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SUPERVISED BY

MD. RAFIQUUL HUQ RAFI

Lecturer of department

Department of CIS

Daffodil International University

SUBMITTED BY

ABDULLAH AL MURSHED

ID: 181-16-281

Department of CIS

Daffodil International University

Submission Date: 03/07/2021

APPROVAL

This Project titled “**Vaccination Camp**”, Submitted by **ABDULLAH AL MURSHED**, ID No: **181-16-281** to the Department of Computing & Information Systems, Daffodil International University has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of B.Sc. in Computing & Information Systems and approved as to its style and contents. The presentation has been held on-21-06-2021.

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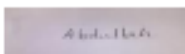
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Daffodil International University

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Faculty of Science & Information Technology
Daffodil International University

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Dr. Saifuddin Md. Tareeq
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Dhaka University, Dhaka

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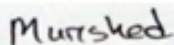
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I hereby declare, this project has been done by me under the supervisor of "MD. RAFIQUUL HUQ RAFI" Lecturer of CIS, daffodil International University. It also declared that neither this project nor any part of there has been submitted anywhere else for award of any degree, diploma or other qualification.



MD. RAFIQUUL HUQ RAFI

Lecturer of department of
Computing & Information System (CIS)
Faculty of Science & Information Technology
Daffodil International University.



Abdullah Al Murshed

ID: 181-16-281
Department of Computing & Information System (CIS)
Faculty of Science & Information Technology
Daffodil International university.

Executive Summary

Now-a-days vaccination is very important for child to prevent many diseases such as developmental disability, hearing loss, pertussis, and polio, mumps, rubella, Hepatitis B, tetanus, diphtheria, chickenpox and pneumococcal infection. So, vaccine is very important for a growth of child.

- Immunization can save child life
- Vaccination is very safe and effective
- Immunization protect others you care about
- Immunization can save your family, time and money
- An immunization protects future generations.

Immunization is a fact or process of becoming immune as against a disease.

In Bangladesh, Vaccine is important for children growth but parents are not aware about this situation and they neglect it because of two reasons:

- Lack of Knowledge
- Lack of Time

So we want to working on this project to solve this reasons by automated system, so that people can gather knowledge about this factor and also can make time from their busy schedule by the time period of vaccination for his/her children. The system can able to tell us every aspect of vaccination process, it can guide and it can able to create an appointment with doctors if needed. So this system is very important for our next healthy generation.

Acknowledgement

It was very challenging for me to finish my final project. First of all, I thank God Almighty for keeping me healthy and well. Secondly I remember a very important person, who helped me to complete this project. He is my respected teacher **MD. RAFIQUL HUQ RAFI**. It would be more difficult but thanks to Almighty by the support of my module teacher I am able to finish my work. 'Computing Project' module increases my knowledge about handling and marinating a project. Thanks, Daffodil to gives us this kind of module. I hope, this knowledge will be very helpful in my future computing life.

Abdulllah Al Murshed

ID: 181-16-281 Dep. Of CIS

Daffodil international University

Dedicated
To
My Beloved
Parents

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Chapter 1- introduction

- ❖ **Initial Description of project.**
- ❖ **Document Context of the project.**

1.1 Initial Description of project

Vaccines are very important in our country. Vaccine is a substance that helps protect against certain diseases. Vaccines contain a dead or weakened version of a microbe. It helps the immune system recognize and destroy the living microbe of a future infection. But most of the parents are not aware about this. So their children have fallen into many diseases. So this system is very helpful for their children because they are able to gather knowledge about vaccines by using this system. Most of the time parents forget to take vaccines and are not able to remain their children's vaccine date. This system helps to notify them and remind them about upcoming vaccine dates. Parents will be able to see how many vaccines their child has been vaccinated and will be able to see automatically when the upcoming vaccine date will be. There will be details about Covid-19 and users can register here and get the vaccine from a specific hospital.

1.2 Document Context of the Project:

➤ **Chapter 1: Introduction**

In this chapter describe all about the proposed system or project.

