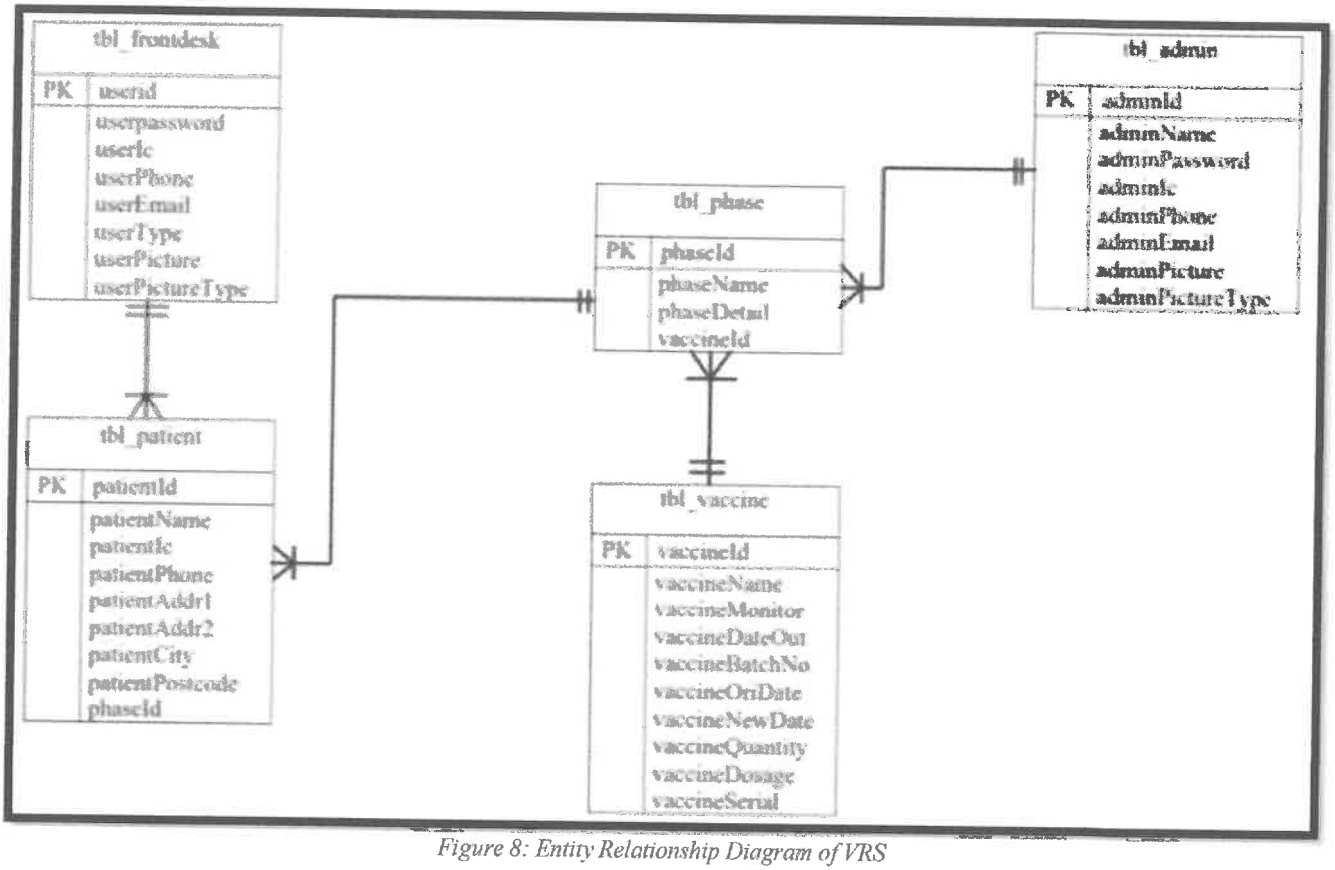


Figure 8: Entity Relationship Diagram of VRS

3.3.2 Flow Chart

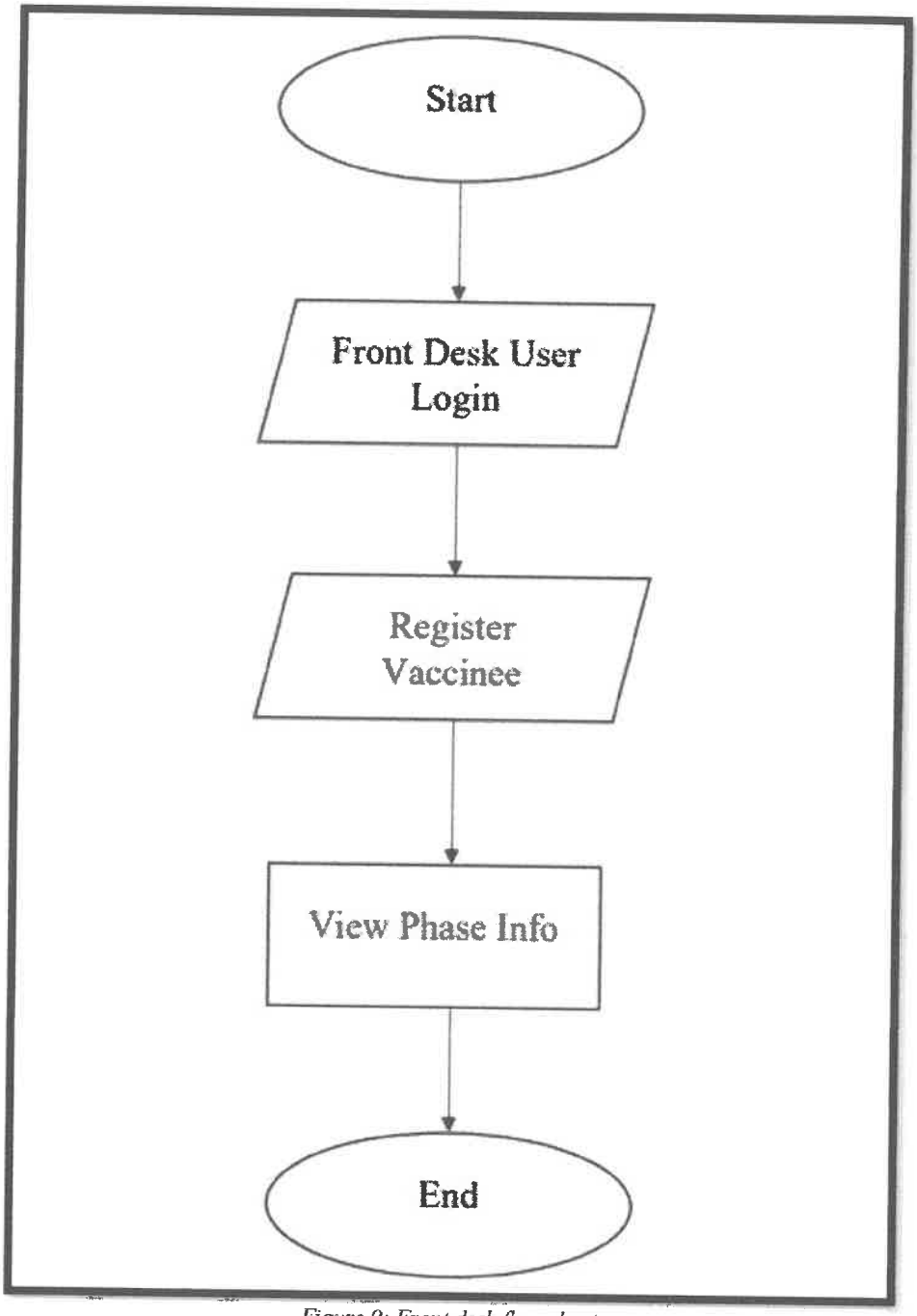


Figure 9: Front desk flow chart

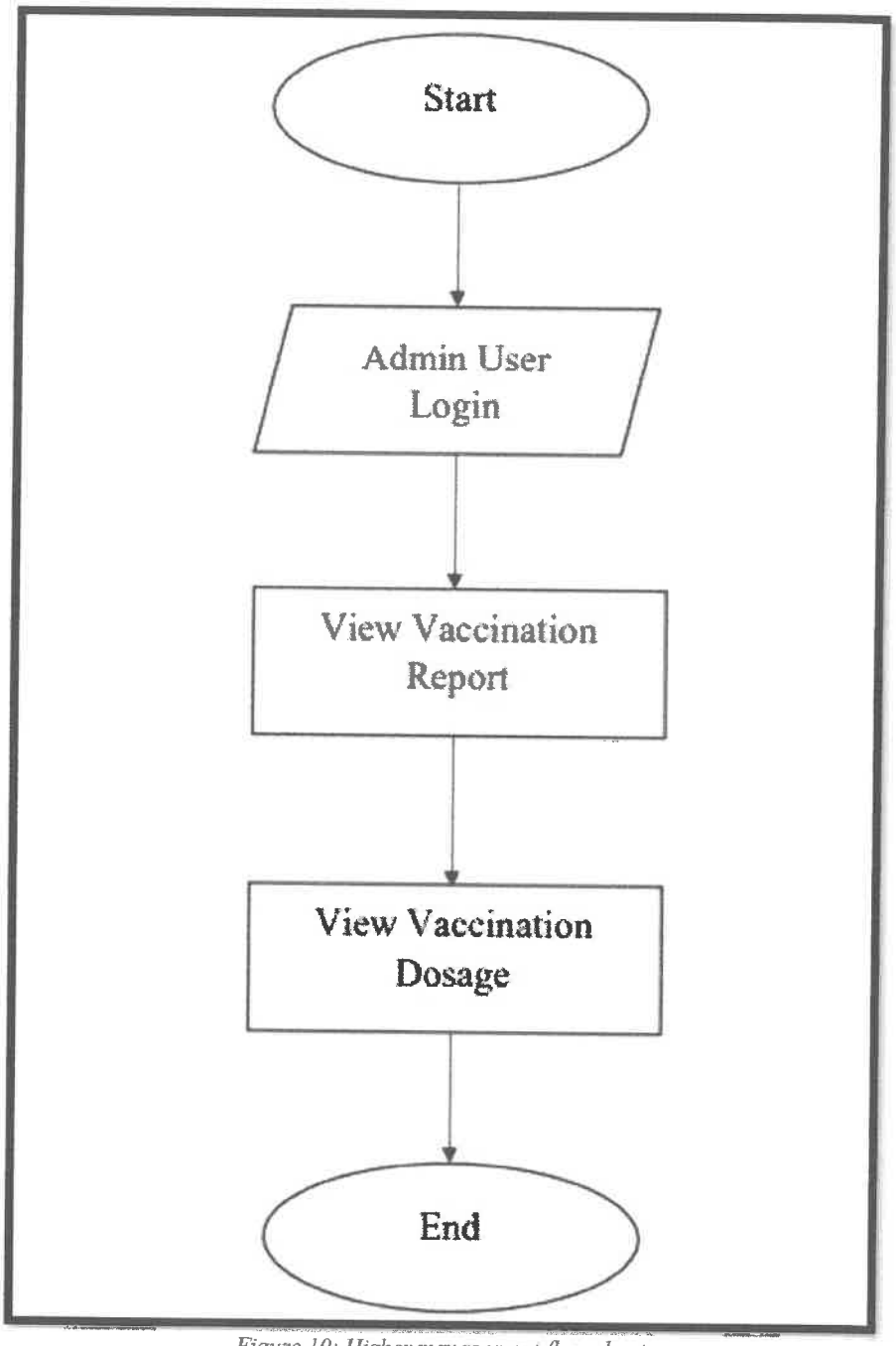


Figure 10: Higher management flow chart

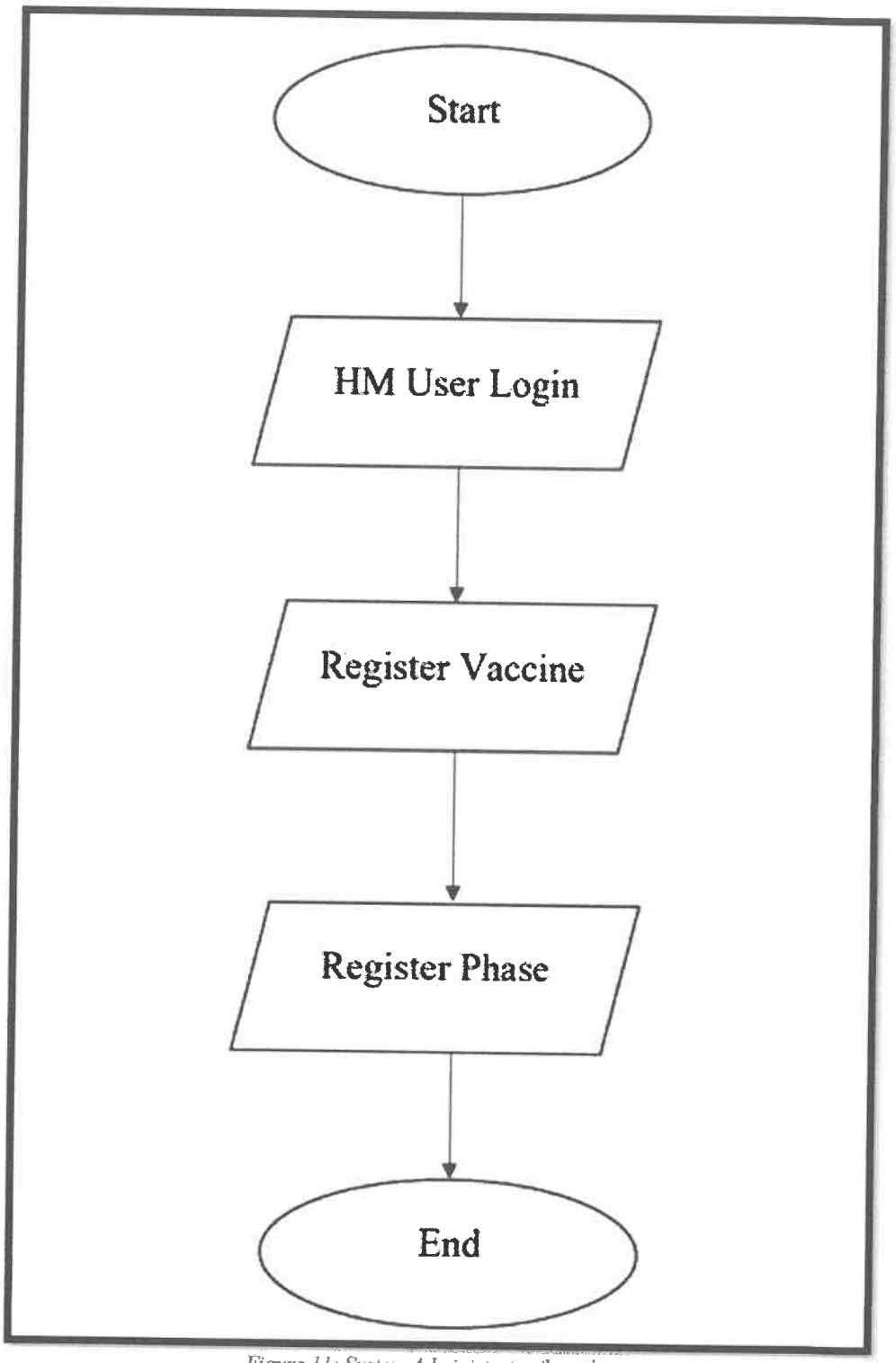


Figure 11: System Administrator flow chart

3.3.3 Data Dictionary

Table 4: Data dictionary of VRS

TABLE NAME	COLUMN	TYPES	NULL	FORMAT	PK or FK	FK REFERENCE TABLE
tbl_fd	userId	int	No	99999999	PK	
	userName	Varchar (200)	No	xxxxxxxxx		
	userPassword	Varchar (200)	No	xxxxxxxxx		
	userIc	Varchar (20)	No	xxxxxxxxx		
	userPhone	Varchar (20)	No	xxxxxxxxx		
	userEmail	Varchar (200)	No	xxxxxxxxx		
	userType	Varchar (200)	No	xxxxxxxxx		
	userPicture	Longblob	No	xxxxxxxxx		
	userPictureType	Varchar (50)	No	xxxxxxxxx		
tbl_patient	patientId	Int	No	99999999	PK	
	patientName	Varchar (200)	No	xxxxxxxxx		
	patientIc	Varchar (20)	No	xxxxxxxxx		
	patientPhone	Varchar (20)	No	xxxxxxxxx		
	patientAddr1	Varchar (200)	No	xxxxxxxxx		
	patientAddr2	Varchar (200)	No	xxxxxxxxx		
	patientCity	Varchar (200)	No	xxxxxxxxx		
	patientPostcode	Varchar (20)	No	xxxxxxxxx		

	patientState	Varchar (200)	No	xxxxxxxxx		
	phaseId	Int	No	xxxxxxxxx		
tbl_phase	phaseId	Int	No	99999999	PK	
	phaseName	Varchar (200)	No	xxxxxxxxx		
	phaseDetail	Varchar (200)	No	xxxxxxxxx		
	vaccineId	Int	No	xxxxxxxxx		
tbl_vaccine	vaccineId	Int	No	99999999	PK	
	vaccineName	Varchar (200)	No	xxxxxxxxx		
	vaccineMonitor	Varchar (200)	No	xxxxxxxxx		
	vaccineDateOut	Datetime	No	xxxxxxxxx		
	vaccineBatchNo	Varchar (200)	No	xxxxxxxxx		
	vaccineOriDate	Datetime	No	xxxxxxxxx		
	vaccineNewDate	Datetime	No	xxxxxxxxx		
	vaccineQuantity	Varchar (200)	No	xxxxxxxxx		
	vaccineDosage	Varchar (200)	No	xxxxxxxxx		
	vaccineSerial	Varchar (200)	No	xxxxxxxxx		
tbl_admin	adminId	Int	No	99999999	PK	
	adminName	Varchar (200)	No	xxxxxxxxx		
	adminPassword	Varchar (200)	No	xxxxxxxxx		

	adminIc	Varchar (20)	No	xxxxxxxxx		
	adminPhone	Varchar (20)	No	xxxxxxxxx		
	adminEmail	Varchar (20)	No	xxxxxxxxx		
	adminPicture	Longblob	No	xxxxxxxxx		
	adminPictureType	Varchar (50)	No	xxxxxxxxx		

3.3.4 Interface Design

- User Login Interface

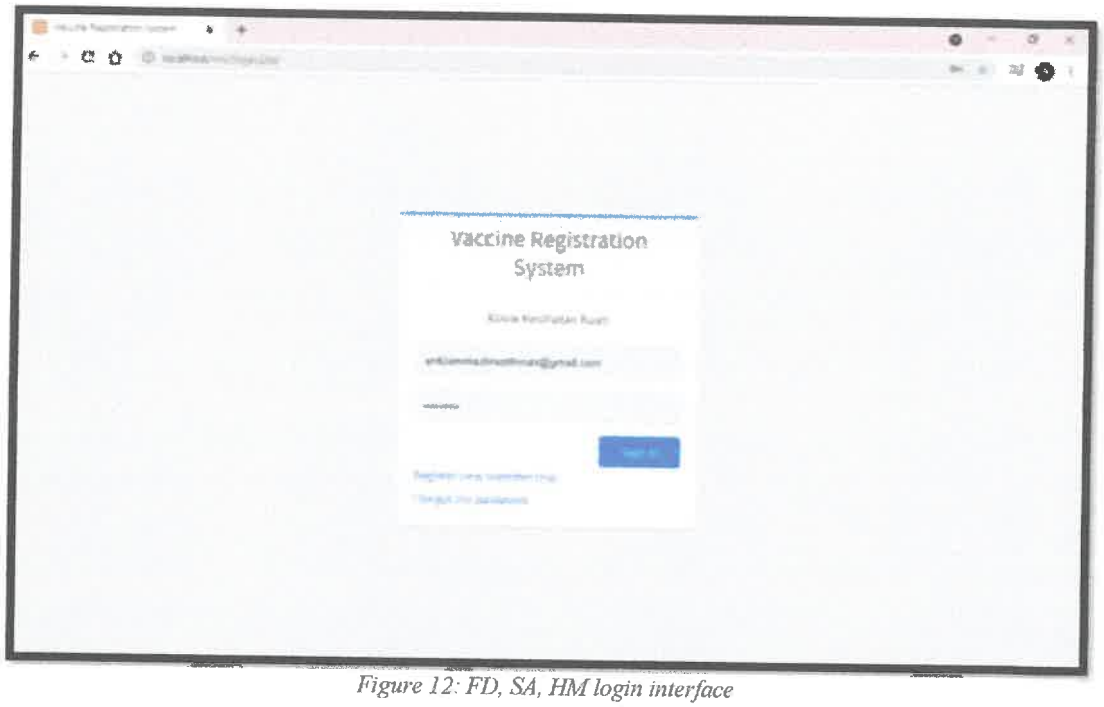


Figure 12: FD, SA, HM login interface

- User Registration Interface

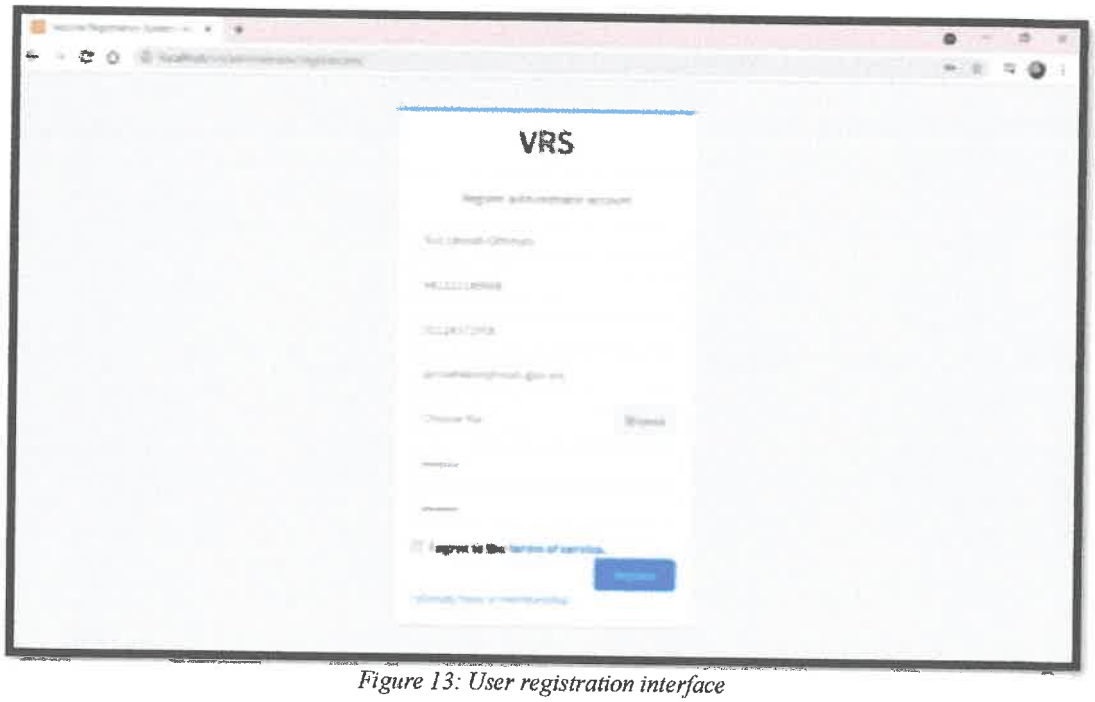


Figure 13: User registration interface

- System Administrator Menu Interface

  This interface will only appear for Administrator users that want to use the system.