➤ **Chapter 2: Initial Study**

In initial study chapter, I have explained my project aims, background and objectives find problem area and give the possible solution.

➤ **Chapter 3: Literature Review**

In Literature Review chapter I will describe about problem domain and find out its solution and comparison about related project in the world.

➤ **Chapter 4: Methodology**

In this chapter I will describe about the chosen methodology and also describe with justification for doing this project.

➤ **Chapter 5: Planning**

In this chapter I will describe about risk and how I manage it and also I will describe tests plan, risk management etc.

➤ **Chapter 6: Feasibility Study**

In this chapter I will describe economical, operational, technical and social feasibility and explain it properly.

➤ **Chapter 7: Foundation**

In this chapter I will provide total project process with proper diagram and explain problems area.

➤ **Chapter 8: Exploration**

In this chapter I have describe about project boundaries and existing part of the project.

➤ **Chapter 9: Engineering**

In this chapter describe about project engineering and activates part.

➤ **Chapter 10: Deployment**

In this chapter describe about deployment technique, work and steps.

➤ **Chapter 11: Testing**

Testing of the projects features are provide with proof.

➤ **Chapter 12: Implementation**

Project implementation are given here.

➤ **Chapter 13: Evaluation**

Proposed system evaluated here and give the description.

➤ **Chapter 14: Conclusion:**

In this chapter I will write short summary about my project work, report and process.

Chapter 2: initial Study

- ❖ **Project Proposal**
- ❖ **Background of the project**
- ❖ **Problem Area**
- ❖ **Possible solution**

2. Project Proposal

2.1.1 Overview of the project

Most of our parents in Bangladesh are not aware of why their children should be vaccinated, what will happen in future if their children are not vaccinated. One of the main goals of this system is to help parents gain knowledge about vaccines and to make them aware of the pros and cons of vaccines. So the main purpose or goal of this system is to develop a system which can contain all information about vaccination which is registered for children, so that parents can easily check which vaccine is needed for children and give it to them by searching the nearby location of hospitals or childcare. Time is the most important factor for the parents, they do not get enough time or on the other hand we can say the exact time to vaccinate their child. They usually forget the date written on the card given by hospitals or child care. So the missing dose is a very risky step for the growth of children. So this system will guide this problem solution in a smart way in this change of era. Location is one of the problems that people can't find the exact place where they can go for the vaccination. So this system contains the solution of those problems by going through a statistics process. When parents register their children with their date of birth, the system automatically calculates and displays the details of the vaccine. How Many doses are needed and how many vaccines they need for their child. The system will automatically display a notification to remind parents two days ago of the vaccine date. If they missed any vaccine schedule, they can re-register for the missing vaccine schedule. If the child has any problem after giving the vaccine, the parents can contact the doctor and get treatment. There are two types of campaigns in this system. One for kids and the other for Covid-19. Where the opportunity to be vaccinated temporarily for a specific area people.

2.1.2 Goals and objective of project

Goal 1 – Time

Objective 1.1 – Time is the most important factor for the parents, they do not get enough time or on the other hand we can say the exact time to vaccinate their child.

They usually forget the date written on the card given by hospitals or child care. So the missing dose is a very risky step for the growth of children.

Objective 1.2 – Following the exact time will lead to a healthy body for the children, so for timing the system will give an option for checking this issue.

Goal 2 – Reminder

Objective 2.1 - In due vaccination date, most of the research finds out that parents usually forget the date and time. And there is no reminder for that date. It is a very risky problem for both parents and children.

Goal 3 – Location

Objective 3.1 – Sometimes parents are aware of the vaccine but they do not know the exact location where they can vaccinate their child. Also some parents want to go to a smart hospital but they do not know which hospital they can go through, so they suffer from decisions.

Goal 4 – Type of Vaccine

Objective 4.1 - There are a lot of vaccines for children and most of them were coming from foreign. So they do not evaluate the vaccine which is good and bad, so that they suffer from decisions and go to doctors for the correct decisions.

Goal 5 – Merits and Demerits of vaccine

Objective 5.1 - Some of the vaccines are mandatory for children and some of them are not, so parents do not know the criterion of those vaccines and some child care or hospital make up business in that issue.