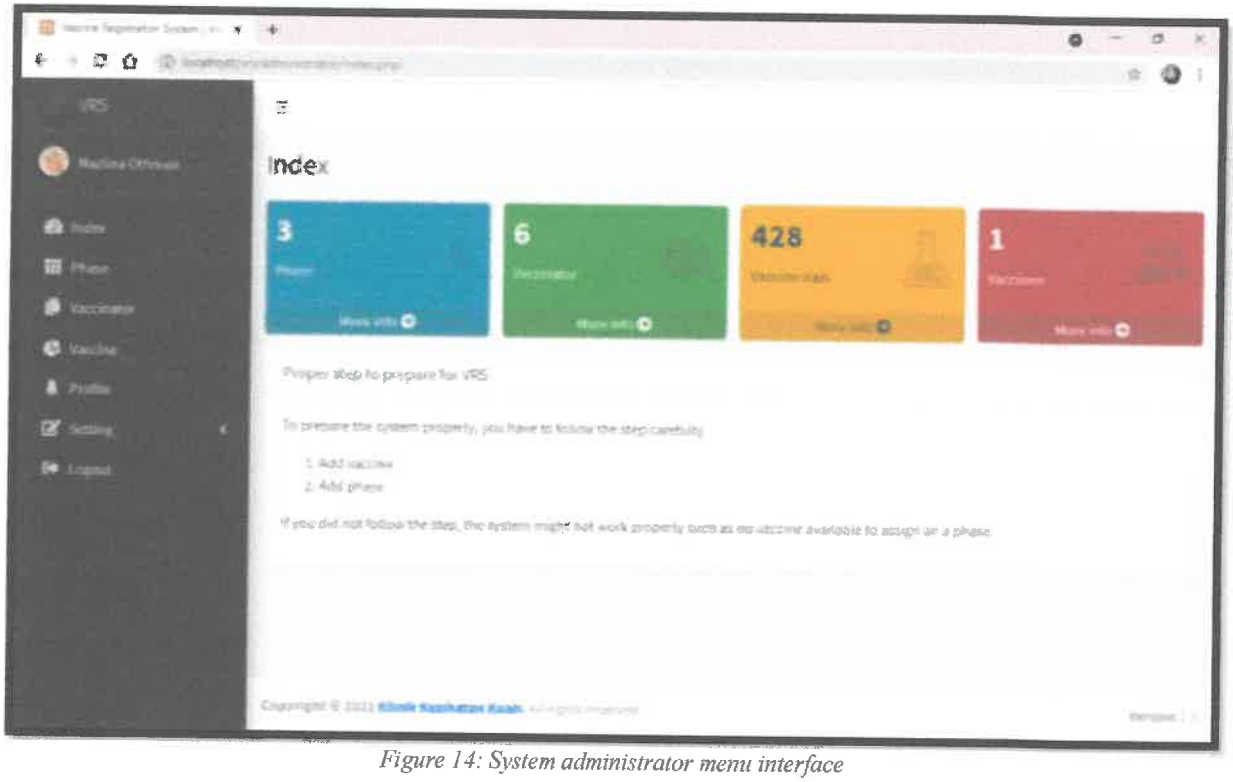


Figure 14: System administrator menu interface

- System Administrator Phase Interface

This interface will show the total phase of vaccinees who already get the vaccine. It will show the total number of vaccinees that has completed either first dose or second dose. Within this interface, they are able to know about the entire total of completed vaccination in which the name will be updated by user.

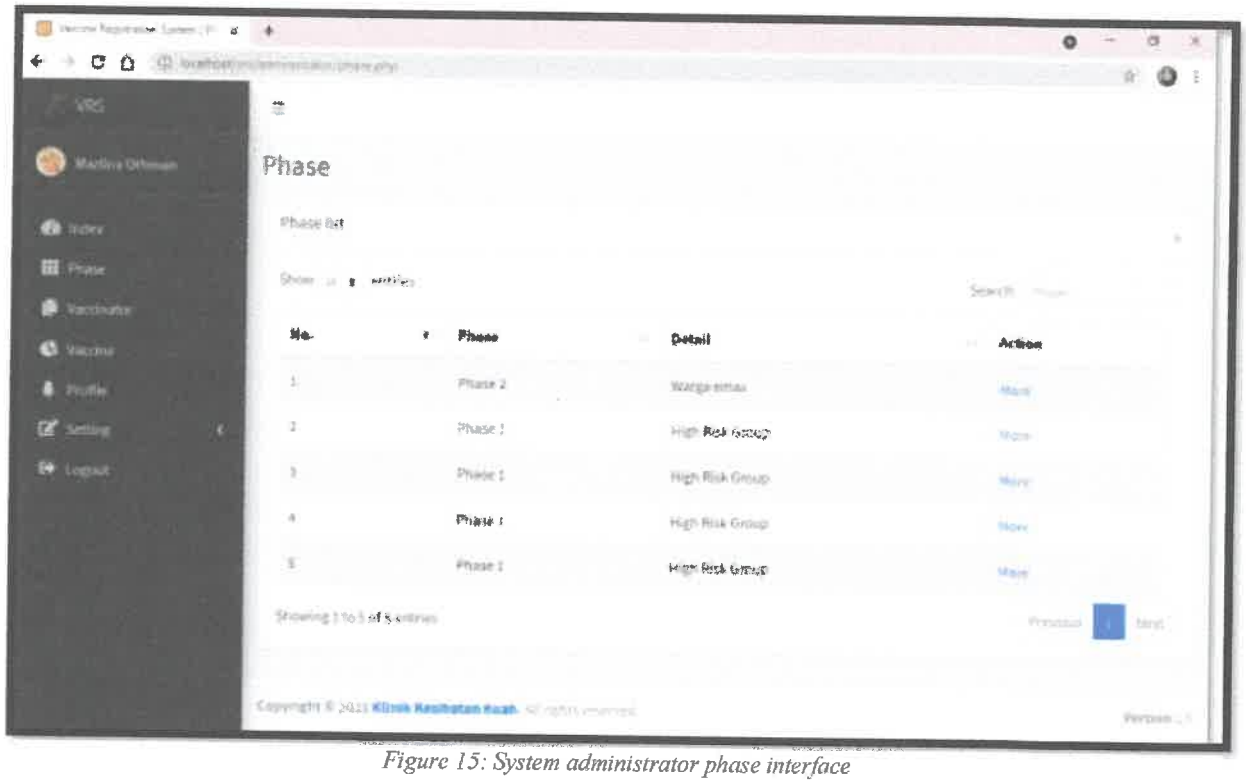


Figure 15: System administrator phase interface

- System Administrator Vaccinator Interface

  This interface will show vaccinator information in which these vaccinators are the one who are performing the vaccine injection.

Figure 16: System administrator vaccinator interface

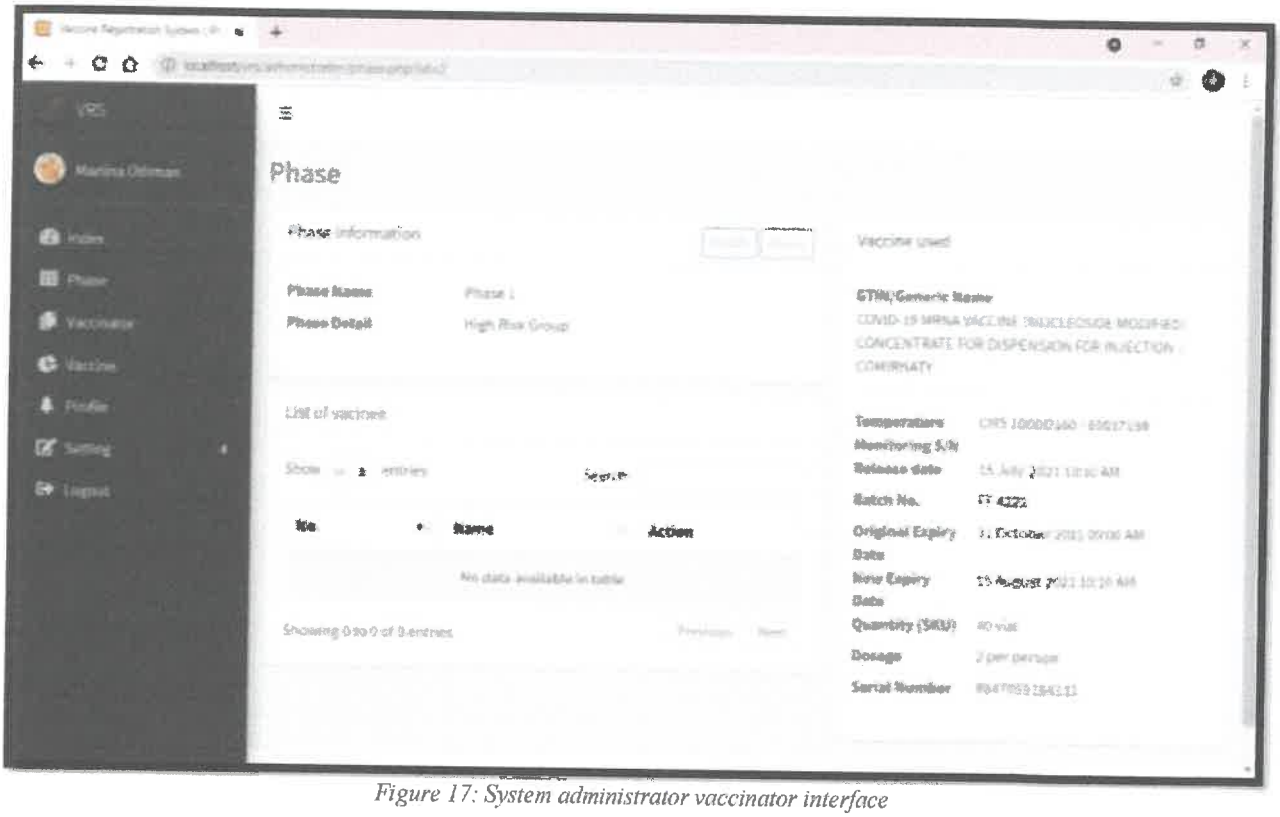


Figure 17: System administrator vaccinator interface

- System Administrator Vaccine Interface

This interface showed the total vaccine that being used as it is given by pharmacists to monitor every vaccine out.

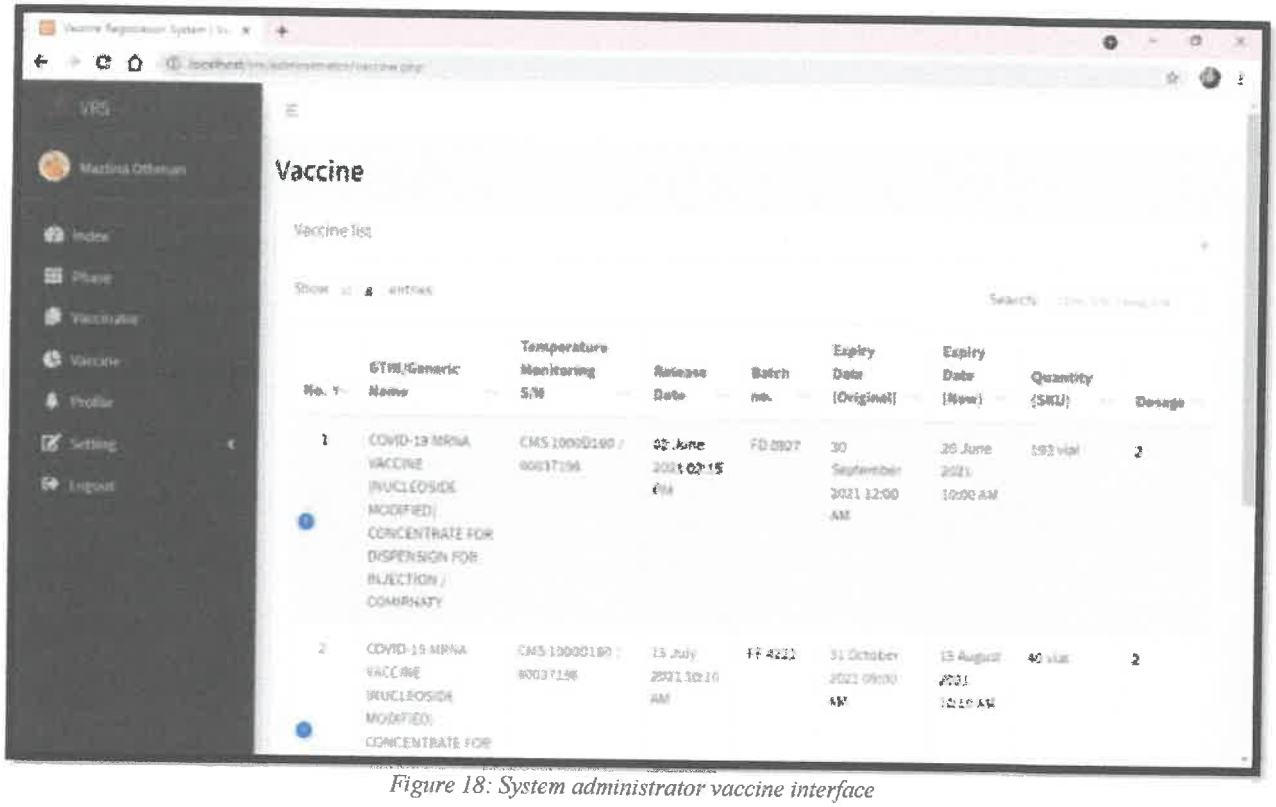


Figure 18: System administrator vaccine interface

- System Administrator Profile Interface

  This interface will show the user profile and able to modify details of users.

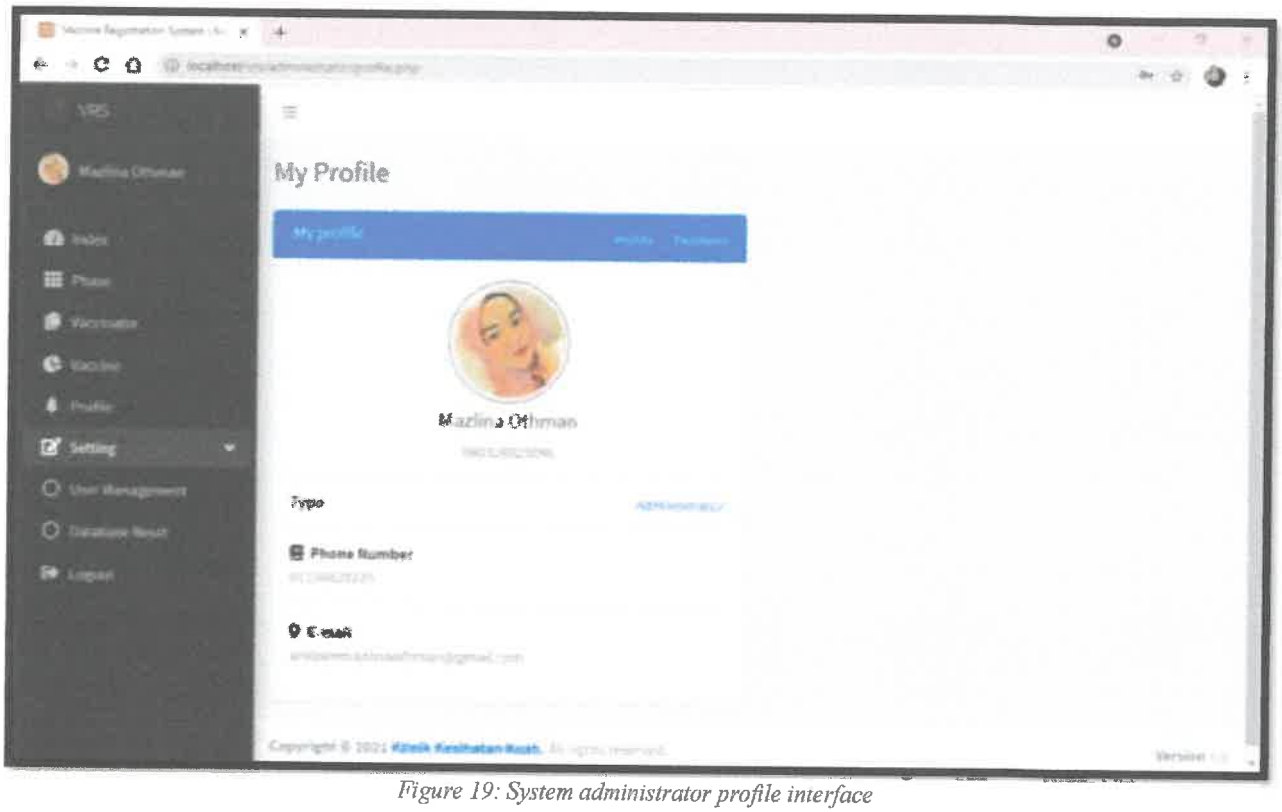


Figure 19: System administrator profile interface

- Higher Management Menu Interface

  This interface will show options for user to view in monitoring vaccines' updates and its records.

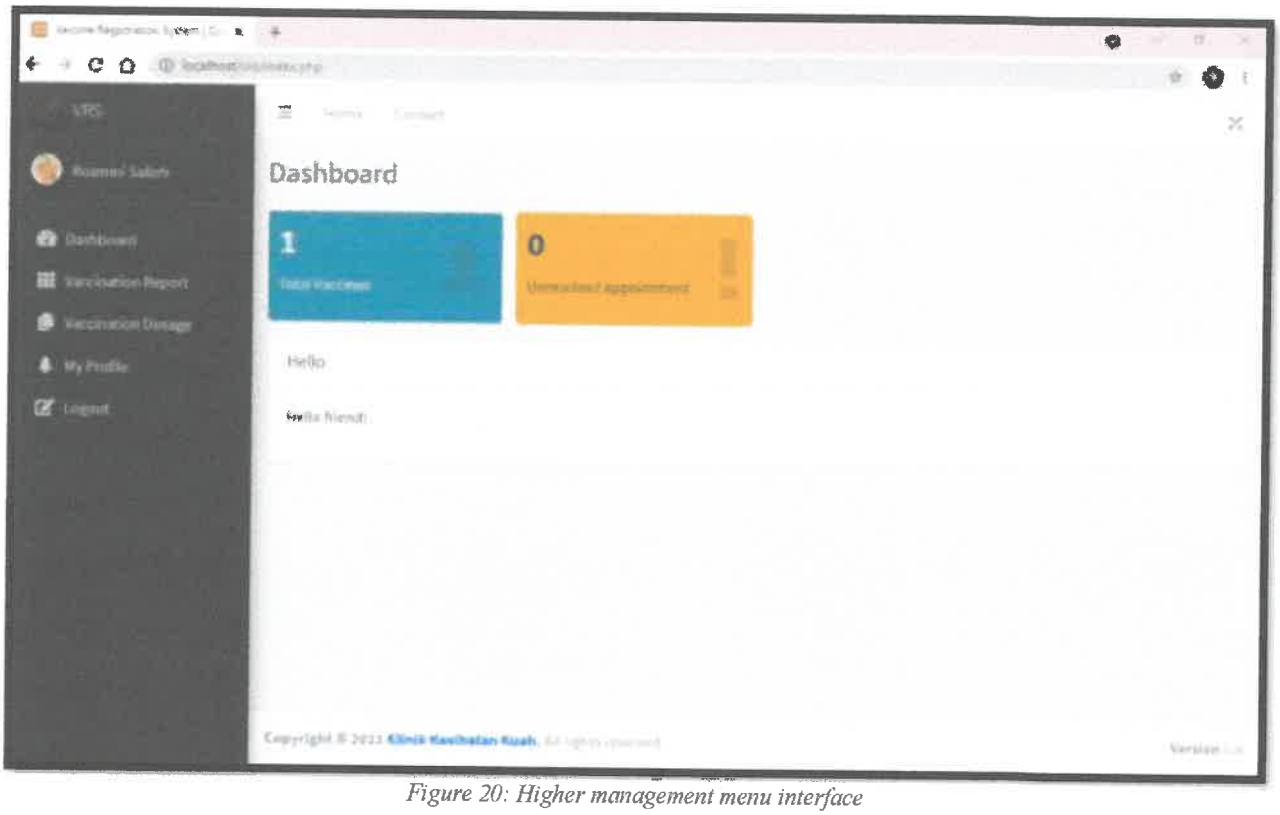


Figure 20: Higher management menu interface

- Higher Management Vaccine Report Interface

  This interface will show the vaccine report on how many phases that the vaccines will be used.

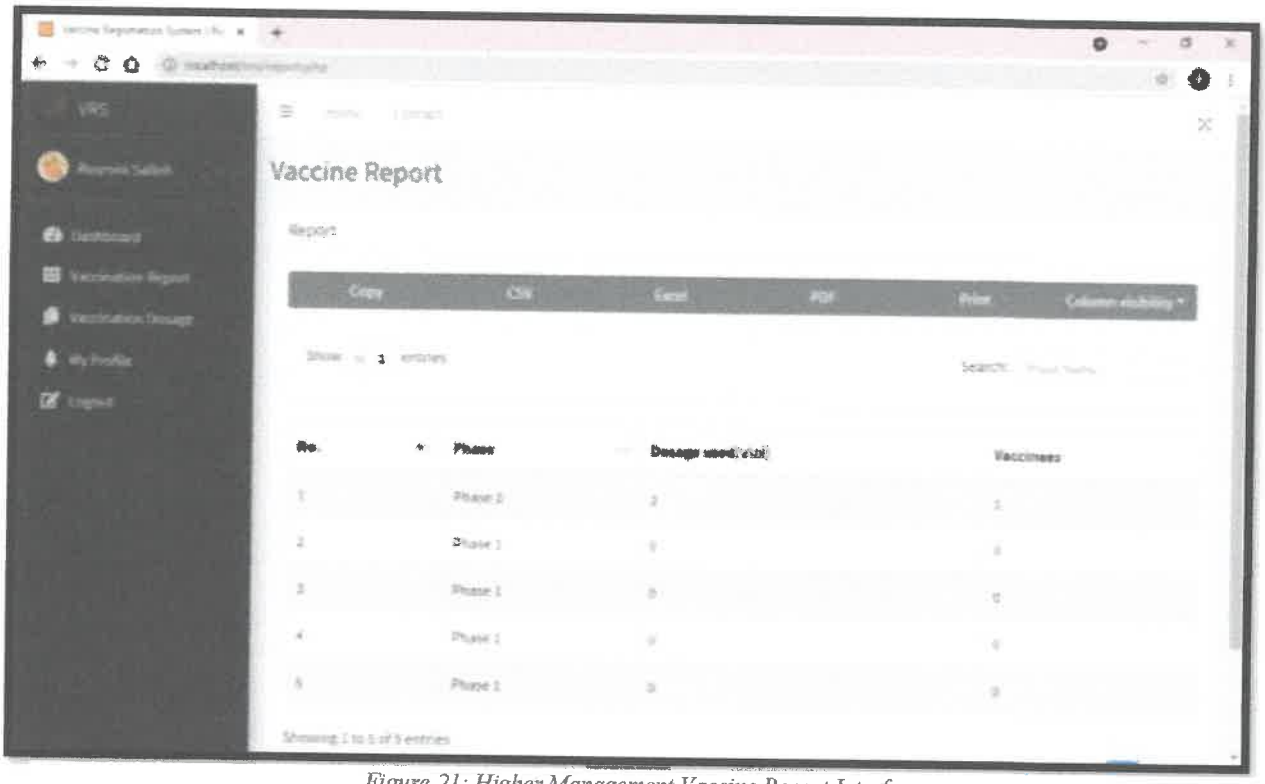


Figure 21: Higher Management Vaccine Report Interface

- Higher Management Dosage Used Interface

  This interface will show the graph of dosage used for each phase and types of vaccine used.