Objective 5.2 – However the vaccine also has some side effects. So unrelated vaccines may cause lives.

Goal 6 – Consultation with doctors

Objective 6.1 - Parents do not find the right doctors for getting knowledge about what to do and what not to, so they suffer for finding doctors.

Goal 7 – Vaccination Schedule

Objective 7.1 - The schedule of new vaccines or upcoming vaccines is not up to date to parents. They have to go to childcare or hospital to gather that news of knowledge.

2.2 Background of the project

2.2.1. System function

With this application a user is able to know the vaccination timing of the children and also able to know about the vaccination details by clicking on the name of that vaccine. He is also able to check the diseases by not giving this vaccine to his children.

Describing the Functions:

Function Requirement: 1

In the below table, there are some vaccine names, which in Bangladesh is mandatory for children. Young children are at increased risk for infectious diseases because their immune systems have not yet built up the necessary defenses to fight serious infections and diseases. As a result, diseases like whooping cough or pneumococcal disease can be very serious — and even deadly — for infants and young children. Vaccinations start early in life to protect children before they are exposed to these diseases.

The Age of Vaccine	The Name Of Vaccine	Disease Name Procure By Vaccine
After Birth	B C G [বিসিজি]	Tuberculosis [শিশুদের যক্ষ্মা]
After 6 week	Pentavalent(DPT, Hepatatis-B, Hib) [প্যানটাবালেন্ট] OPV [ওপিভি] PCV [পিসিভি]	Diphtheria [ডিপথেরিয়া] Whooping Cough [হুপিং কাশি]
After 10 weeks	Pentavalent(DPT, Hepatatis-B, Hib) [প্যানটাবালেন্ট] OPV [ওপিভি] PCV [পিসিভি]	Titanus [ধনুষ্ঠকার] Hepatitis b
After 14 weeks of Birth	Pentavalent(DPT, Hepatatis-B, Hib) [প্যানটাবালেন্ট] OPV [ওপিভি] PCV [পিসিভি]	Poliomyelitis [পোলিওমাইলাইটিস] Pneumococcal [নিউমোকক্কাল]
After 18 Weeks of Birth	PCV [পিসিভি]	Pneumonia [নিউমনিয়া]
After 9 Month of Birth	MR Vaccine [Measles Rubella]	Measles Rubella [হাম ও রুবেলা]

Function Requirement: 2

When the user clicks on the vaccine name they will get the history about that vaccine such as – Manufacturer, advantage, Disadvantage, Uses of dosage etc.

Function Requirement: 3

Above All of them are mandatory vaccines for children but there are also a lot of vaccines which are not mandatory in our government hospital but for awareness a parent can also give their child some more vaccines which are also effective for the healthy growth of his child.

Function Requirement: 4

A user is able to see the locations of nearby hospitals when he registered with this application and choose the age of his child. Application will auto provide the vaccine name and date for his child and also show the nearby hospitals with the doctor's name who is responsible for the vaccine. So a user can easily get the notification of his child's upcoming vaccine date and he can get it in time.