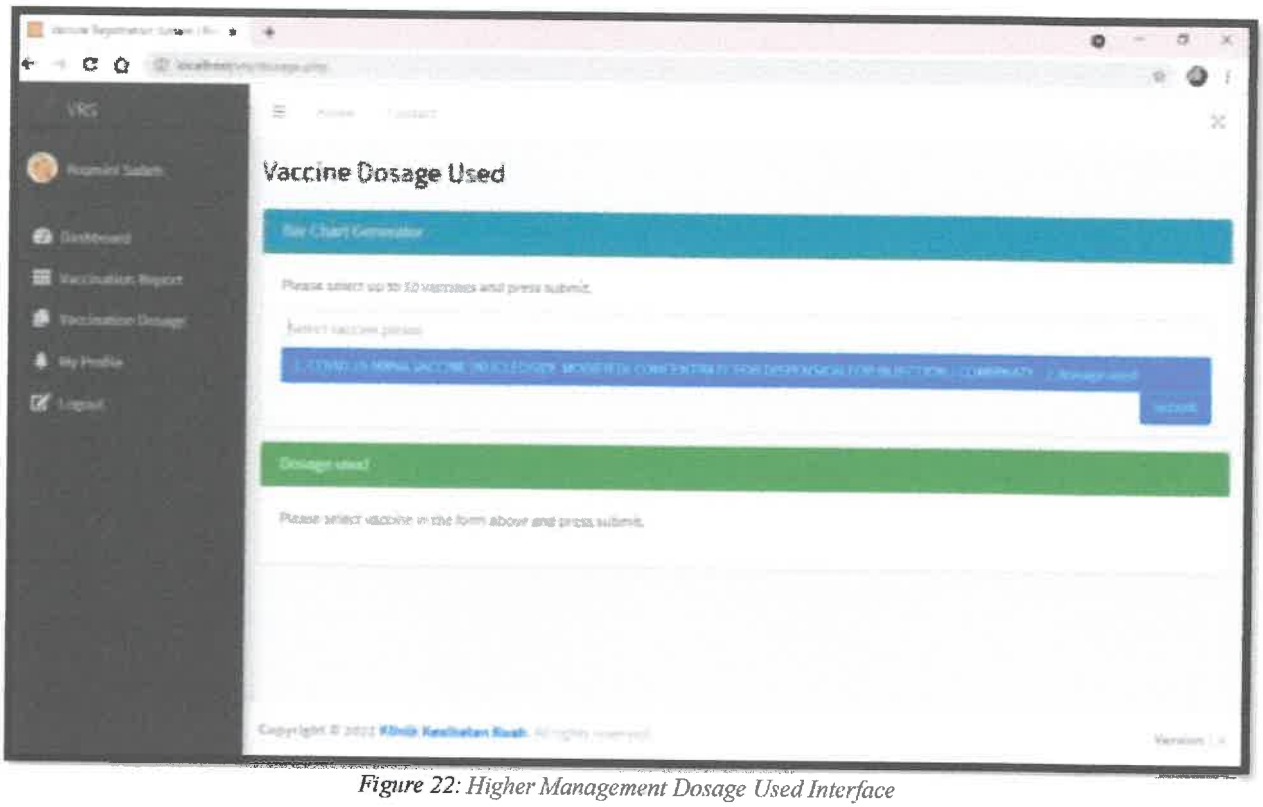
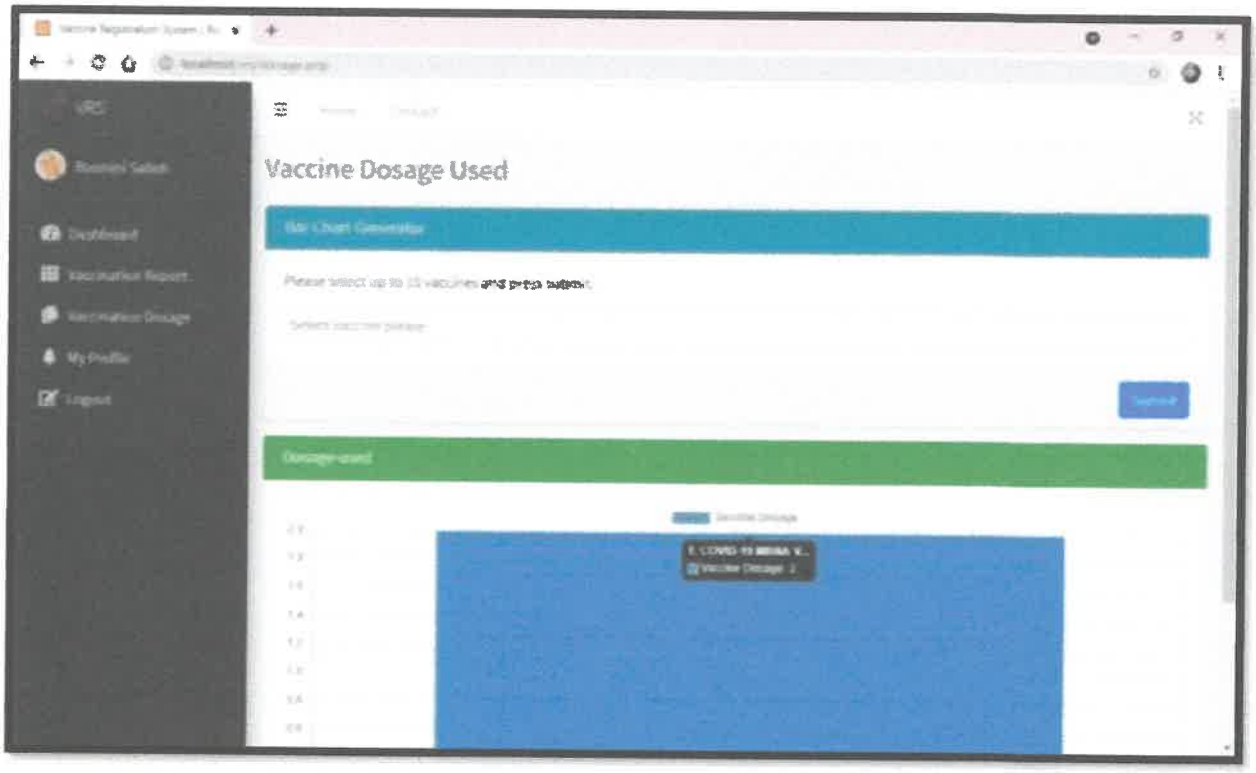


Figure 22: Higher Management Dosage Used Interface


Vaccine Dosage Used

- Higher Management Profile Interface

  This interface shows the profile of users, they can modify any changes occur in the system.

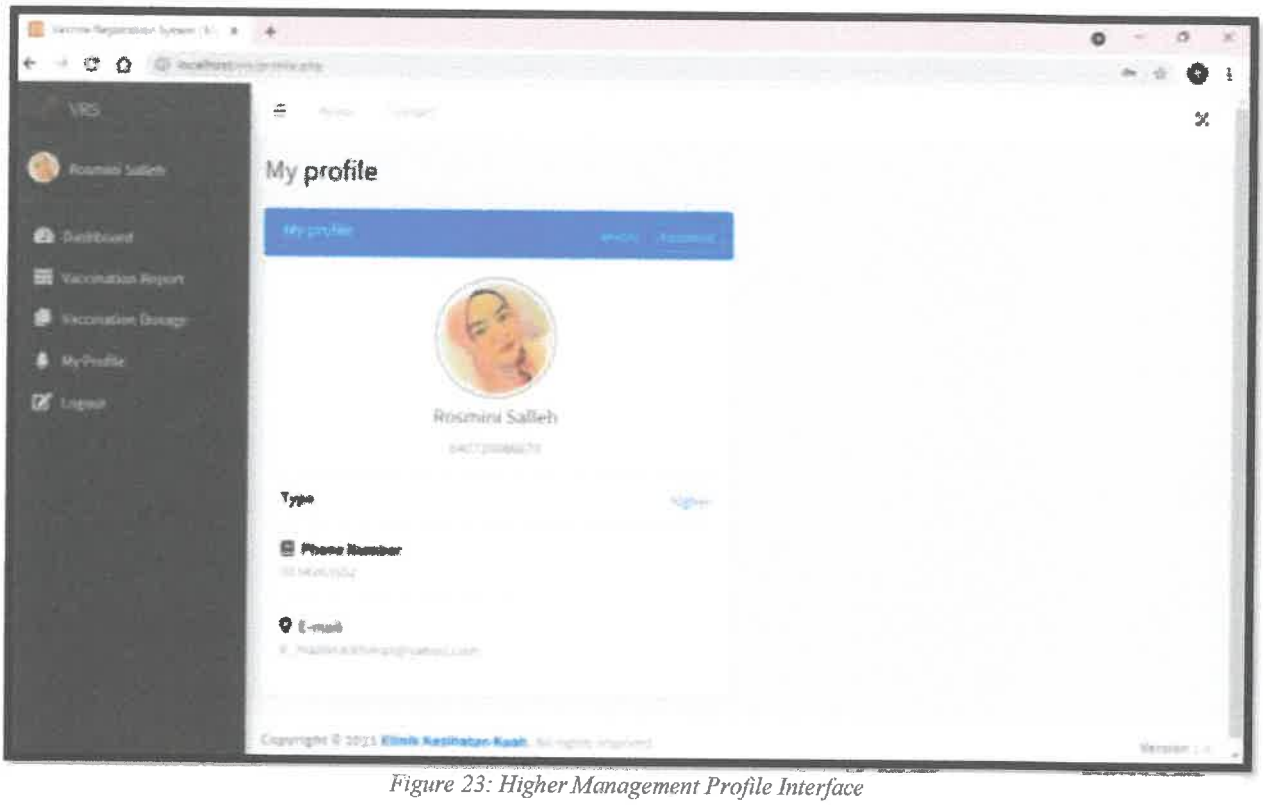


Figure 23: Higher Management Profile Interface

- Front Desk Dashboard Interface

  This will show the options for user to choose to view vaccinee registration and vaccinee records.

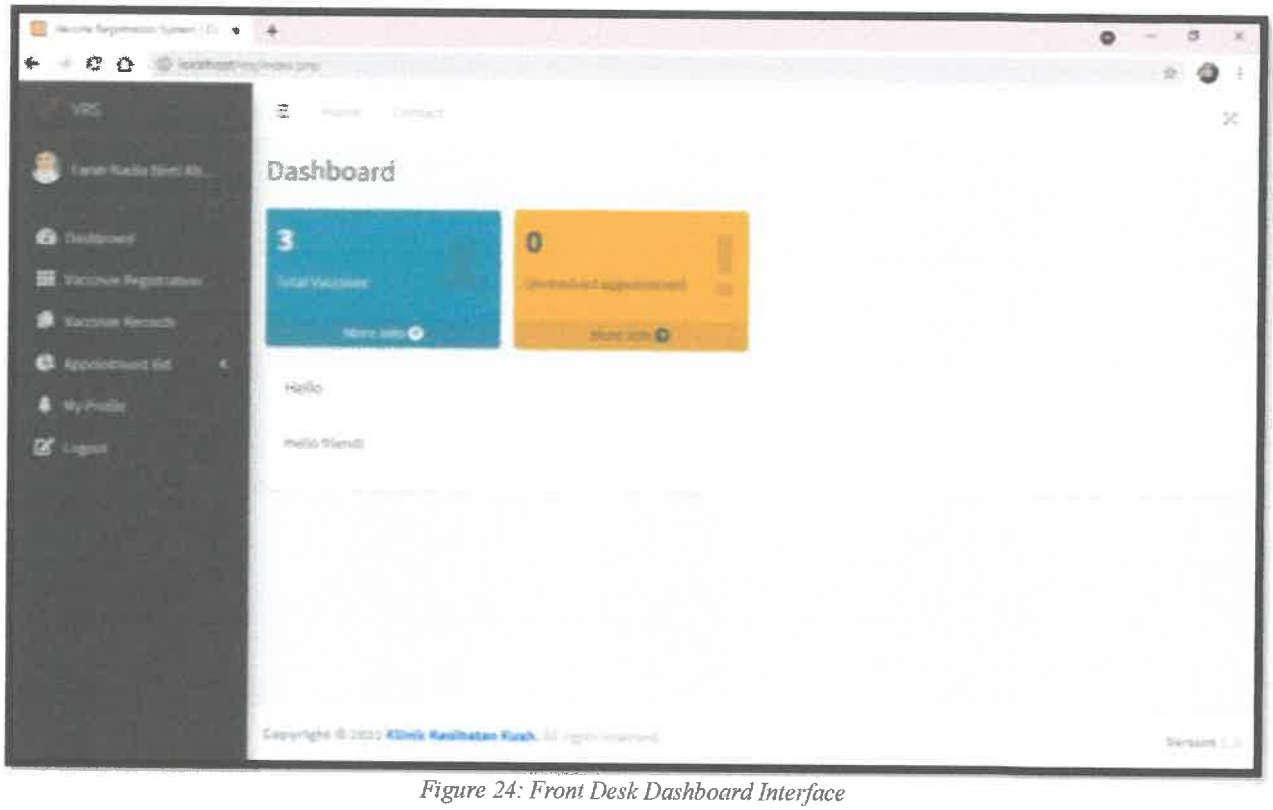


Figure 24: Front Desk Dashboard Interface

- Front Desk Vaccinee Registration Interface

  This interface will show how to register a vaccinee after their consent is made.

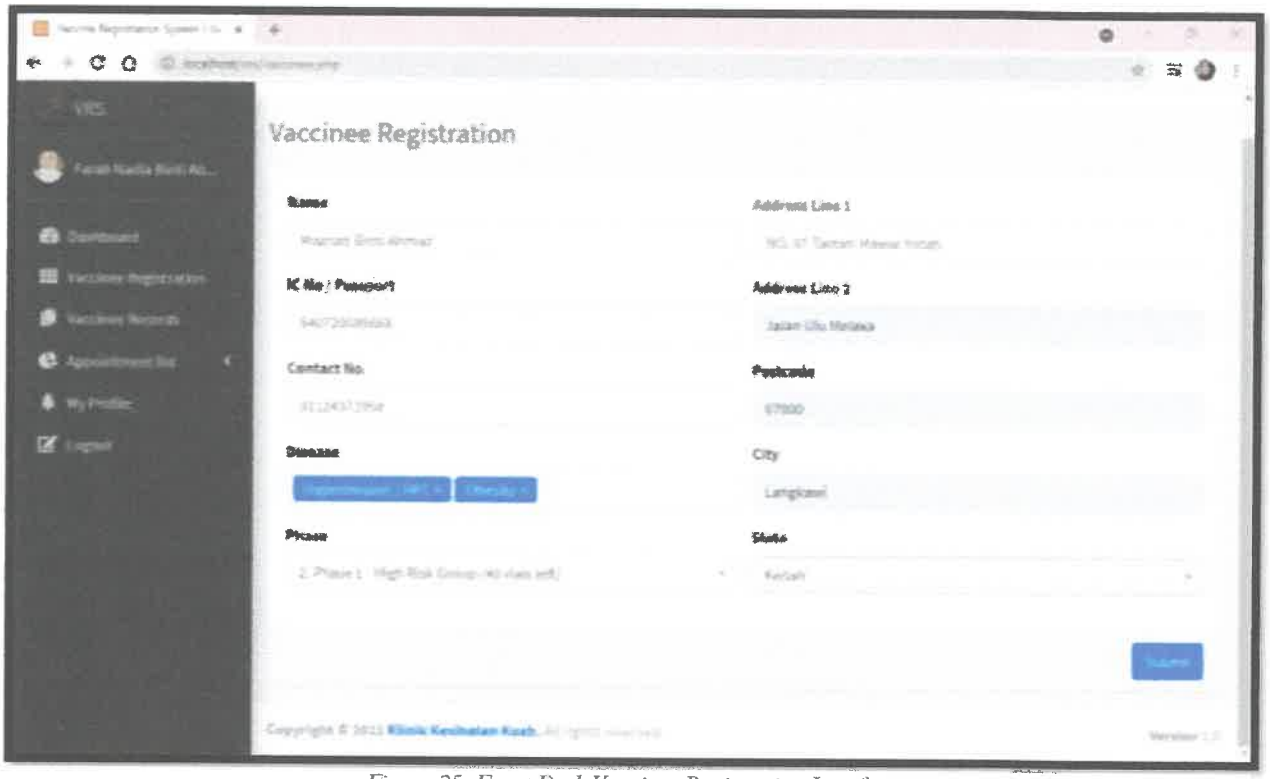


Figure 25: Front Desk Vaccinee Registration Interface

- Front Desk Appointment Set Interface

  This interface will show the appointment that have been made referring to their eligibility for certain phase.

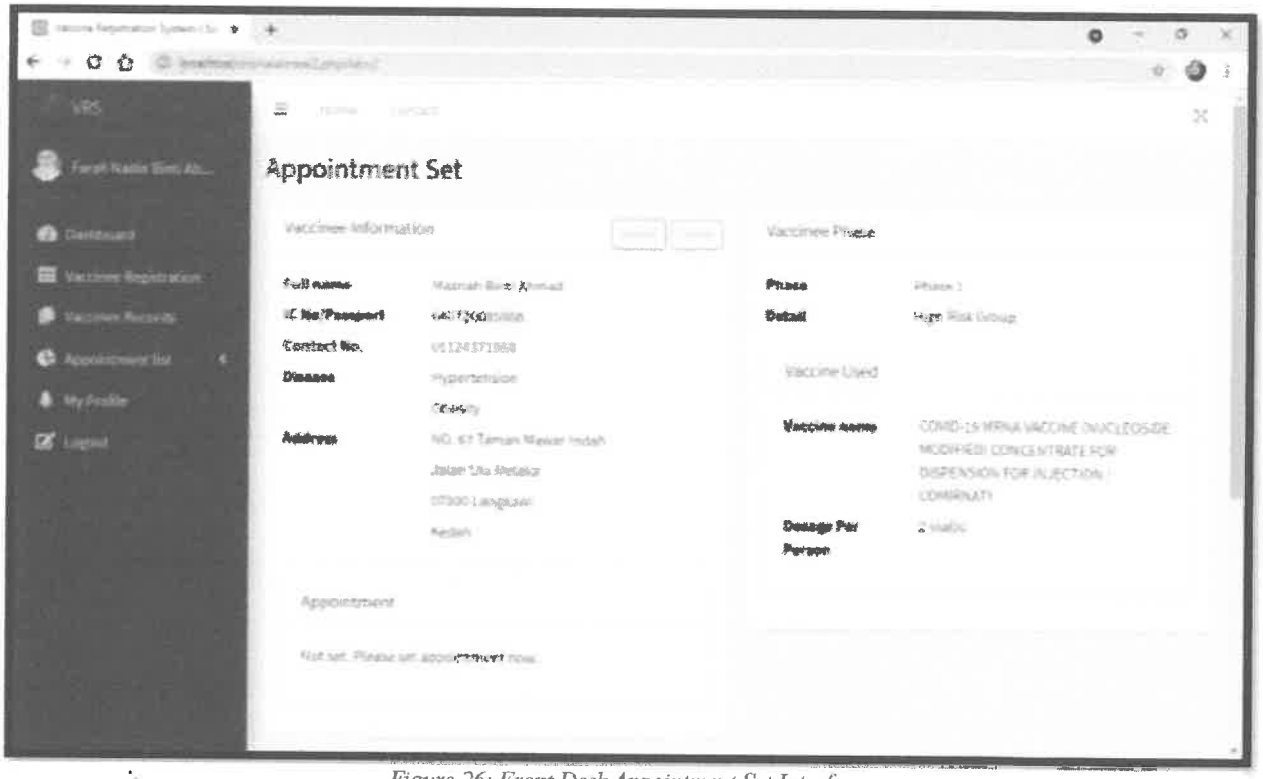


Figure 26: Front Desk Appointment Set Interface

- Front Desk Vaccinee Records Interface

  This interface will show the vaccinee records to view their appointment that have been made.

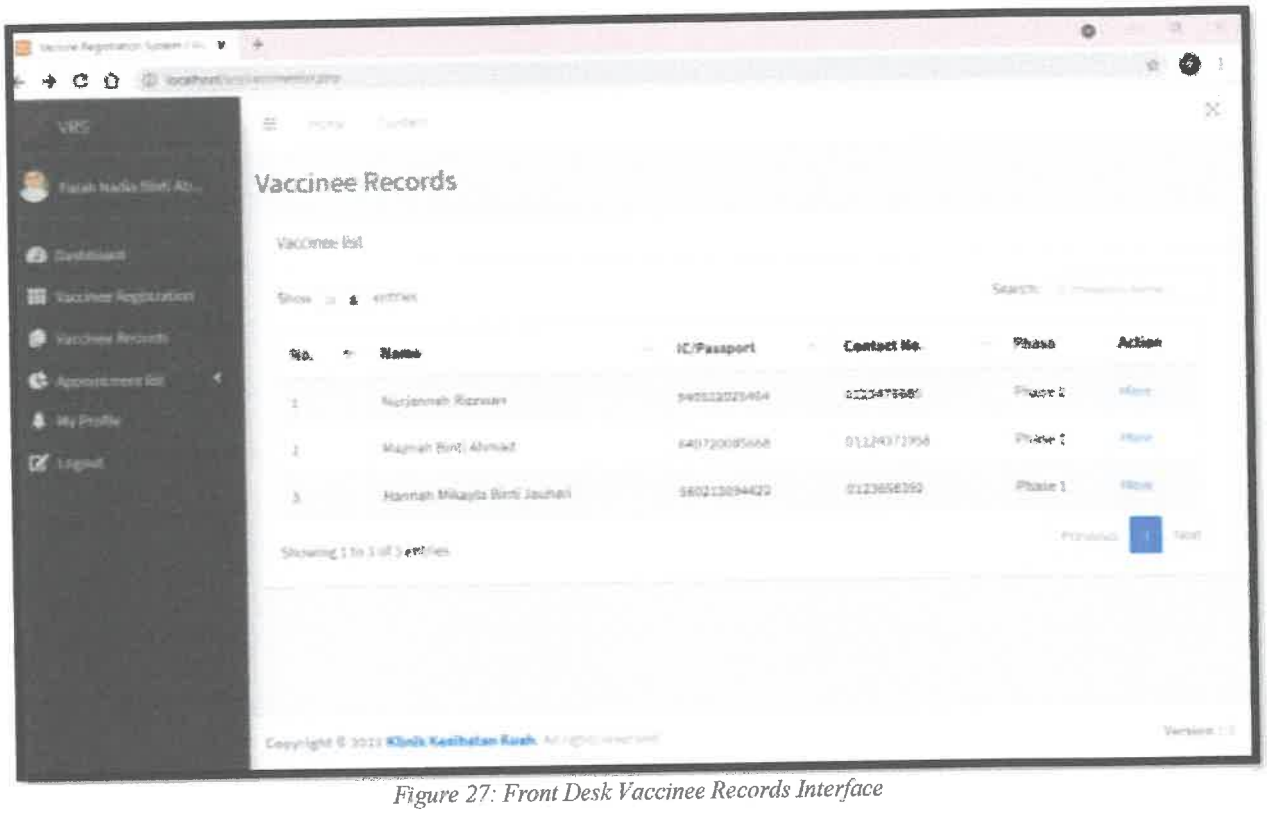


Figure 27: Front Desk Vaccinee Records Interface

- Front Desk Appointment Set Interface

  This interface will show vaccinee's appointment that have been set with their time and date for vaccination appointment.

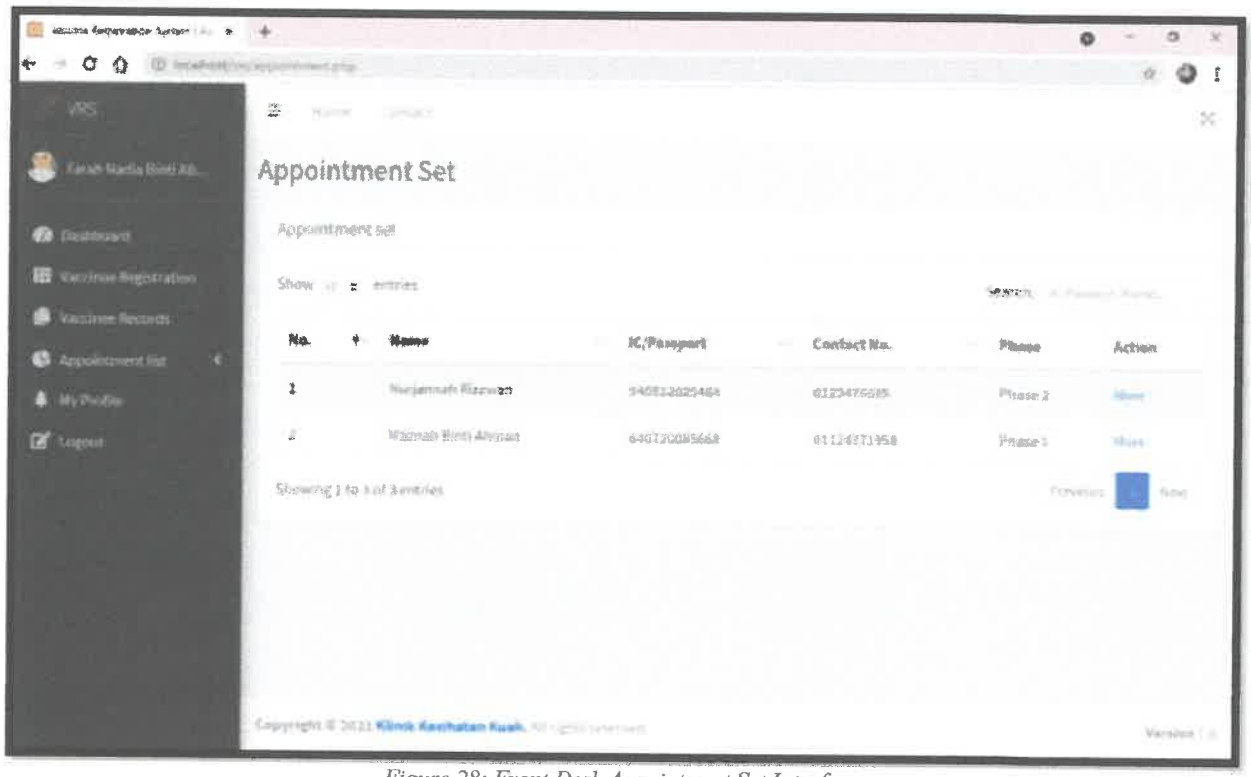


Figure 28: Front Desk Appointment Set Interface

- Front Desk Appointment Set Interface

  This interface will alert the user to reschedule and reset vaccinee's appointment that yet to be set with their time and date for vaccination appointment.

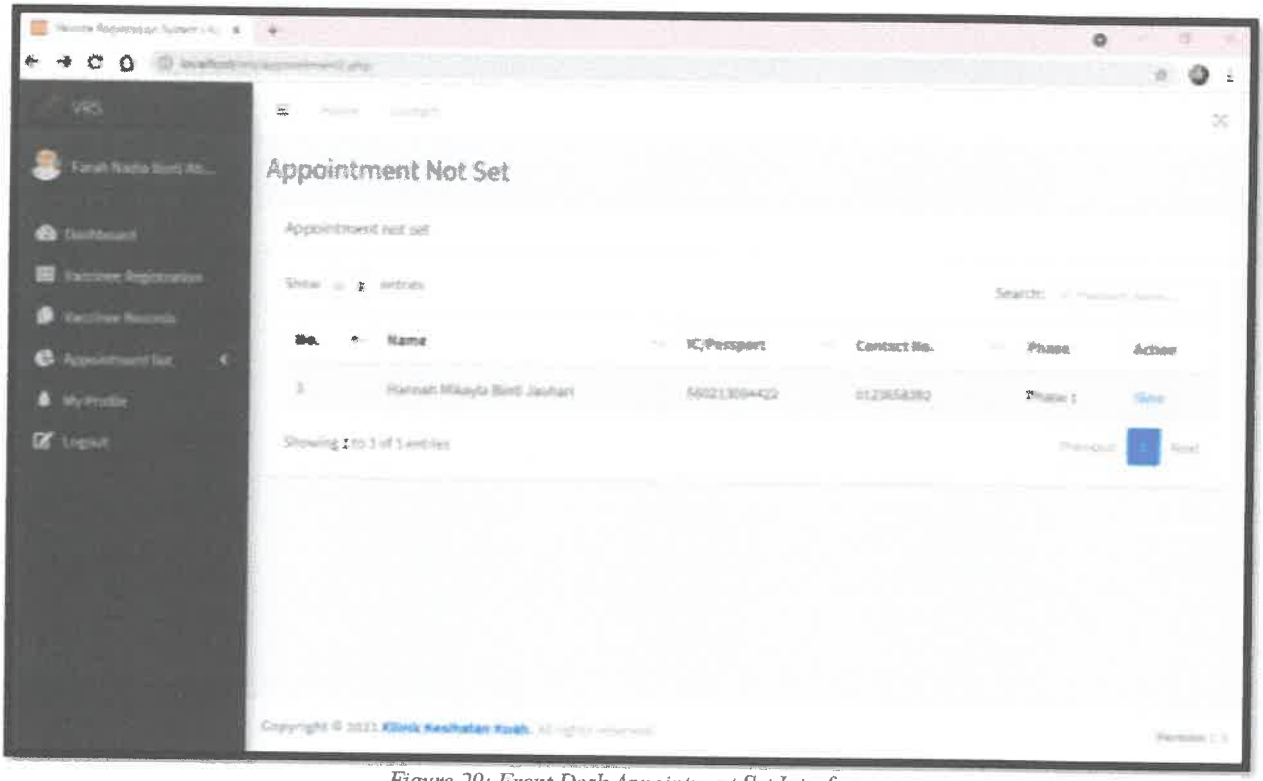


Figure 29: Front Desk Appointment Set Interface

3.4 Implementation and Maintenance

3.4.1 Implementation

The implementation stage is the stage where the actual project is being construct and conduct at early stage until the completion of the project. The development of system is focused within this process. Within system development life cycle, implementation is an essential phase whereby it is to convert to the final system specifications into working and reliable software. Activities included such as coding, testing, installation as well as documentation is focused on the implementation process.

3.4.2 Testing

When the coding process is already executed, the coding will be tested by using Wamp Server. During this phase, the coding will be changed and will be replaced in order to ensure that there is no error that can enable the cause of system failure to run. During the testing process, it is conducted by using dynamic techniques in which it involves the code execution. In addition, unit testing is net being forgotten to be conducted whereby the module is being tested in order to identify any coding errors.

To be exact, a successful test is only best described whenever it can detect and find any errors within the system. Basically, it executes the program with some explicit intention as a way to find the error that might lead towards the program to be failed. It is one of the techniques of appraising the system with the highlight of intention of creating a perfect system as well as significantly focus onto its weak area of the system or the software itself. Testing phases contain various of test types in which it allows the conduction process to depend on the bugs that consistently exists within system coding that shall be discovered.

i. Unit Testing

   Unit testing is also known as Program Testing in which it is the type of testing whereby the analysts tests and focuses in the part of the system or modules within the system. Unit testing is carried out with the intention of executing of each statement of the module. Within unit testing also, the accuracy of program cannot be assured as well as it is difficult to be conducted as to test various of input combination in details. Hence,

it identifies the maximum errors within a program as compared towards other testing techniques.

ii. Integration Testing

Within integration testing, system analysts will be working on testing multiple modules. Integration testing is used to discover the discrepancies in between of the system and its objectives, current specifications as well as system documentation. Within this process, system analysts will try to discover the areas on where the modules have been assigned with some different specifications for data length, type, and data element name. It will verify the file sizes to monitor either it adequate or not that indices the build properly.

iii. Functional Testing

For functional testing, it determines the system functionality according to its own specifications as well as the relevancy of standards documentation. Functional testing typically starts with the implementation of the system, in which it is very crucial for the success of implementing the system. Since functional testing is divided into two categories as such

- Positive Functional Testing: Provide system testing with valid inputs in order to verify if the produced outputs are correct.
- Negative Functional Testing: Involve testing the software with some invalid inputs as well as undesired operation conditions.

3.4.2.1 Stages of System Testing

i. Test Strategy

Test strategy is a statement that provides the information regarding the numerous levels, methods, tools, as well as techniques that is used for testing the system. The result should satisfy all of the needs of an organization.

ii. Test Plan

Basically, test plan provides a strategy for testing the system and it verifies the system under testing to fulfil the design and functional specifications. The test plan does provide the information as such:

- Objectives of each test phase
- Responsibilities and time requirement towards each testing process
- The availability of tools, facilities and rest libraries as well
- Procedure and standards are required in order to focus on planning and conducting the test
- Some factors that are responsible towards the successful of the completion of testing activity

iii. Test Case Design

Basically, test case design is used in order to discover the potential errors within system. It also arises from the number of test cases in which it most identified for each module of the tested system. The test cases and test plan will be documented as part of the system specification, or it might fall into test description. This method helps to determine the implementation of particular requirement or design decision will be tested and the criteria for the success of the test will be identified.

iv. Test Procedures

Test procedures consist of the steps that need to be tracked in order to execute each of the test cases. Basically, these procedures are specified within separate document that is called as test procedure specification. Hence, this phase is to specify any special requirements as well as the formats in reporting the testing result.

v. Test Documentation

Test documentation is basically consisting of the test result file that contain some brief information regarding the total number of text cases are being executed, followed with the number of errors and the nature of errors as well. So, these results are assessed against the criteria within test specification in order to define the outcome of the test.

3.4.3 Maintenance

Maintenance phase is the most significant phase as it is the proves to alter the coding in performing backing the changes that might occur in upcoming system. In addition, it also consists of the activities within system design and implementation as well, with some document updates and test data. Within maintenance phase, it consists of four important activities as such obtaining the maintenance request, transforming request into changes, designing changes and implementing any changes as well. Also, there are four type of maintenances that is used within this system in which it includes:

3.4.3.1 Corrective Maintenance

Corrective maintenance is a maintenance that is being applied within this system in order to repair and fix the remaining problem that might exist in the system. The purpose of this maintenance is to restore back the system broken down. Significantly, it will eliminate the error that might occur within the system in which it will lead to system faulty design or might be wrong assumptions attempt. The importance of used of corrective maintenance is identify by making a correction of the error and the problem to avoid from other errors and must quickly prevented in order to ensure the system will working functionally in order to serve its users.

3.4.3.2 Adaptive Maintenance

Adaptive maintenance is the implementation of changes within the part of system whereby it has been affected by changes occurred within other part of the system. It priorly used to make a change of the system functionality to change its business needs. The adaptive maintenance helps in fulfilling the information needs towards its target user. Basically, the system will be changed according to the condition as followed with the environment such as hardware modifications or it might be the operating system in which it includes the business rules and work patterns as well.

3.4.3.3 Perfective Maintenance

Technically, perfective maintenance is a maintenance that deal with the new implementation, or it change its user requirements. This maintenance is used to make a change towards the system to modify and improve its performance as according to the user requirements and to change their needs. Some new features or functions will be added within this maintenance process priorly for system improvement. Hence, the existing system functionally is including its enhancement for future system improvement.

3.4.3.4 Preventative Maintenance

Preventive maintenance is one of the maintenances that is always performed onto a piece of equipment that lessen the system failing. This maintenance is focuses on some changes made for the system to avoid any possibility of future issues or problems by increasing the maintainability of system. Basically, preventive maintenance is applied before the system failure is occurred. Hence, the suggestion of changes is priorly needed to maintain the system for the prevention of future errors.

3.5 Conclusion

The VRS system does focused on the registration and verification of vaccinees during vaccination program held by Kuah Health Clinic for vaccination program. The system is being developed with the purpose of assisting staff nurse to monitor the process from the beginning of the registration process, until the verification of the vaccination process and it focuses on the main users in which it consists of front desk, whereby handled by Staff Nurse, then Matron and then the Manager of PKD Langkawi. Towards the end of this system development, also after the implementation and then the testing phase for the system that has been already carried out, it can be concluded that the objectives of developing this system have been achieved, since the users find the ability to use this system. We have identified a few strengths and weaknesses that can be found in this system.

3.5.1 Advantages

The advantages for this system can be found at the process of the application itself. Below are the stages of the application:

- Before system development

  People need to register it manually by using paper form to give the name to the staff nurse. They need to include their personal details and then will be asked for the consents whereby they really want to get the vaccines or not. The interface is quite user friendly, and it assists to ease the process registering the names who is agreeing to take the vaccines.

- During system development

  VRS system does provide the function of keeping the vaccinees data and the verification of vaccine completion by just updating the vaccines info towards vaccinees' ID. Instead of keeping the data manually, this system helps to lessen the burden of staff nurse in order to key in vaccinees' data within the system. Thus, VRS system is one of the efforts for related users that are assigned to monitor the vaccination process.

- After system development

  Basically, this phase is the most beneficial benefits that can be gained by the users since the VRS system have been developed as it provides the function of giving the feedback to the vaccinators and vaccine management. Since the management are able to know about instant verification results, hence this system is successfully helping to solve the problem that faced by organization previously.

3.5.2 Weakness

There are a few weaknesses that can be found within the development of VRS system. First of all, the weaknesses are lack the ability to view the dosage used in the bar chart form. The administrator is only able to view the number of dosages used as well as the vaccine report. The report is only can be viewed with the total of names of vaccinees that will take the vaccine. Once the vaccinees is suddenly refused to take the vaccines, it quite a problem for the system

to delete their data since the total number of vials open and dosage given is based on the number of vaccinees that will take the vaccines on certain day.

Next, the second weaknesses of VRS system are that might arise from the front desk point of view since they only can monitor the registration of vaccinees. Developer can add up the option of making it various option such as add some consent questions regarding the patients and will automatically set in which phase, they will get the vaccines.

3.5.3 Suggestion for further development

The suggestion of VRS system is to improve the weaknesses of the system. For the first weaknesses in which the lack of ability to view the dosage used in the bar chart form, the developer can add up the sufficient information regarding the total dose of every phase and also the types of vaccines taken whether it is Pfizer or Sinovac. Also, vaccinees that want to reject the vaccination shall be updated its features to be able to delete the information. Therefore, the user can view the overall statistic that are based on the type of vaccines and help to delete the vaccinees' information once they reject the vaccines.

Next, the second suggestion is for the staff nurse that they only able to monitor vaccinees registration. To suggest for further system development, developer can add up the option of making it various option such as add some consent questions regarding the patients and will automatically set in which phase, they will get the vaccines.

Chapter 4:

Conclusion

4.1 Application of knowledge, skills and experience in undertaking the task

I. Developing system

For the activity of developing system, student is required to develop a system within organization which is it also known as special project in which it needs to be completed during internship period. In order to complete the system, student need to use and in the same way to gain new exposure and knowledge, it requires experiences and skills as well as it related with previous subjects at the university in which it relates to the system development. If the student knows the step to get the system done, it will not be a burden as students are equipped with knowledge related to system development and adds up with the real and actual environment in the organization. Such example, student is able to apply knowledge of subject System Analysia 1 and System Analysis 2 as well. It includes from the planning, analysing, development, implementation and maintenance towards system development. Hence, the student is exposed with some new knowledge such as new coding language and it gives the chance to gain new exposure for student.

II. Troubleshooting

For the troubleshooting activity, student is assigned by other staff to perform the troubleshooting towards problem area such as computer, printers as well as projector within the department in which it required the services. Hence, student need to develop well communication with supervisors, staffs and person in charge in higher management where it consists of organization support staff. This way will help student to build great communication skills as they always communicate with staffs and assist to learn to issue a problem through right platform. This is because, not everyone within the department is aware and understand with the concept of ICT devices, unlike the student whereby they learn the field at the university.

III. IT hardware and software maintenance

Since student is required to assist the maintenance of hardware and software at the computer lab, it adds up new knowledge on how to perform the maintenance at current state as a way to keep the devices functionable. The replacement of the hardware needs to be focused on

which it usually recorded in the inventory form as a way for evidence to prevent any issues due to devices concerned for future reference. Such example, student is able to apply the subject of PC maintenance during Diploma study. Entirely, student able to learn whereby any hardware and software that is related to the organization need to be recorded since there will be audit presenting regarding organization supplies, to avoid from any lost whereby actions will be taken since there are evidence recorded within department.

4.2 Personal thoughts and opinion

During internship training in five months, it teaches on real work situation and work experience that is done during study program in which it relevant with professional development that can be used for future recruitment after graduation. The importance of industrial training is it opens up the chances for students to view real working situation within industry. Thus, it enabled students in order to understand about things they learned during university in which it only focused on syllabus and hands on with the ability to blend with real job situation.

Students that are well equipped with knowledge and skills tend to pass the industrial training, such as theories learned through presentation and examination as well in which it mostly viewed someone's experiences. With the accomplishment of industrial training, it somehow assists the students to develop their point of view since they experienced it by themselves. In addition, industrial training assist in developing students' self-motivation and self confidence in facing people and facing any issues that might happened within the organization. It also helps to develop a better communication since students are able to meet new people in different job scope hence it can boost their confidence level.

Since special project is to focus on system development, it somehow quite challenging as previous semester is done with the group of 3 to 4 people. But not in industrial training whereby the student needs to complete the special project by themselves, and it requires more effort than previous semester and it allows the chance for student in order to build and show their skills in handling the work. Nevertheless, it can teach the student to develop a better time management in which they need to control the time of working in the industry as well as the time of completing the special project and industrial report.

Furthermore, industrial training opens up the chance of previewing the working environment in future. Students can participate in teamwork from various of different ages that require different ways of communicating with the one who is older than us and the students also need to be more open-minded and not to take everything personal. By this way, students are able to foster the motivation since there are people that helped and trust to perform the job given by other colleagues in which students are able to gain experience within their industry before they actually working in a real working environment.

Last but not least, industrial training helps in polishing students' leadership skills and the responsibility they might take to perform and execute the given task as the progress of the project needed to be present towards the organizational supervisor. Plus, student will be more discipline in order to follow the rules and regulation that are prohibited to follow during industrial training period. Thus, through industrial training, student can take this as a challenge and test their perseverance and thinking abilities when facing a decision-making situation. Industrial Training is such a great and valuable experience for student as they get the chances to meet new people and learn something to be developed within industry.

4.3 Lesson learnt

After undergoing industrial training for five months, student learn several things that student never faced during at the university. This lesson very useful and can be used for future.

a) Communication skill

Lesson learnt such as to be able to develop communication skill in which the situation of being assigned to perform devices troubleshooting towards the ICT equipment within every department whereby it required the services, as well as maintenances in order to allow the devices to function well. Hence, students need to communicate with staffs in order to complete the task and not only to perform the job, but to communicate during any meeting held within organization and online meeting. This way, students have to learn to use proper and suitable language in order to communicate with higher management as well as explaining on the issues that occurred by using proper language to be understandable by person in charge.

b) Time management

Since student need to focus on solving every single task that are assigned followed with the time given as the task might affect staffs' work in progress. Thus, student need to plan their

time wisely in order to complete all of the given task as followed with the deadline. For instance, to complete troubleshooting issue, student need to get it done in timely to avoid any problem with staffs that are using the devices to complete their work. Also, since the student need to complete their special project, it is important for them to submit the progress and their complete task as accordance to the given time to their supervisor every month.

c) Self-Independent

Lesson learnt during internship period in which the student is able to develop their independency towards certain time such as to cope with the given task by faculty to develop a system for organizational benefits. Hence, students need to conduct the project from the beginning of planning, analysis, design, implementation, as well as maintenance stages. To execute the coding, student need to learn and explore on how to perform by themselves since a part of the syllabus has learnt in the university and they can get help by the sources of internet as well seniors and supervisors.

4.4 Limitations and Recommendations

For about five months of internship period at Pejabat Kesihatan Daerah Langkawi (PKD Langkawi), we can view that the limitation and some recommendations that the student might suggest for the organization in order to help them improve from student's point of view. Since there are few students as well that are going to perform their industrial training within the organization, hence the department need to be more focus on creating a module on how and what the student shall be achieved within the internship training period. This is because, student is always felt uncertainty with their task given by higher management whereby the task is suitable with their field, or it might only to help them to accomplish their own task. Since student is unclear with their job description during office hours.

The module needs to be comprehensive with valuable activity that might help in the development of self-learn about the culture of the organization. Also, providing marks can also be marked by supervisor since the student have already completed the activity by referring to their timeline and job effectiveness as well that are being done by the student. By this method, it helps the student to monitor their improvement that might be useful in the future.

In addition, department should prepare a proper place in order to allow the student to perform their work in a comfort situation and make them feel welcomed within the organization, such as providing a complete set of tables, chair as well as a set of desktop computer to be served to the student. By focusing on this effort, it might assist the student to perform their work more efficiently and effectively, instead of using their own personal computer that need to bring every day to perform the work. Also, it tends to be more secure than using personal computer since the desktop computer is only used during office hours and only placed within department, in compare with personal computer that have high chances of misplaced, stolen by other people, as well as easy to crush once it lost its balance and other issues goes on.

Furthermore, the software that is installed within desktop computer also need to make sure that it already equipped with some good speciation and not out of date to avoid system crash since the student need to use for system development in which it requires some application that are up to date in compare with the computer that is equipped with low or medium specifications. Not to forget, the department also need to have a great teamwork with the administration department of the organization since the student that is undergoing the industrial training might join some programs that are offered by private agency or organization. By this way, student is able to develop and polish their current skills such as their soft skills and technical skills as well, whereby technical skills only is not enough for student to develop since they will be facing more new people and new agencies that might beneficial for them in the future.

All in all, the organization should be able to create a training module that assists internship students to be able in learning things that are related with their field of study. This will enhance the ability for student to collect more experience during internship period. In addition, organizations are advisable to expose some tips and knowledge for the student and they can also observe and offer employment for potential student on secure a jo at the organization after the student is already complete their studies and graduate in the future. This is because, to avoid organization lack of future potential employee, that might add up some value for the organization since they already and alert with the culture of organization since they already have experience with it.