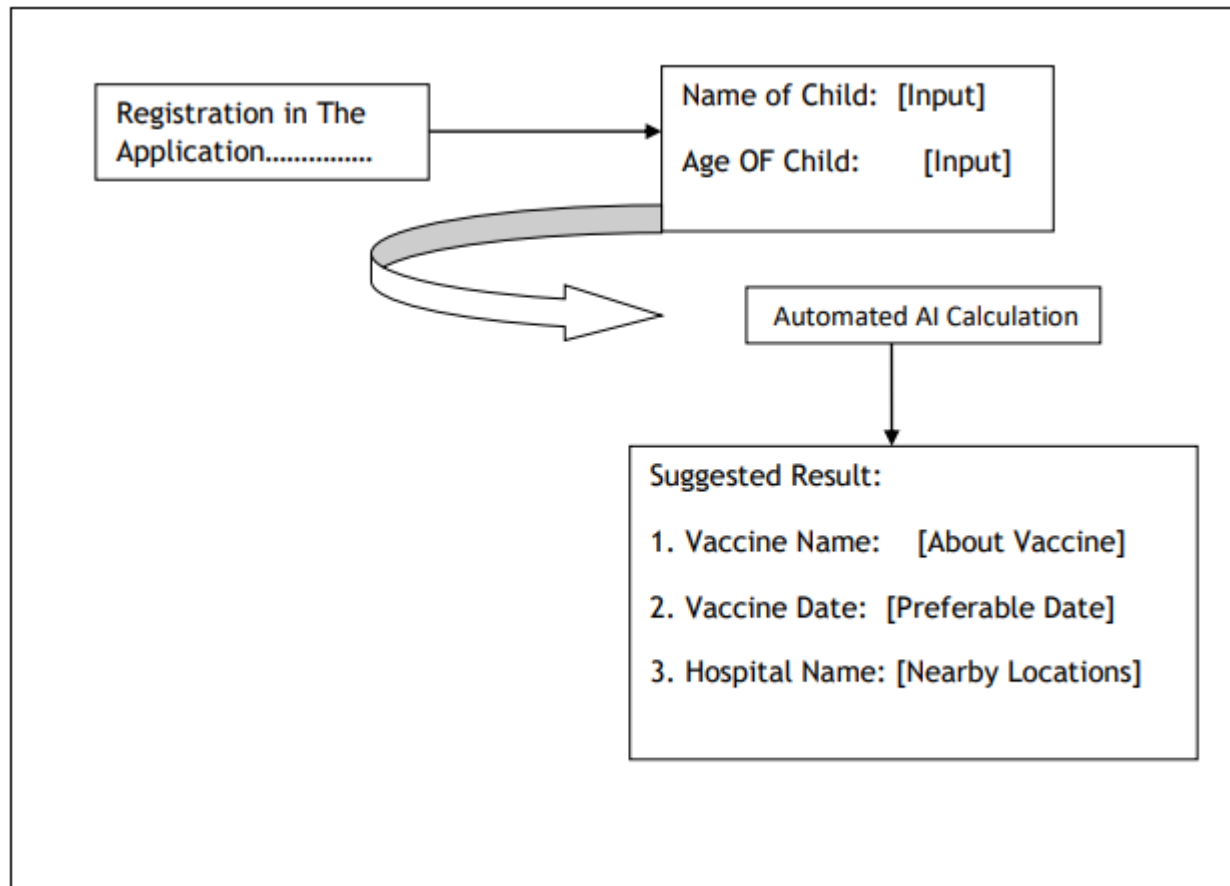


Figure 01: Child vaccine registration.

Function Requirement: 5

The system will provide an automated system where the user input is essential for the purpose. When a user inputs the birth date of his children, then the system will auto provide a file of his child so that he may be able to understand the dosage of vaccine

and the provided time for the vaccine. Below we are provided the working procedure for the automated AI.