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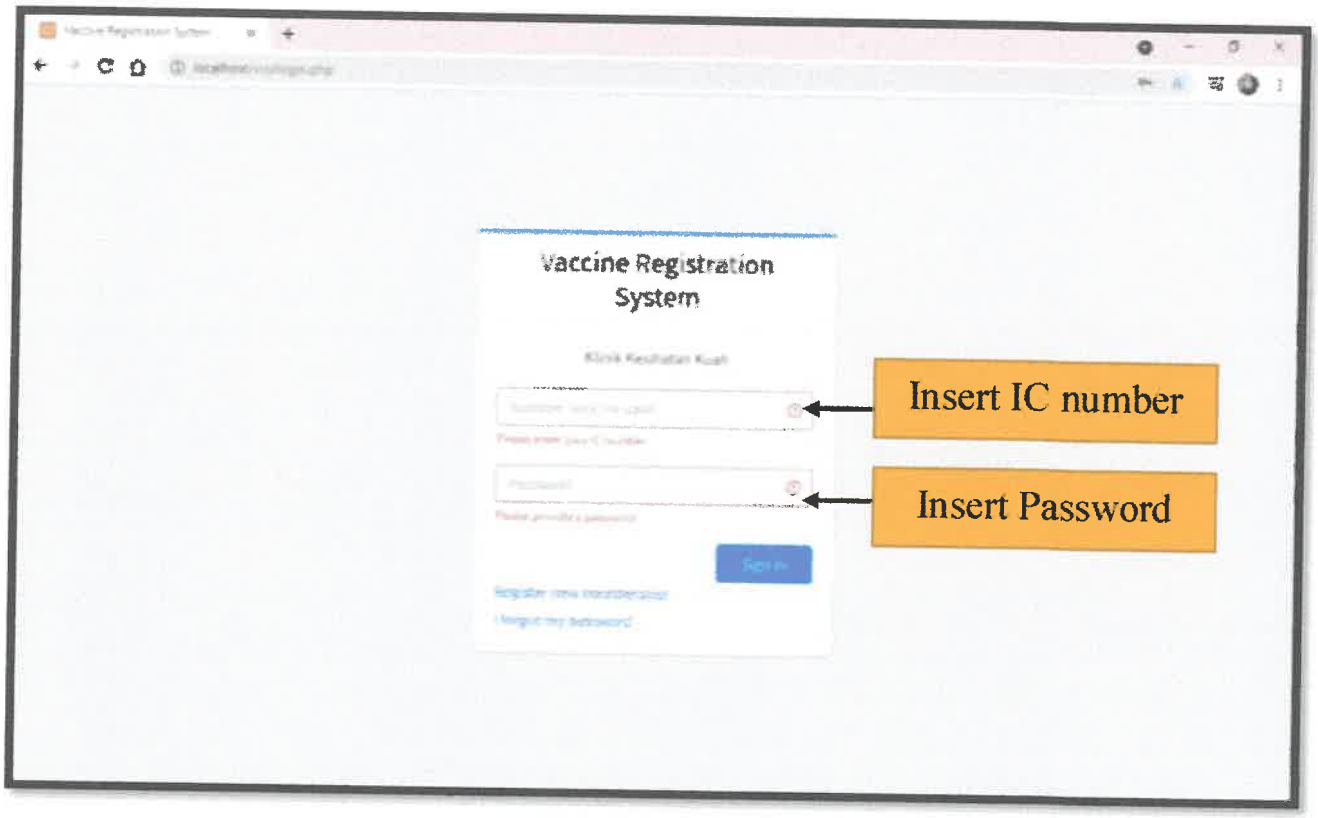
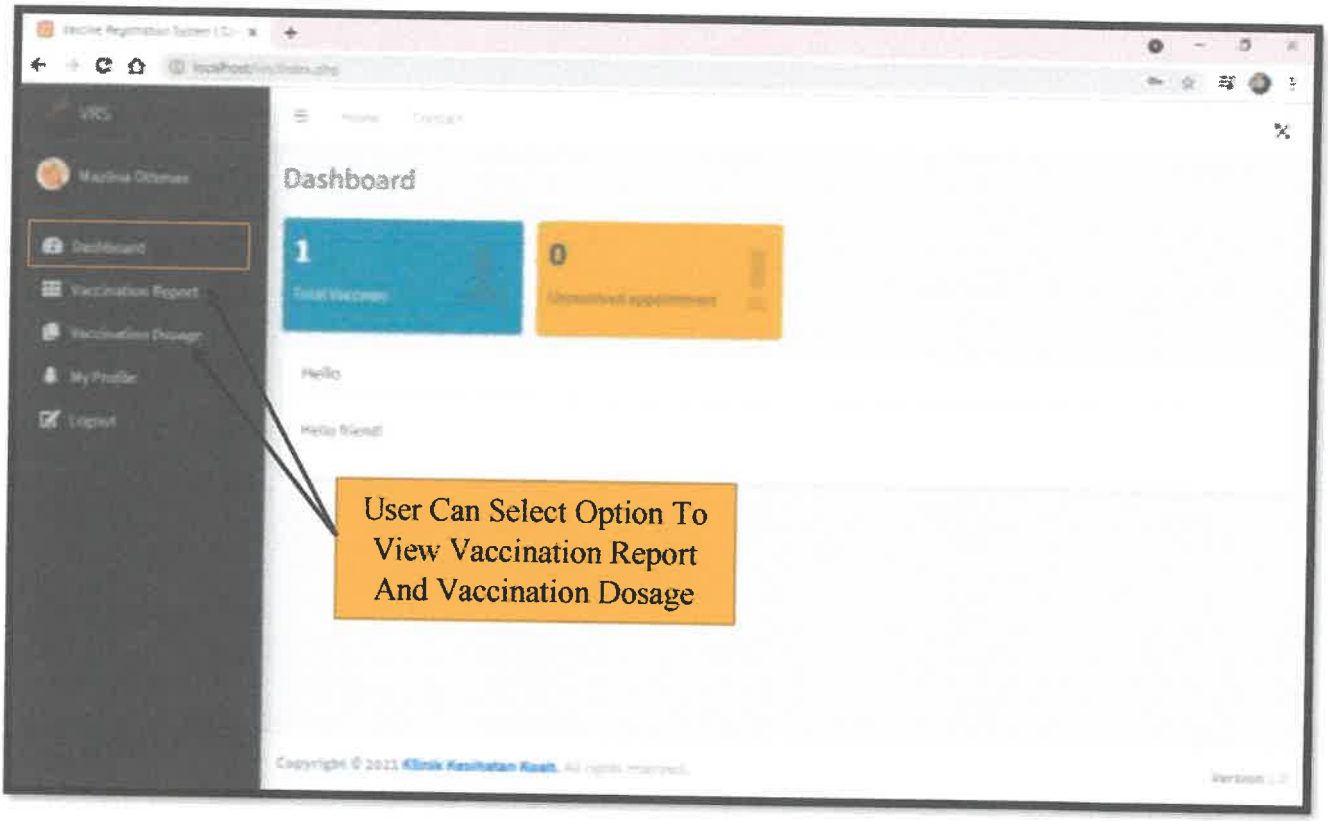
Weltermann, B. M., Markic, M., Thielmann, A., Gesenhues, S., & Hermann, M. (2014). *Vaccination management and vaccination errors: a representative online-survey among primary care physicians*. PloS one, 9(8), e105119.

USER MANUAL

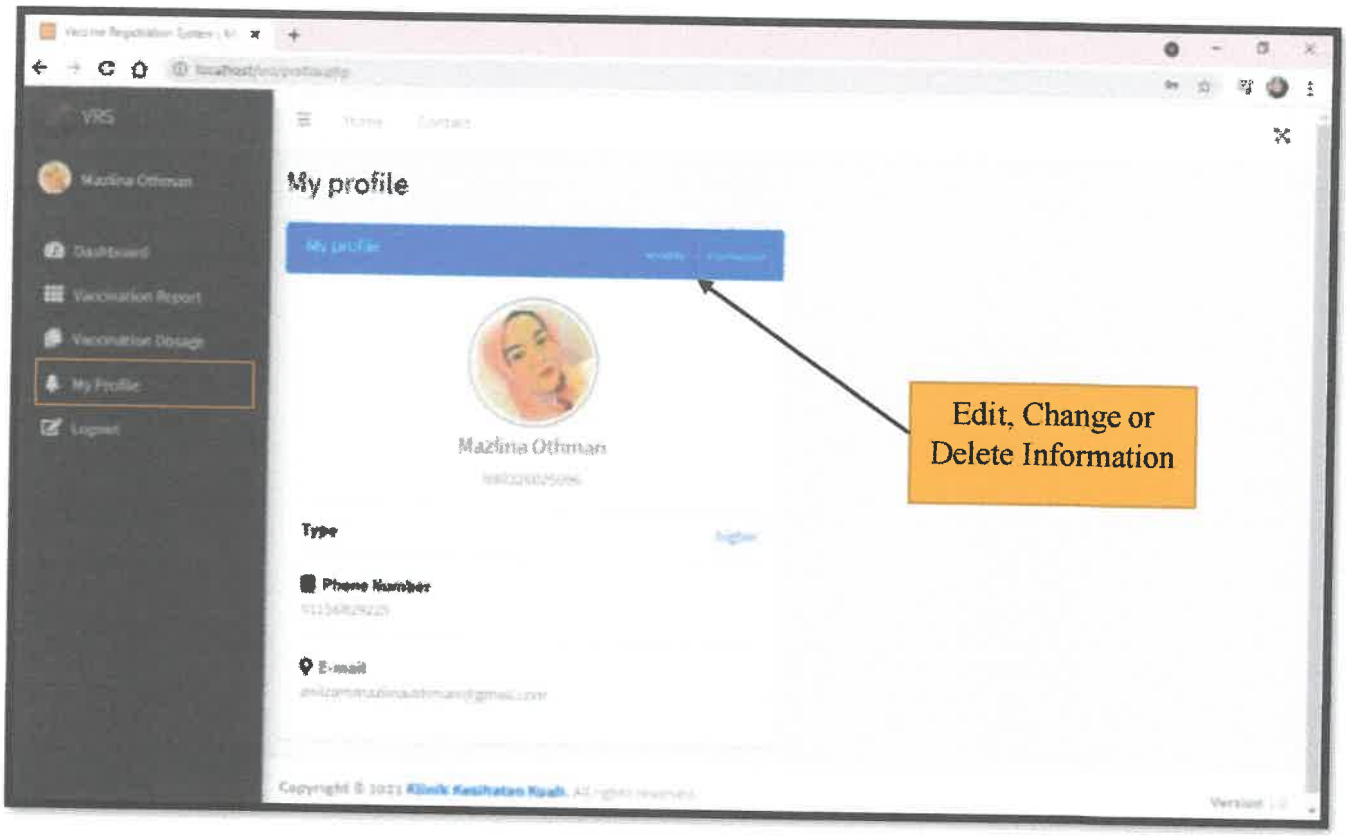
1. HIGHER MANAGEMENT



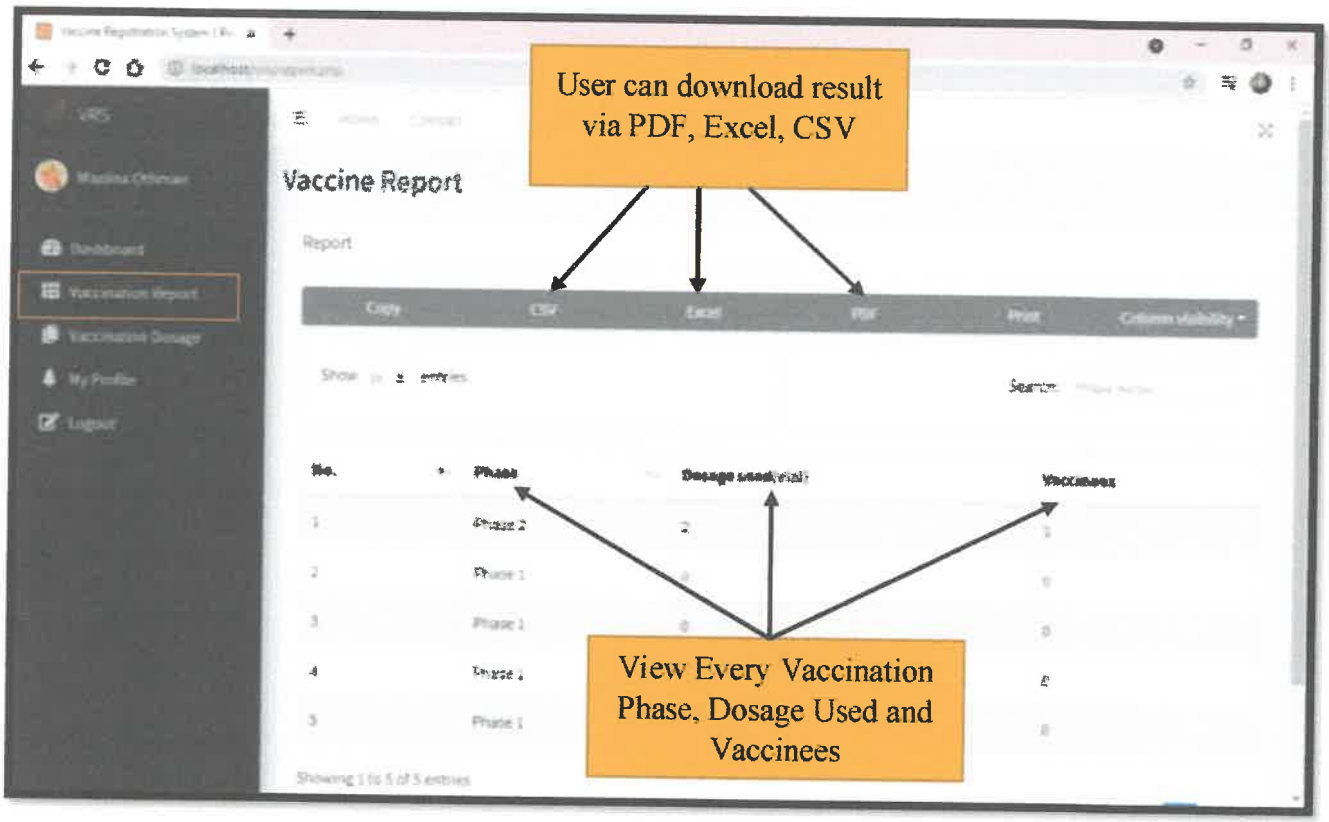
Login Interface Of Higher Management



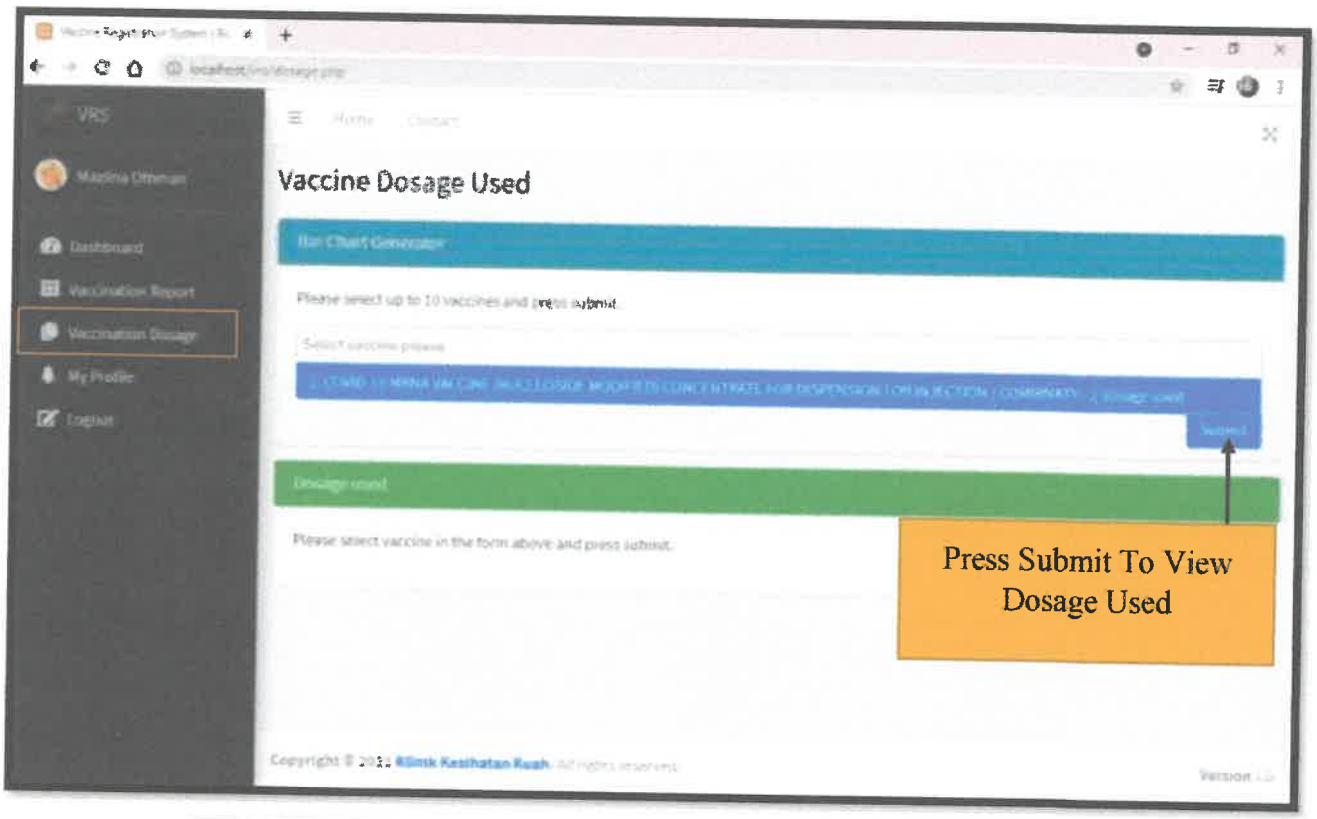
Dashboard Interface Of Higher Management



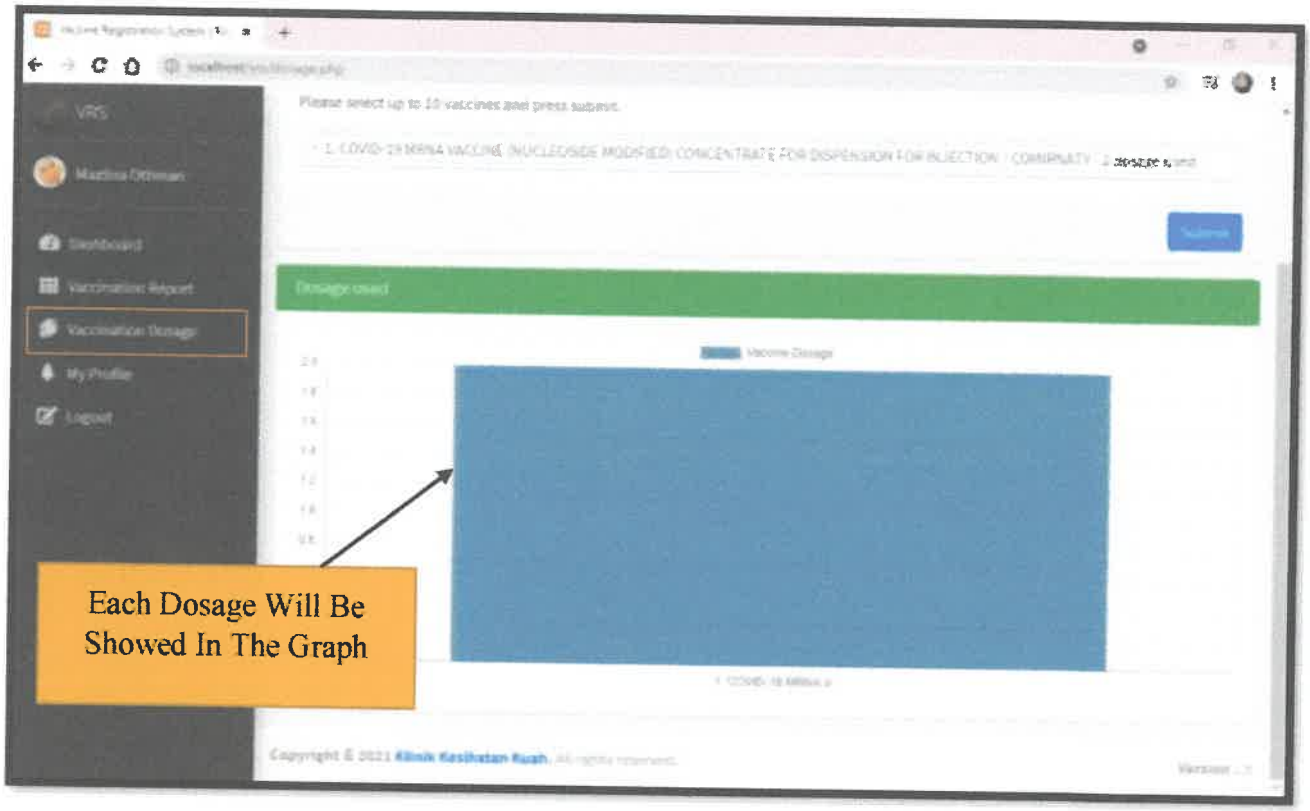
Higher management can modify their account information, include change password and picture



Higher management can view the vaccination report and can download the result via CSV. Excel and PDF