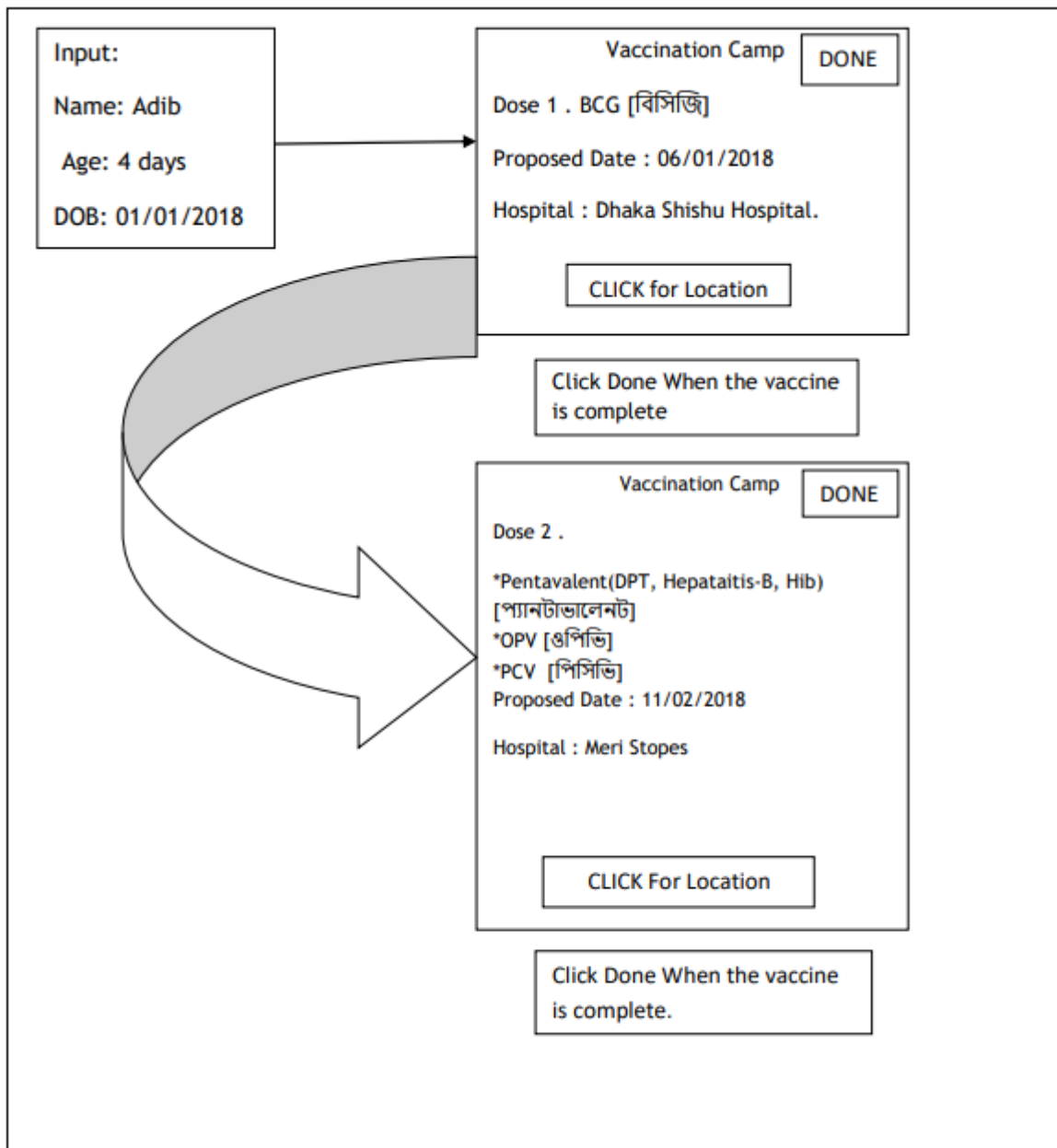


Figure 02: Registration process of vaccine.

If somehow misses the dosage of the vaccine in time, then the application will provide another timing for the vaccine. But if the user turns on the alert system then it will give spontaneous notification because late vaccines for children will be harmful and dangerous for the growth of the child. Suppose