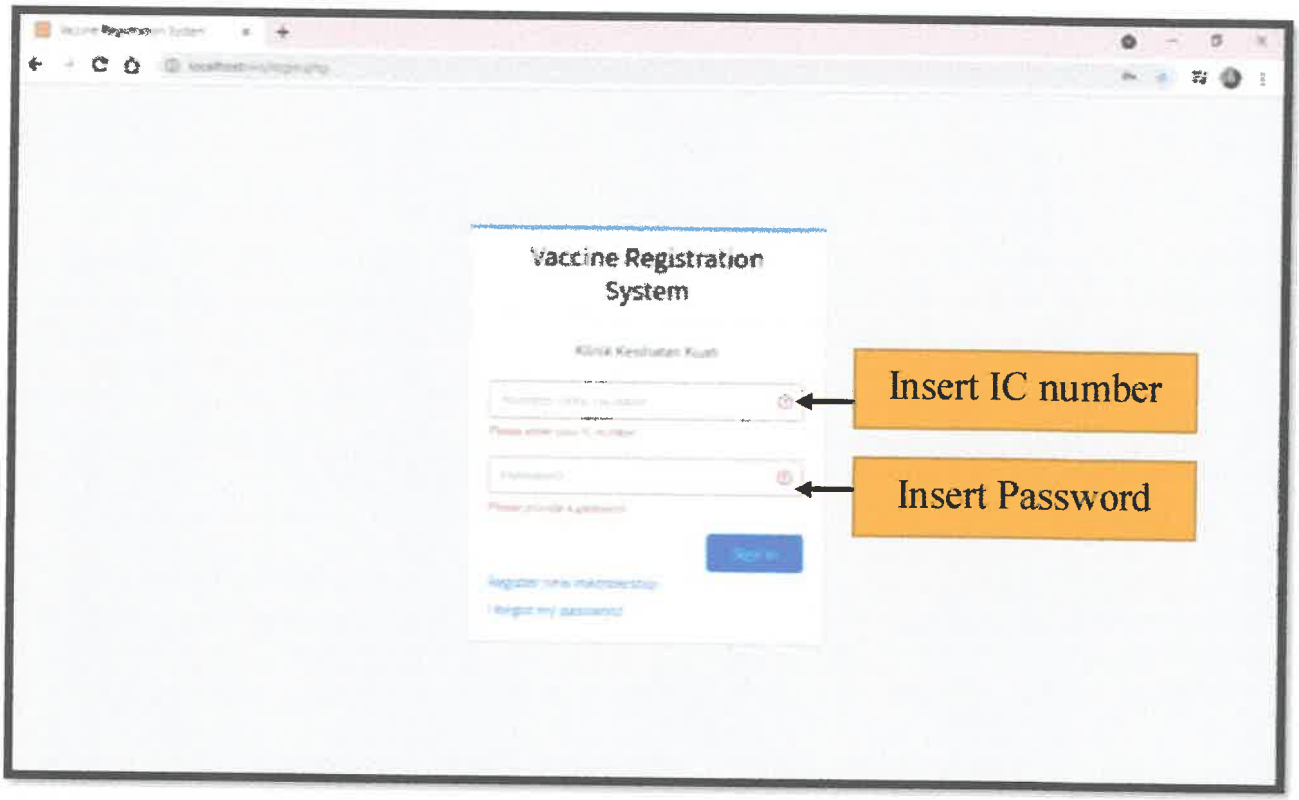


Higher management need to submit for each vaccine to view dosage used

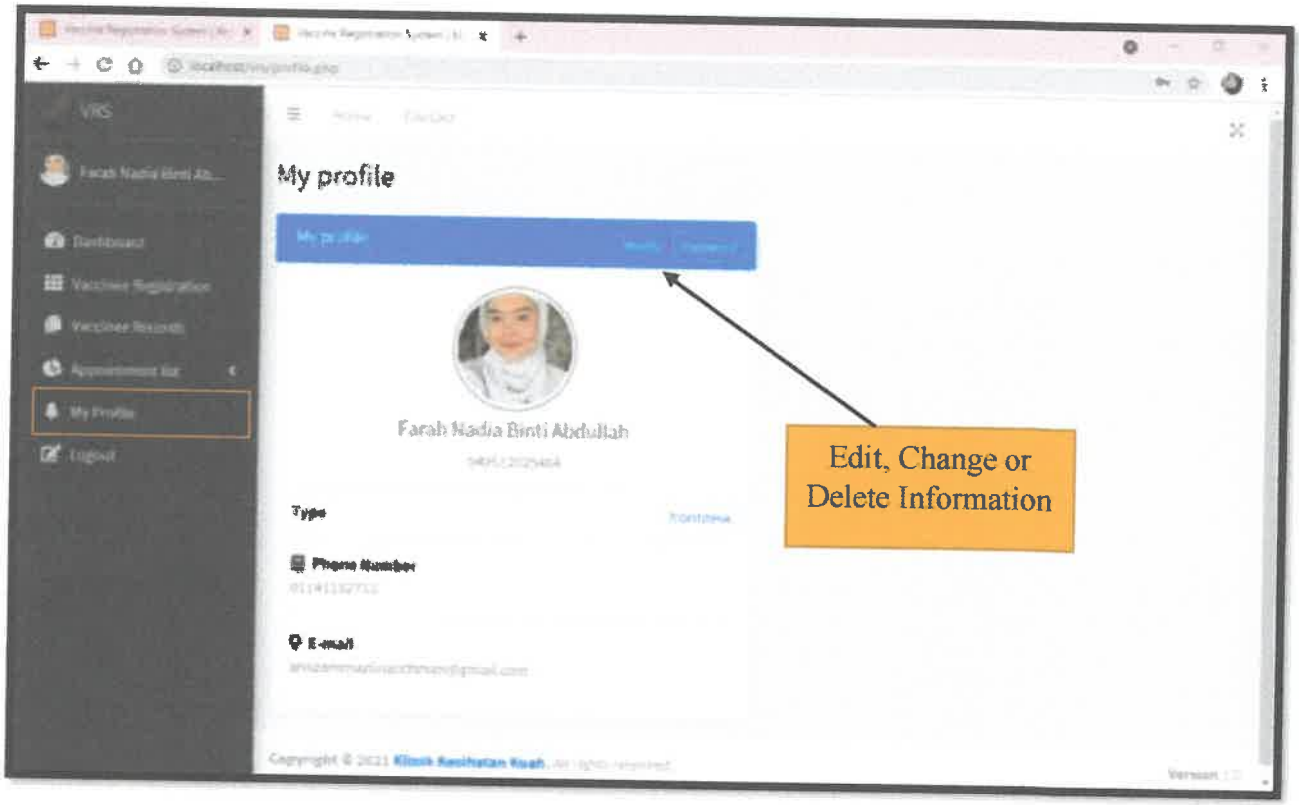


Higher management can view the report of dosage used for first dose or second dose or both doses performed

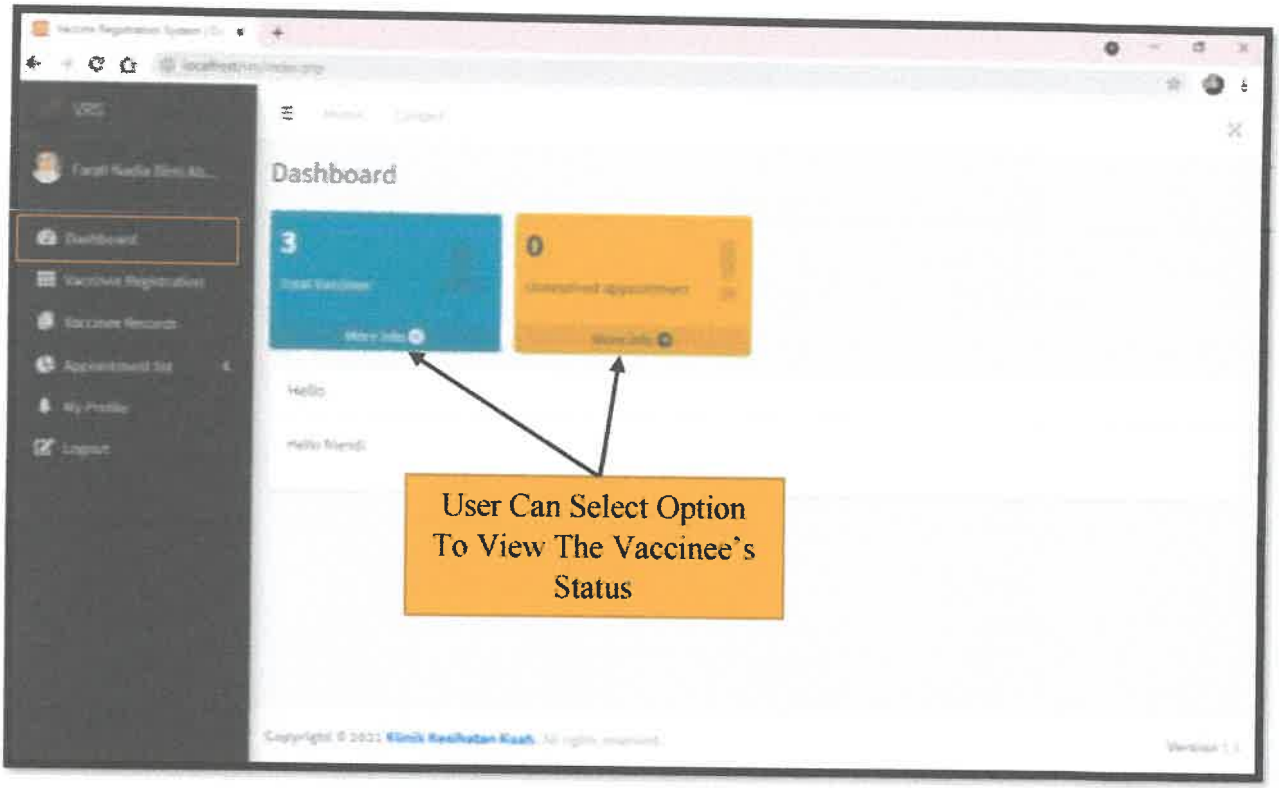
2. FRONT DESK



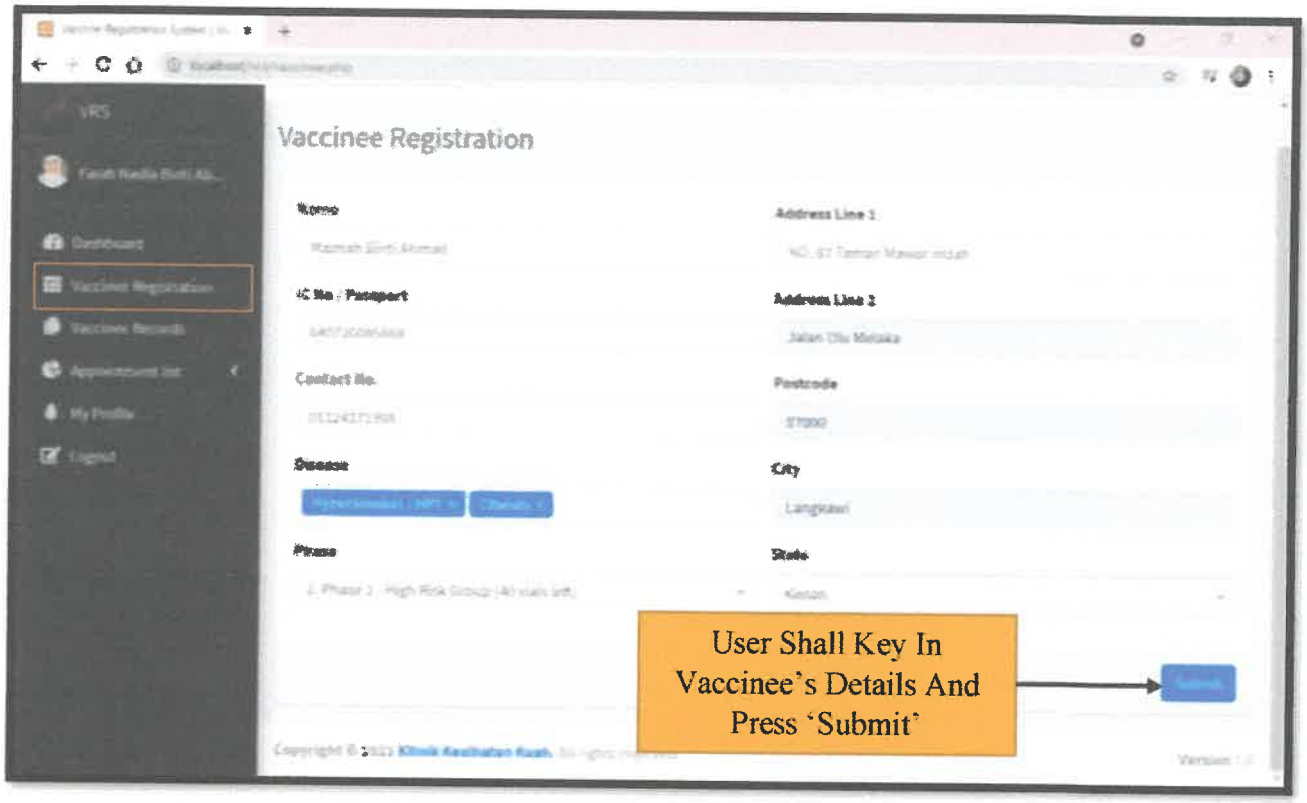
Login Interface Of Front Desk

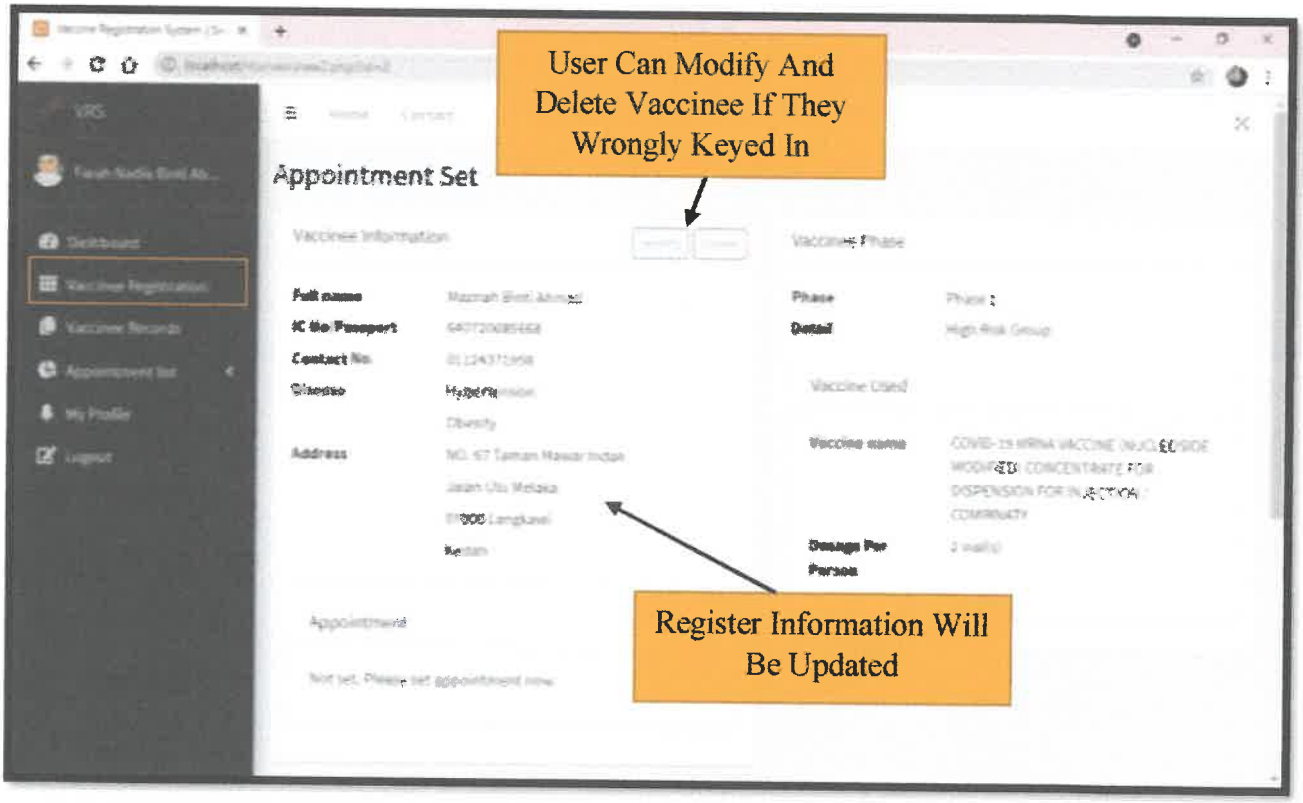


Front desk user can modify their account information, include change password and picture

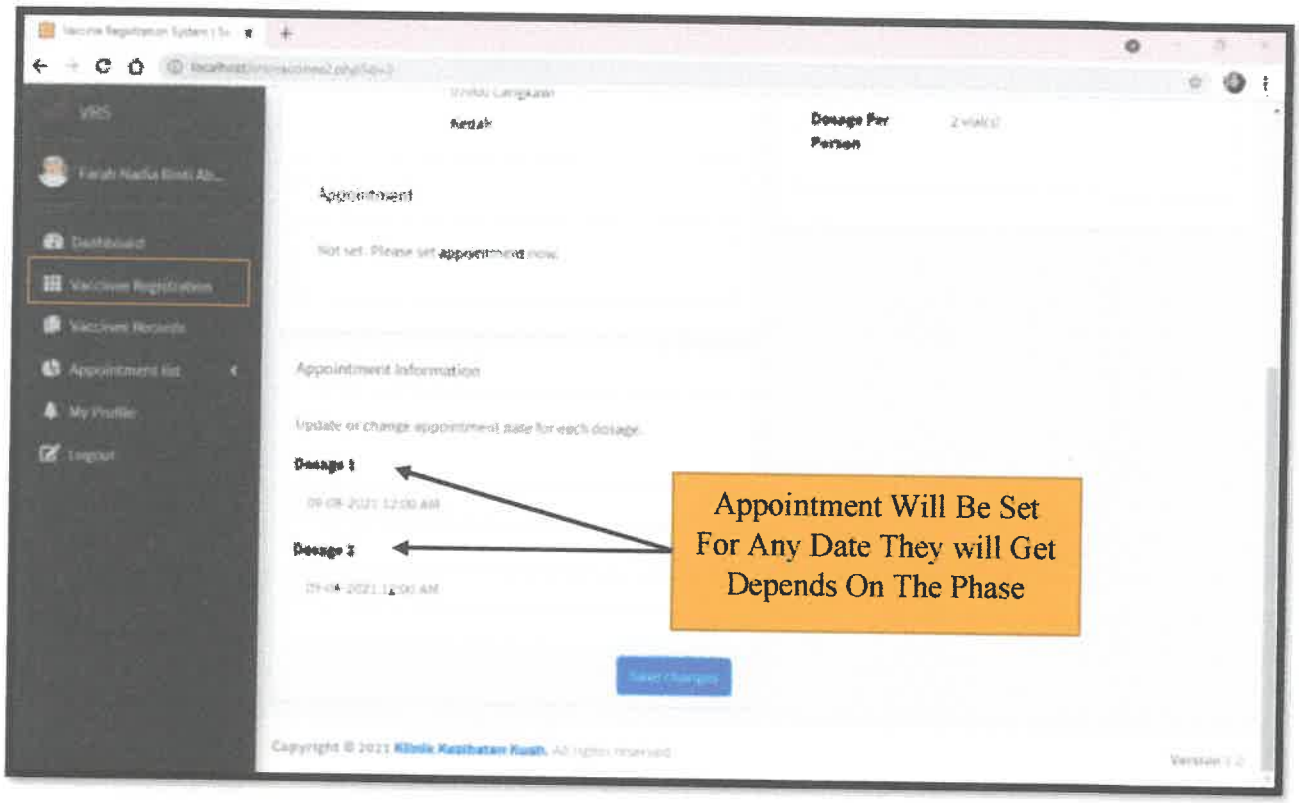


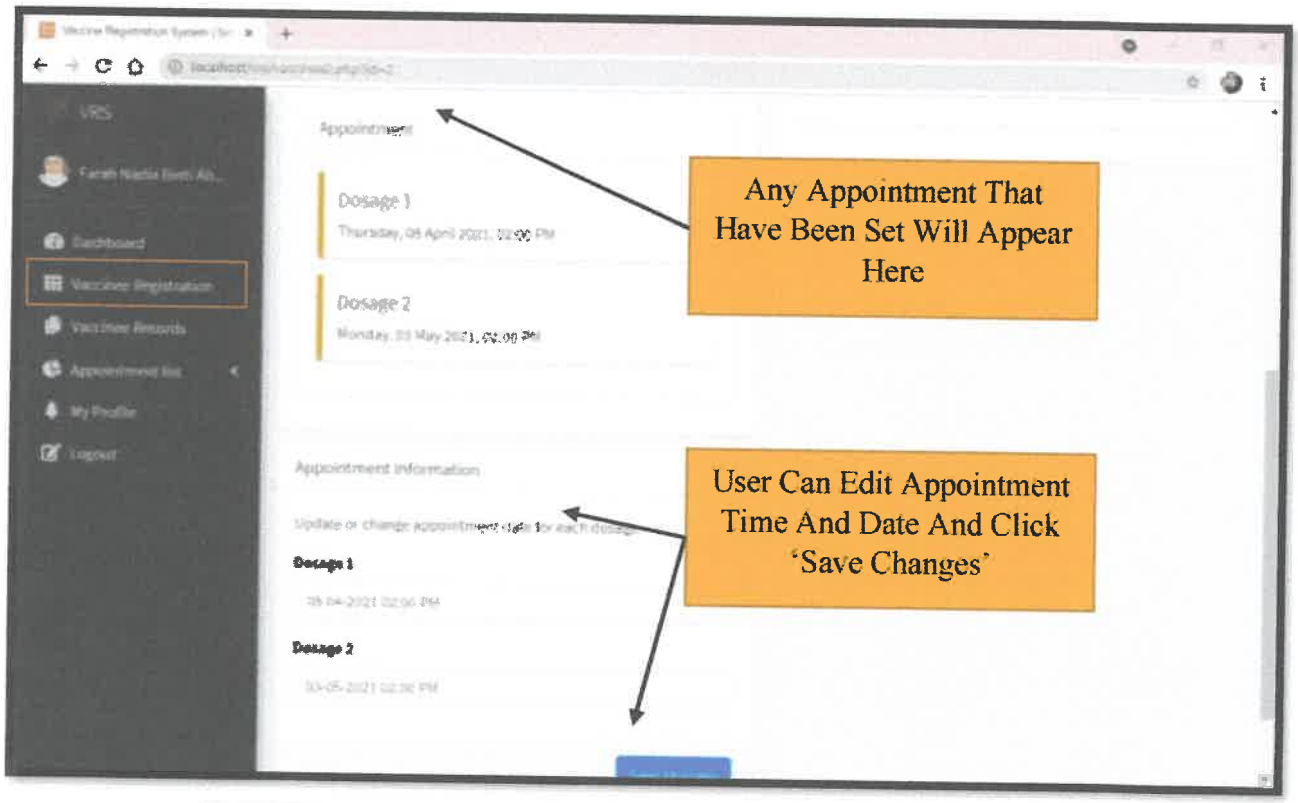
Dashboard Interface Of Front Desk



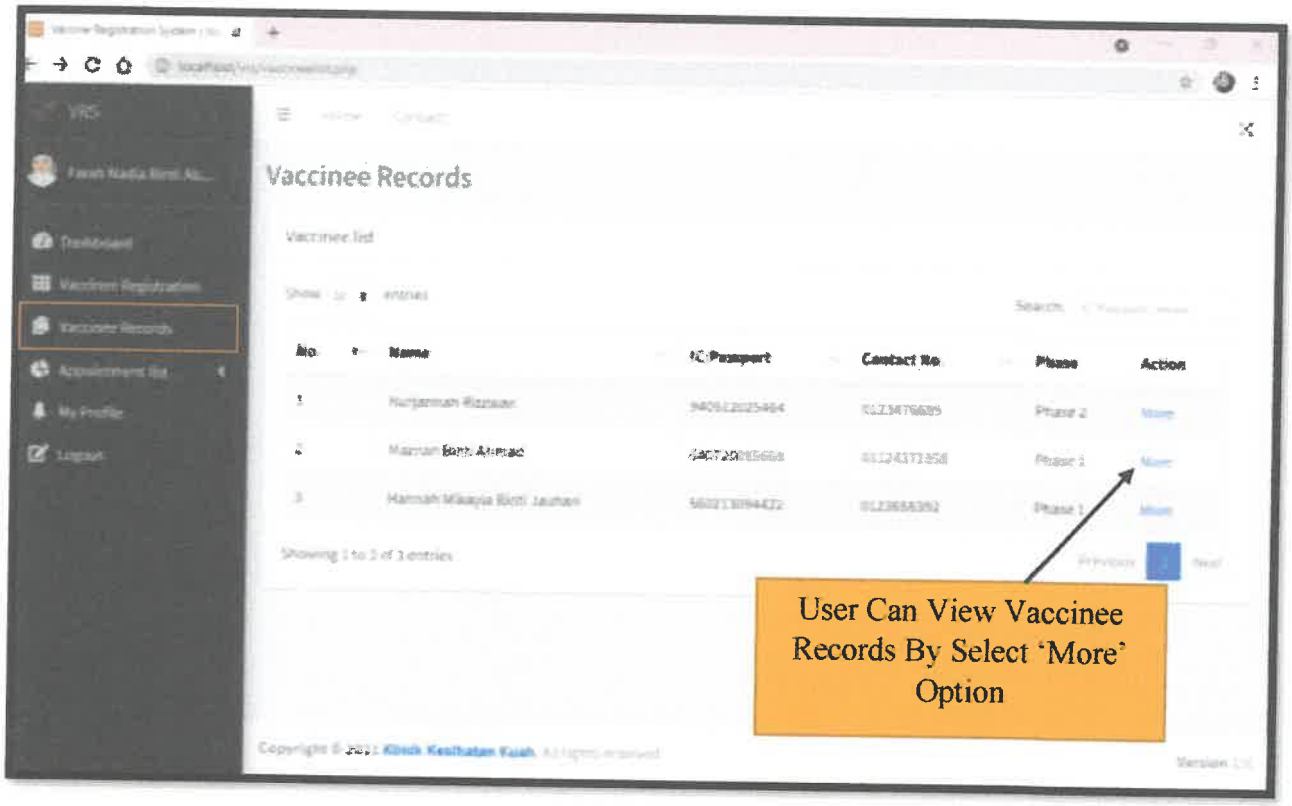


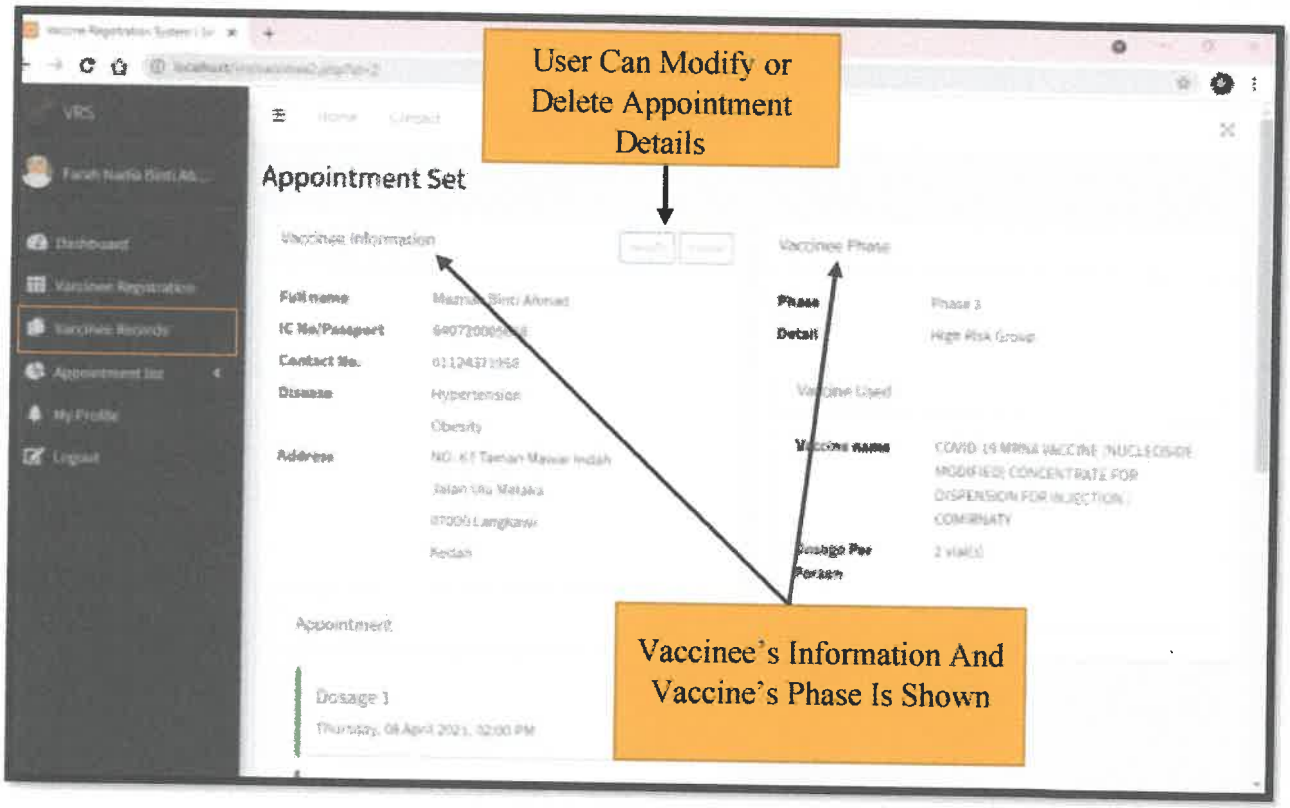
Front desk user can monitor their registered vaccinee to get updated with their appointment

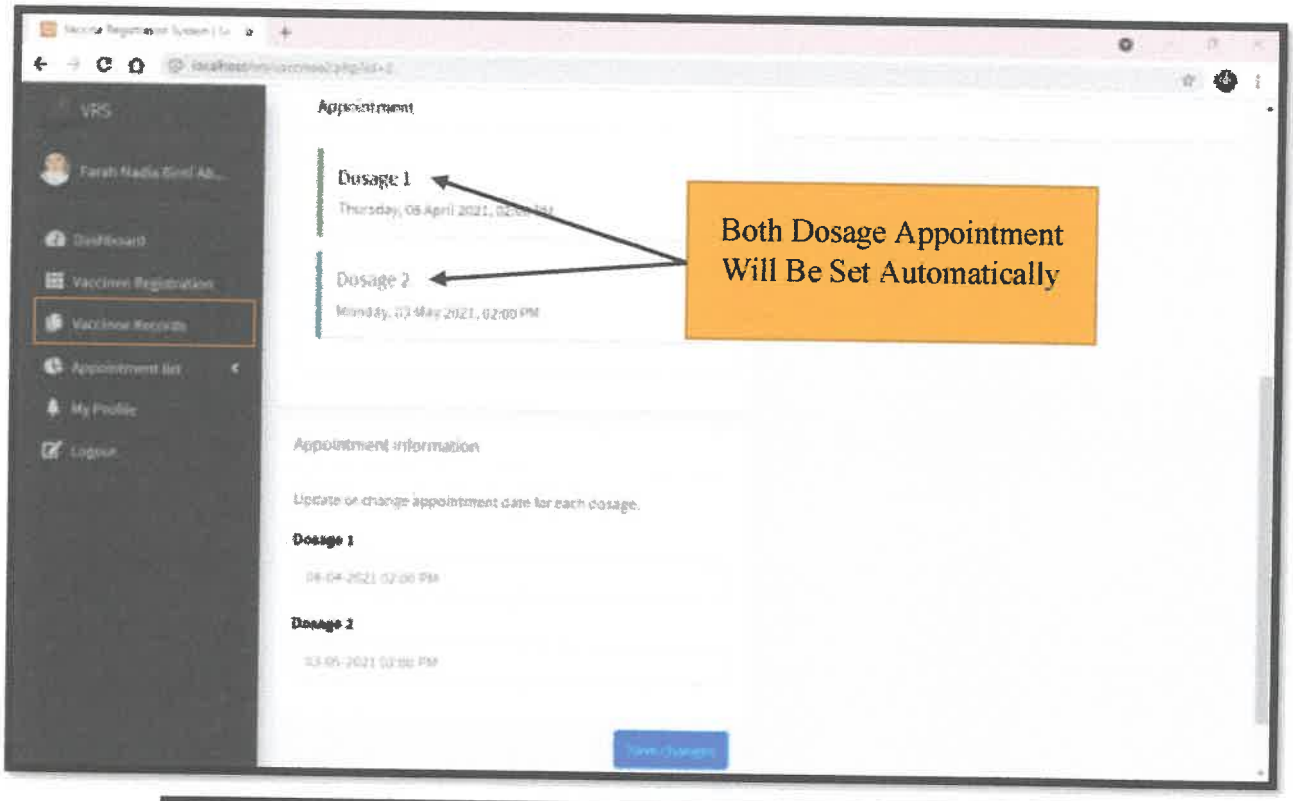




Front desk user can view appointment time and date through this interface

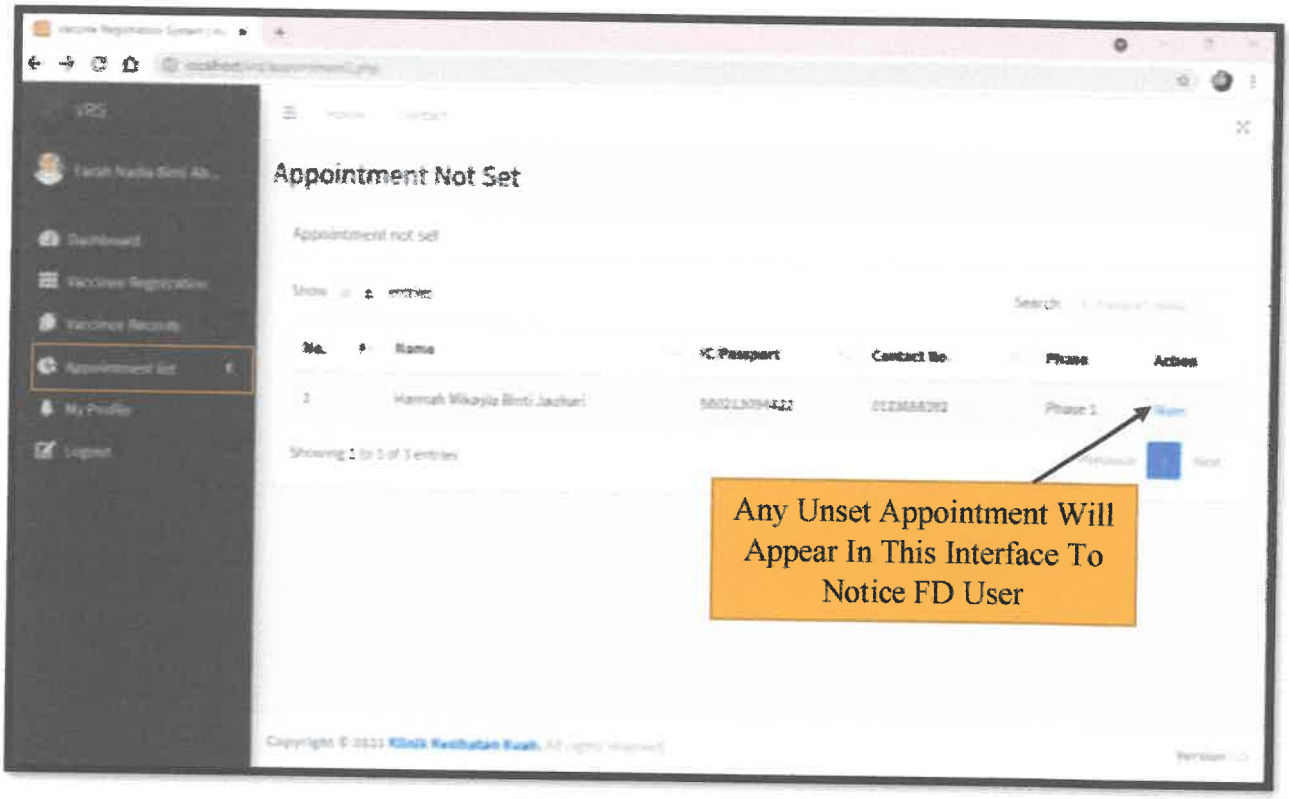

Vaccinee Records
User Can View Vaccinee Records By Select 'More' Option


User Can Modify or Delete Appointment Details
Appointment Set
Vaccinee's Information And Vaccine's Phase Is Shown



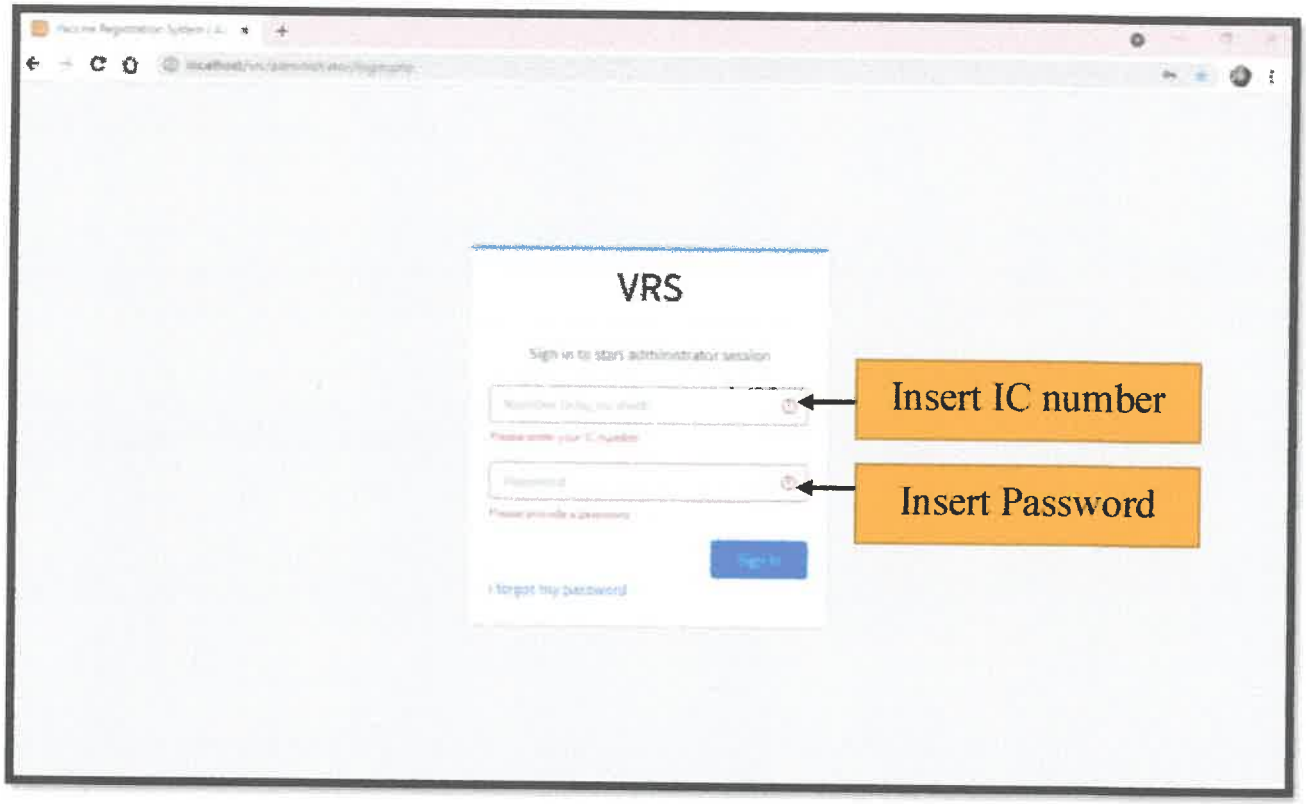
Front desk user able to monitor vaccinee's appointment details

User can view vaccinee's appointment that have already set up

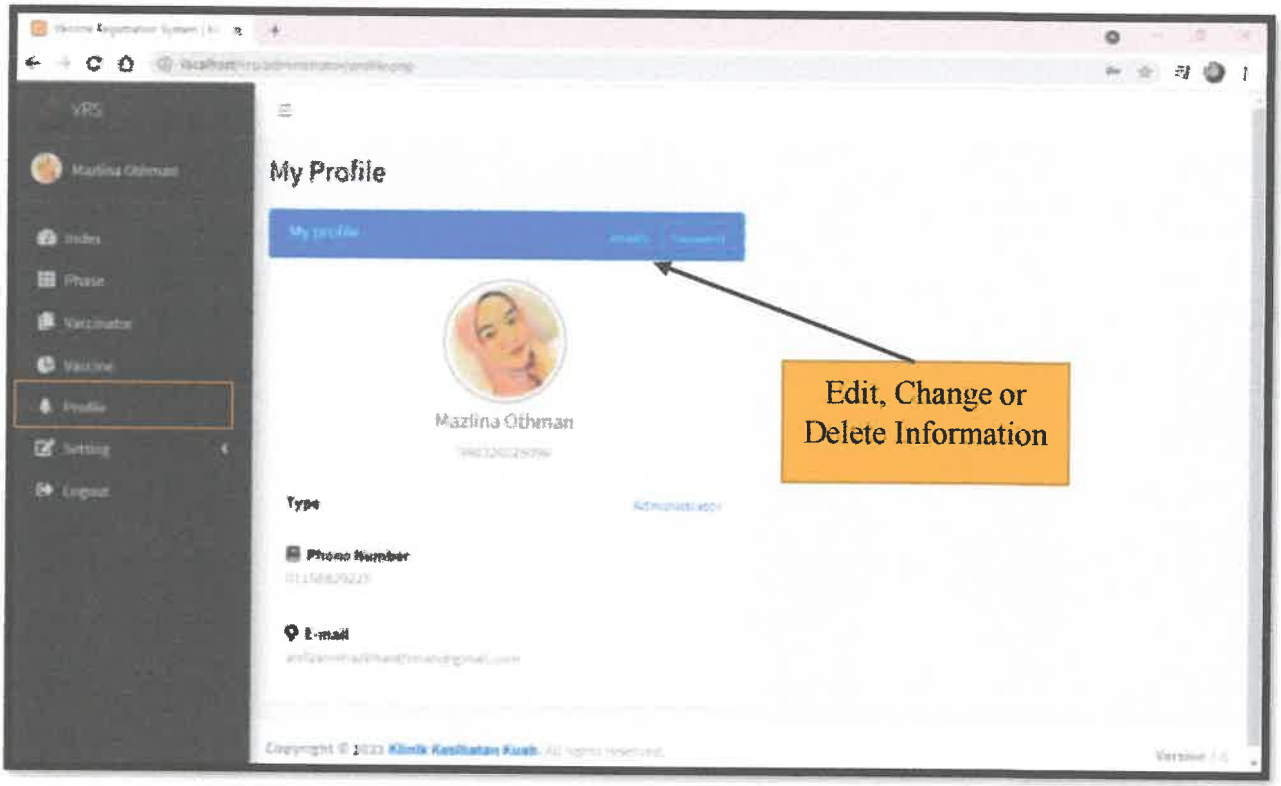


User will be noticed if vaccinee have not yet set up their appointment time and date