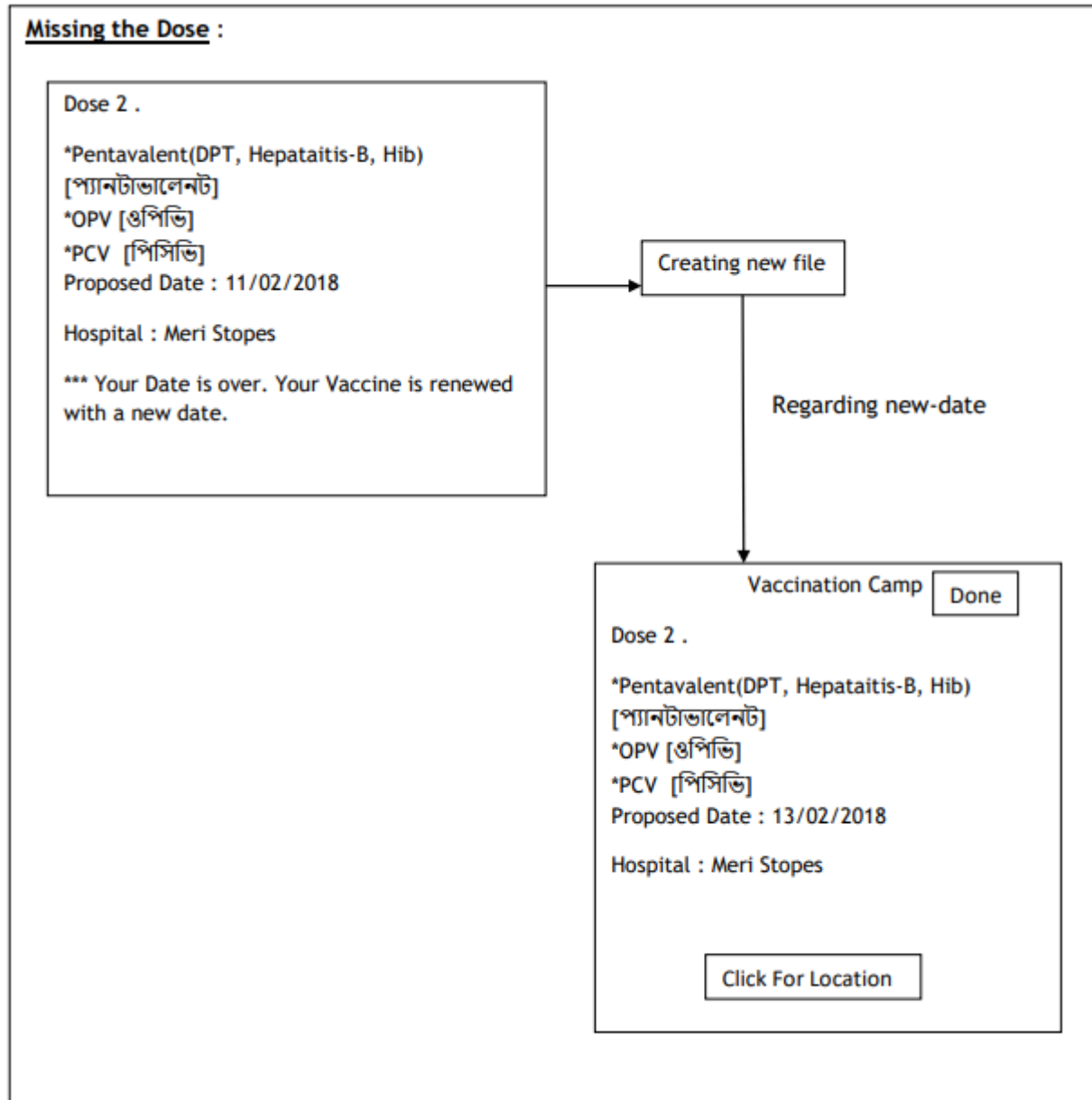


Figure 03: Missing vaccine registration process.

A user is also able to input the date when he is free but a date for the vaccine will not be allowed in the system.

So users must be aware of the situation.

2.2.2 Product perspective

This application system will consist of two parts:

- 1) Mobile Application &
- 2) A Web Portal

The mobile application will be used as per the user's demand. First they have to login into the device, input the age of the child. Then the software can easily save it into the database, after that the automated system will start notifying the initiation of the software and according to the age the system will start to counting what to do next, means what vaccine is need to that children, is it necessary or compulsory, where the location is, finding the easiest location through GPS, and also there is a consultation for children with a doctor and the app recommended it. The developers are now working on the video chat with doctors, soon the team will be capable of doing this thing. And in the web there will also be the same functionality as the embedded system has. But on the web there was some additional functionality that can make the system fast like a one-page application (OPA) so the system will load quickly. The new update of the software will be shown on the web page. The easiest route will be shown quickly in the web page but it will be more user friendly when it is used on the embedded device. The alarm of the system when forgetting the date will be rung on the embedded system but when someone login into the portal they will get that as notification. There are a lot of vaccines with different company's users can see their advantage/dis-advantage by user login into the web portal, it can be easier than the embedded system.