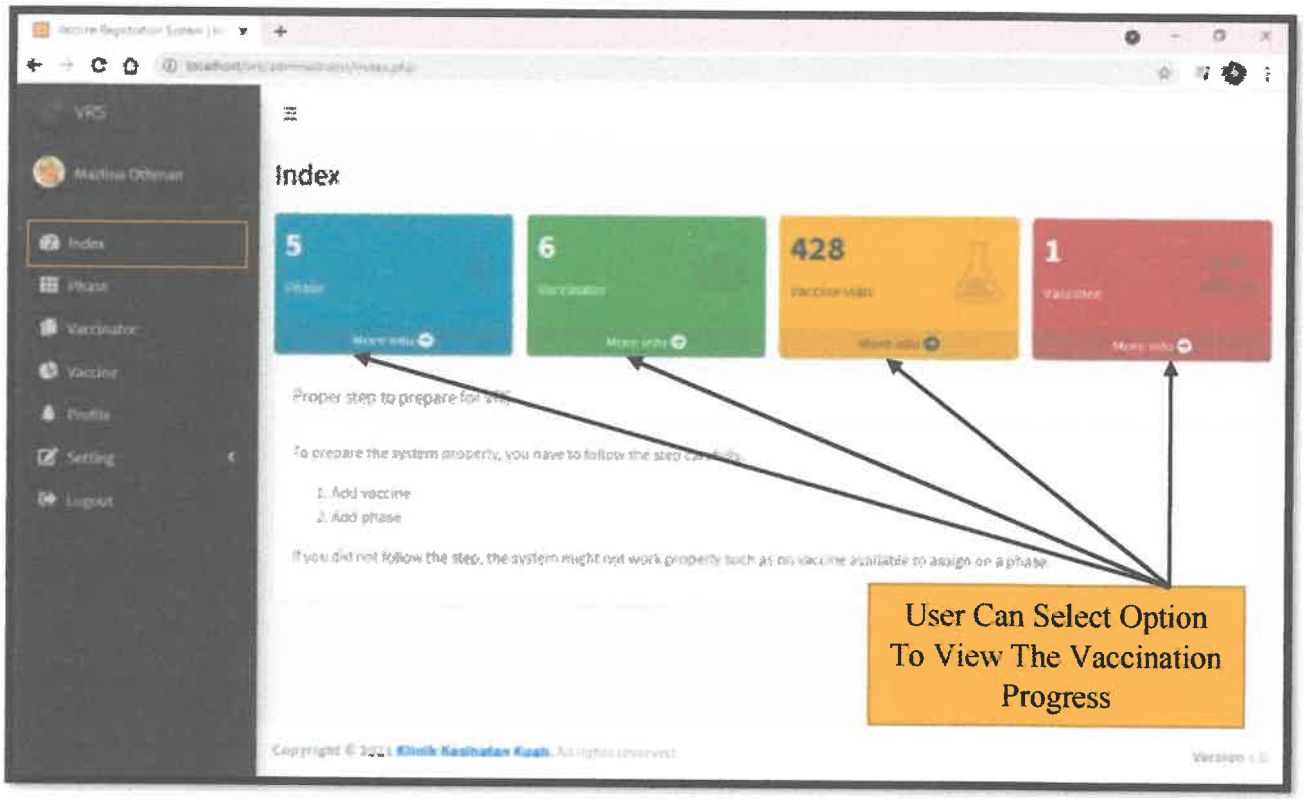
2. SYSTEM ADMINISTRATOR



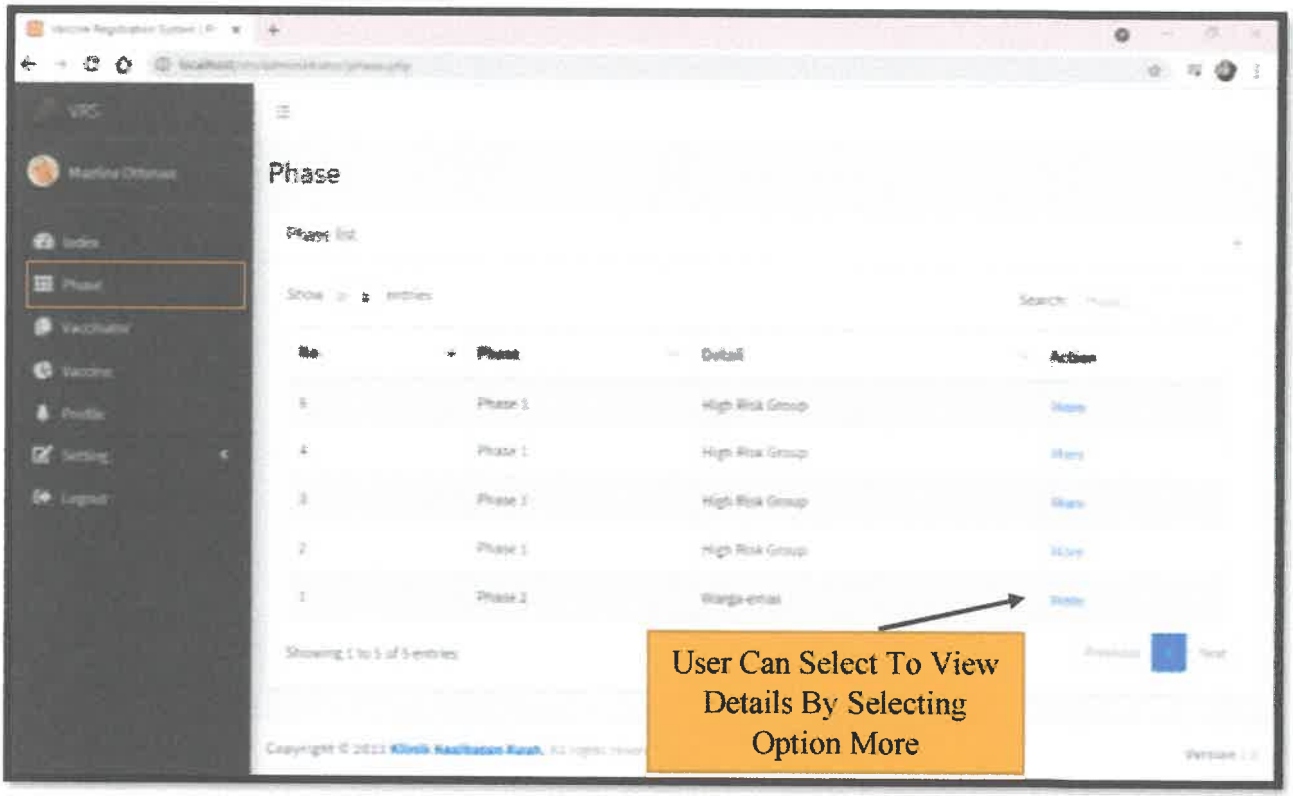
Login Interface Of Administrator



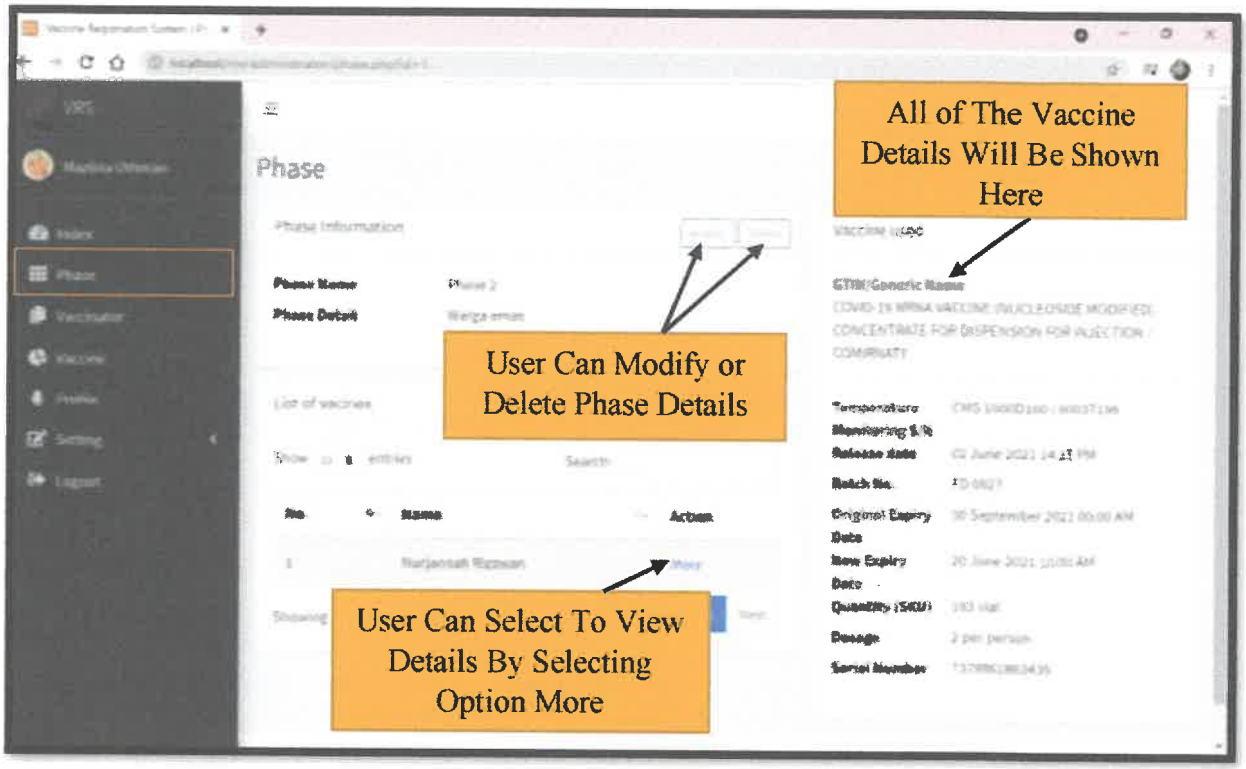
User management can modify their account information, include change password and picture



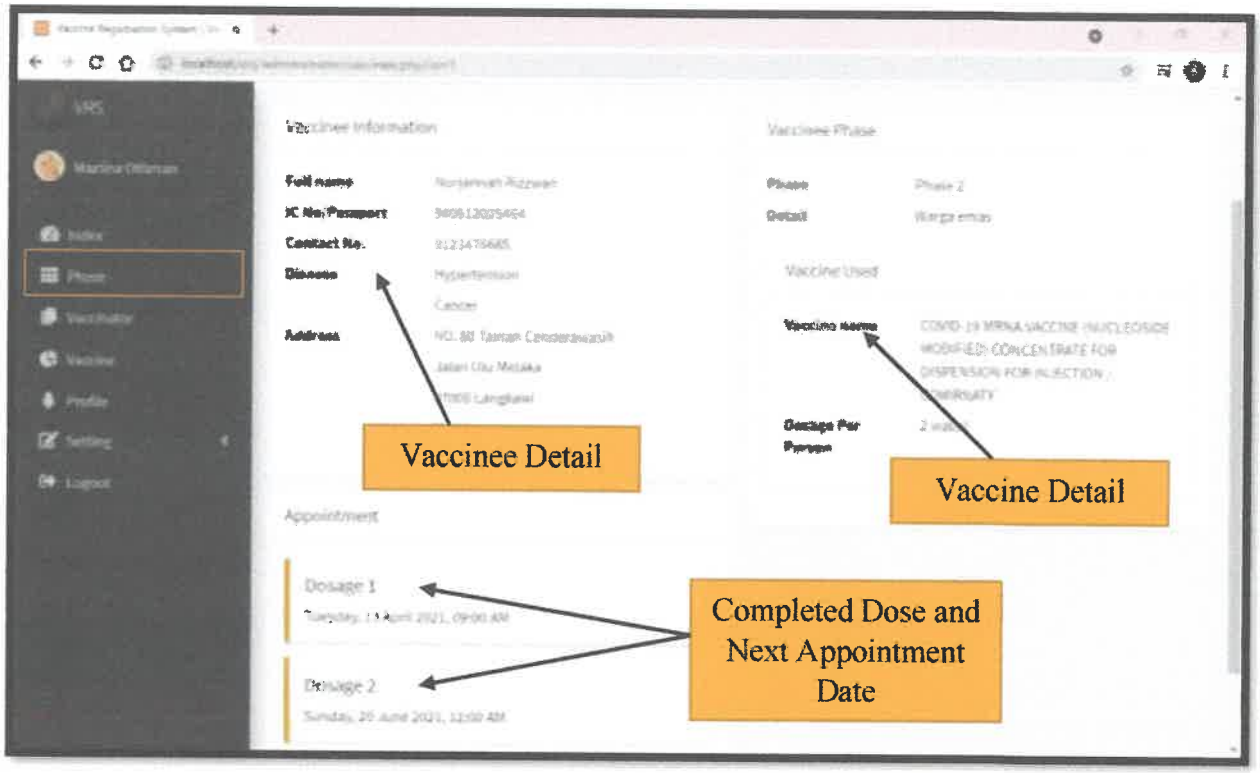
Dashboard Interface Of Administrator



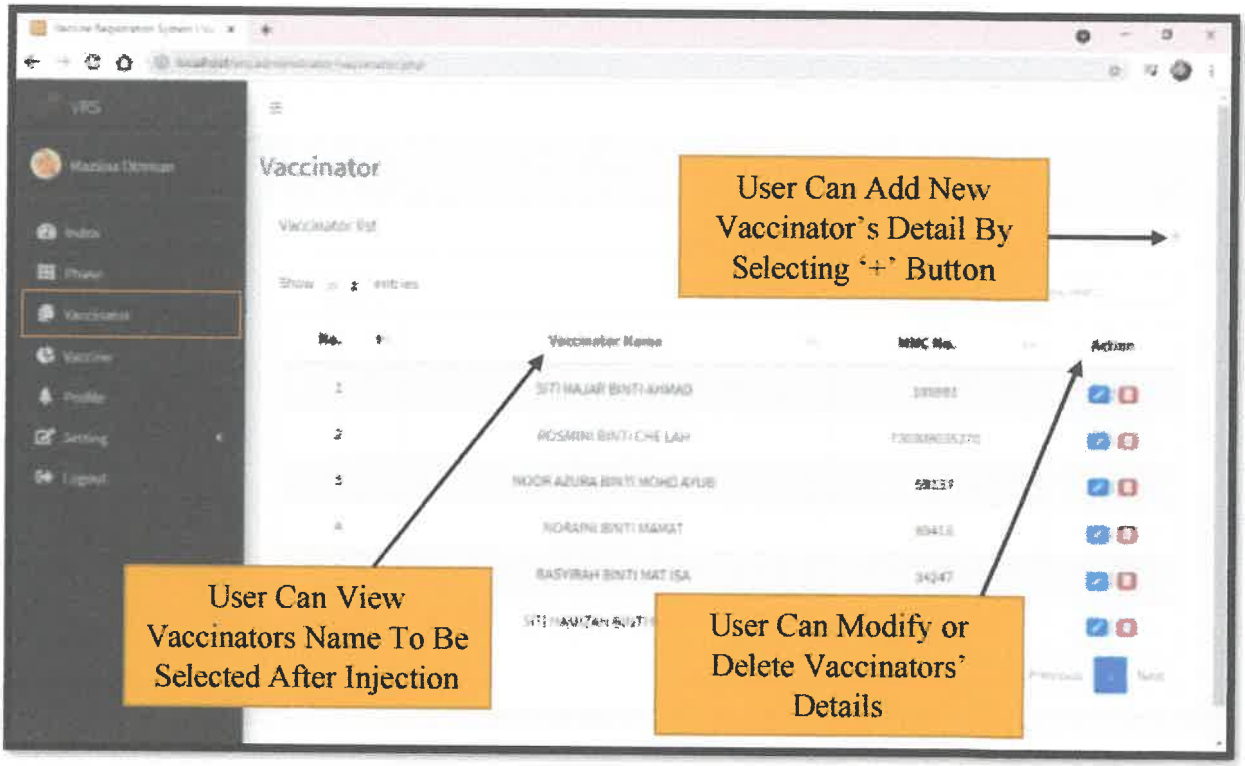
Administrator can add each phase for every vaccinee that will get both vaccines



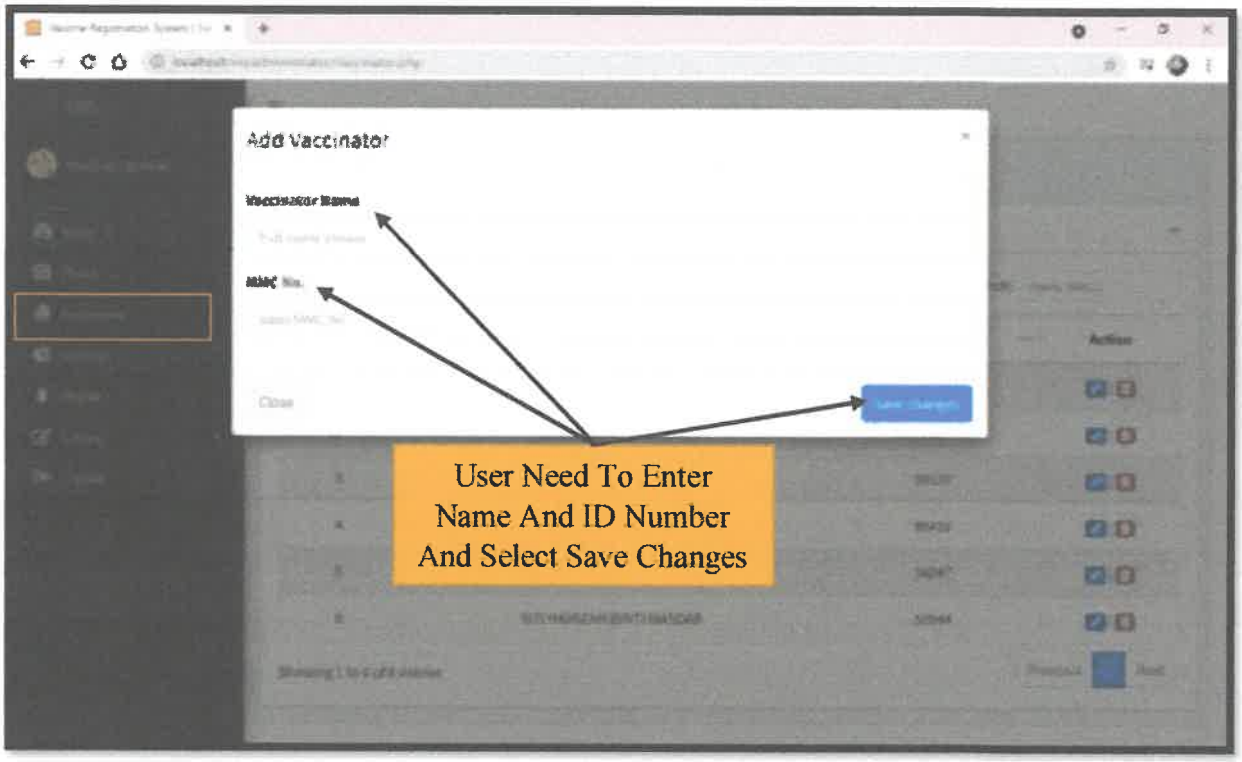
Administrator can select each option to view vaccine and vaccinees' records in every phase



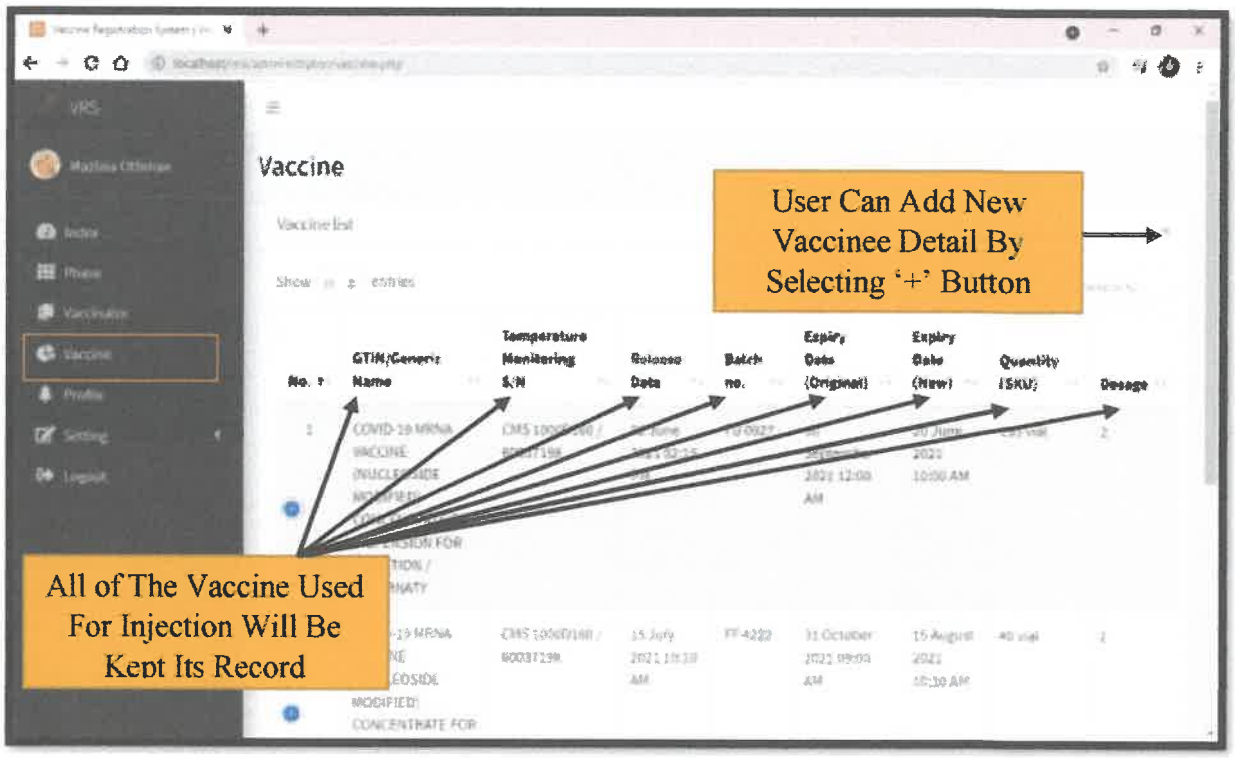
Administrator can view vaccinees information to alert on every detail of vaccines used and their next appointment date



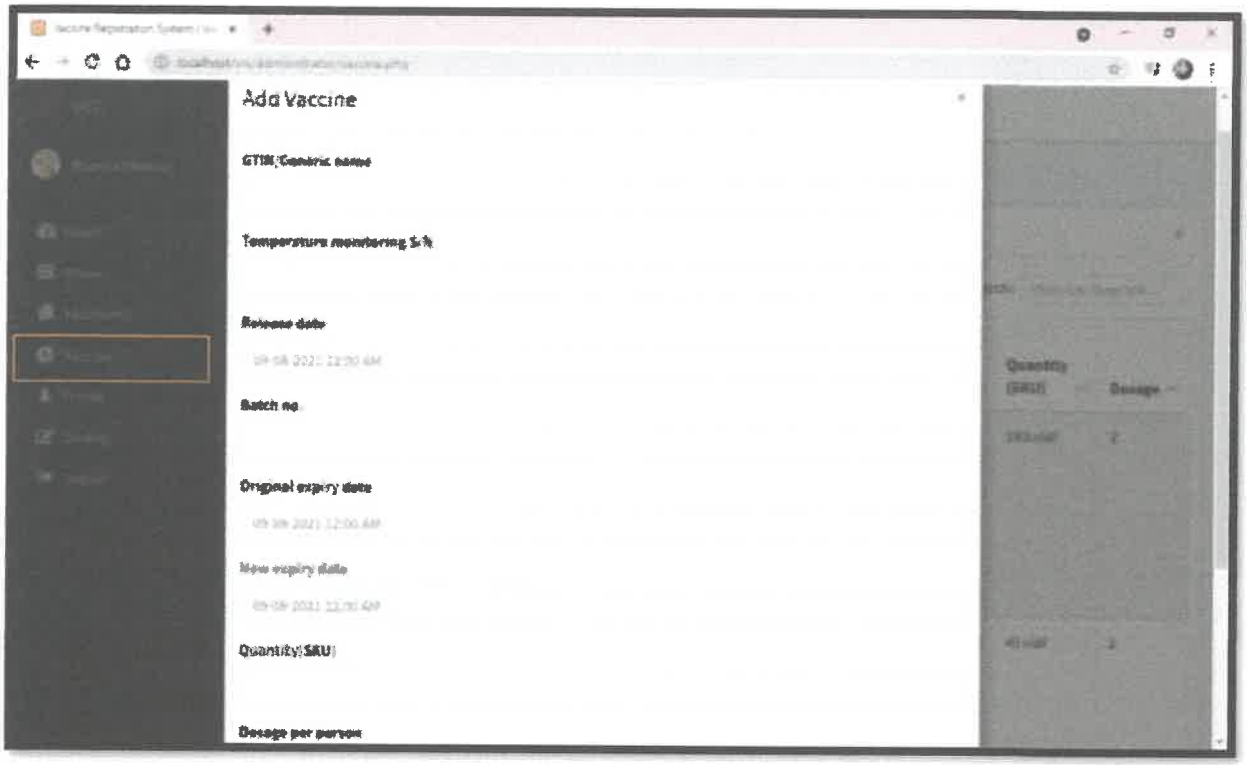
Administrator is able to register and monitor vaccinators lists through this feature

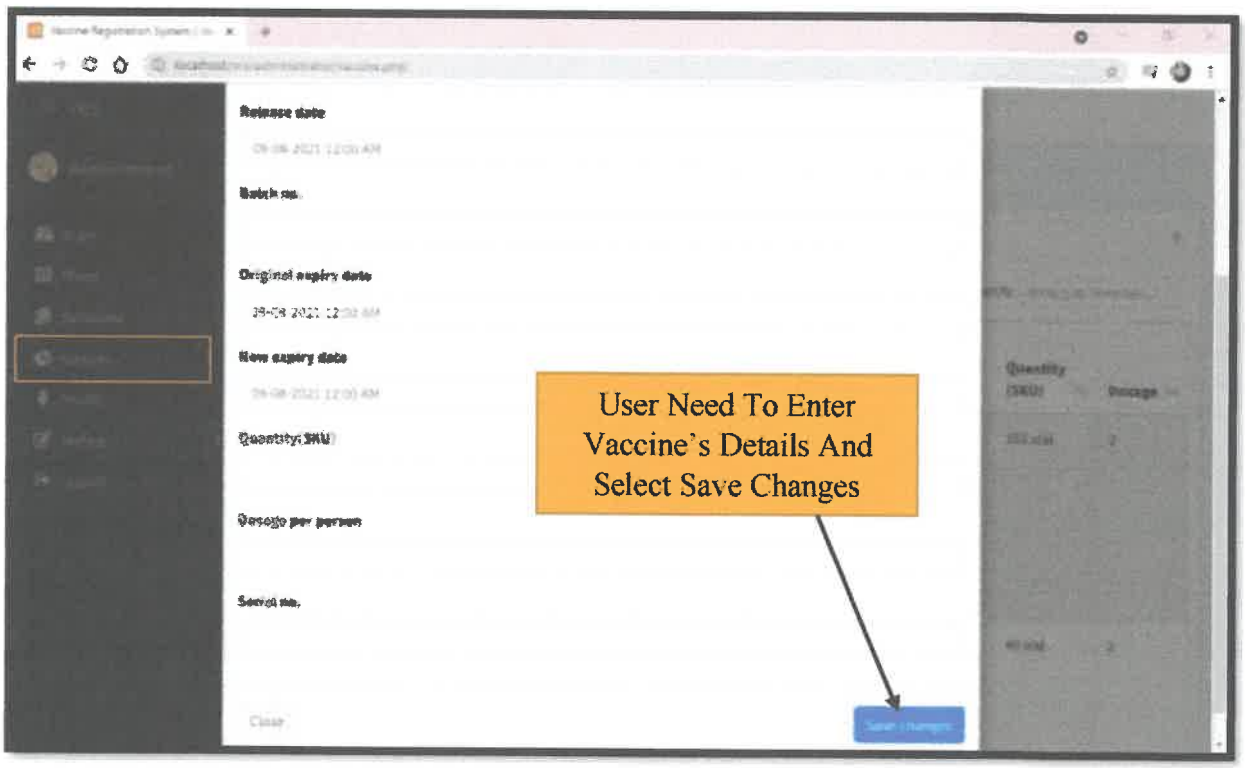


Administrator will need to fill in vaccinator's name and also their ID number



Administrator will be shown every vaccine used for injection and they can add new vaccine that will given by pharmacists





Administrator will need to fill in vaccine's details to keep its record