2.3 Problem Area

In our country, vaccination systems are processed manually. Most of the time parents forget their children's vaccination schedule or they have lost the schedule card. The vaccination processing system is very weak, so they do not know when and where to vaccinate their children. So exit location is very important here. However, the location of the GPS is very difficult for us to use. Our government handles the vaccination program. There is no opportunity for users to check the vaccines of different companies. There

may be side effects in the child's body after vaccination. Then it becomes very difficult to contact the doctor on an emergency basis because the doctor schedule is not available. After missing the vaccine schedule, it is a problem to get a new vaccine. Random vaccines can be harmful to the baby's body. Vaccination in rural areas is a very complex procedure. Encouraging people here to get vaccinated is very complex.

2.4 Possible solution

- When parents open an account of the name and identity of his child then he can get all the information about child care, such as- vaccines. They can gather knowledge easily by reading this application.
- Time is more important in vaccination but parents usually forget those dates written on the given card, so the system can give signals and messages from a few days before so that parents can get time for that day and vaccinate their children in time.
- So reminder is a function of the system, where parents can get signals and messages of his upcoming vaccination date, new vaccines and also the merits and demerits of those vaccines.
- Parents sometimes cannot find the exact location of where they can vaccinate their child but this system will show the nearest hospital or child care where they are able to vaccinate their children.
- Sometimes parents want to consult with doctors where they can get some solutions about any problem they are facing, so the system helps find those doctors and the location where they can visit them and consult with their problem.

Chapter 3- Literature Review

- ❖ **Problem Domain.**
- ❖ **Problem Solution**
- ❖ **Comparison Existing System**

Chapter 3 – Literature Review

3.1 problem domain

In our country, most people do not know where to vaccinate their children. Thus, they face many problems due to lack of dose because they do not know where the vaccine is given. Our system is completely digital. But the most challenging thing for us is to add an automatic location system.

Not all hospitals have vaccination programs every day and there is no separate booth so it is important to mention the date with the specific location. Some urban people want the vaccine to be delivered to their homes. But our country does not have this facility. It is challenging for us to go home and start vaccination activities. When someone starts using our application with their children's birth date. They will then see a notification two days before the vaccine date. But they are more likely to miss the vaccine Schedule for not caring about the reminder.

3.2 problem solutions

It will be beneficial for new parents. Some of them don't know how they give vaccines to their children and where the exact place for the vaccine is. Vaccination camp has the solution to every problem regarding that. They can easily operate the system as they need. The system can be easily operated. By turning on the location, the system shows the nearby location of hospitals. One can easily consult with the doctor before the vaccine or after the vaccine or any kind of problematic situation. The automated AI system can calculate date and can create an alarm as a reminder. So reminder is a function of the system, where parents can get signals and messages of his upcoming vaccination date, new vaccines and also the merits and demerits of those vaccines.

If parents missed any vaccine for their children, they are able to re-register for the vaccine. Many problems can occur in children after vaccination, but in our country there is no option to contact a doctor directly. So if a doctor's booth can be set up for 24

hours, parents can get advice very quickly. Many parents do not know where and when the vaccine is given. Thinking about them, a team went home and introduced this system so that the vaccine could be given. Many parents in the city are very busy, often missing the vaccine date for their busy schedule. Thinking about them, they went home and came up with a vaccination system. On the other hand, the system of vaccination at home for Covid-19 patients is very useful. Because many patients cannot walk due to age, so it will be very beneficial for them.

3.3 Comparative discussion on existing systems.

Nowadays, technology is improving day by day. Almost all companies or organizations want all their data to be online so that the user can easily gather information. We can see similar products in the market. But the key is what the core is the difference between my system and the existing system and why people use the system. Because people want new and exceptional ideas. And each project has a unique idea that helps to compete between existing projects. Now, I am going to describe an existing system which is related to my project, the "Vaccination camp".

1. Evercarebd (<https://www.evercarebd.com>)

Evercarebd is an online hospital management system which show the vaccination guideline and specific price and details of vaccines.

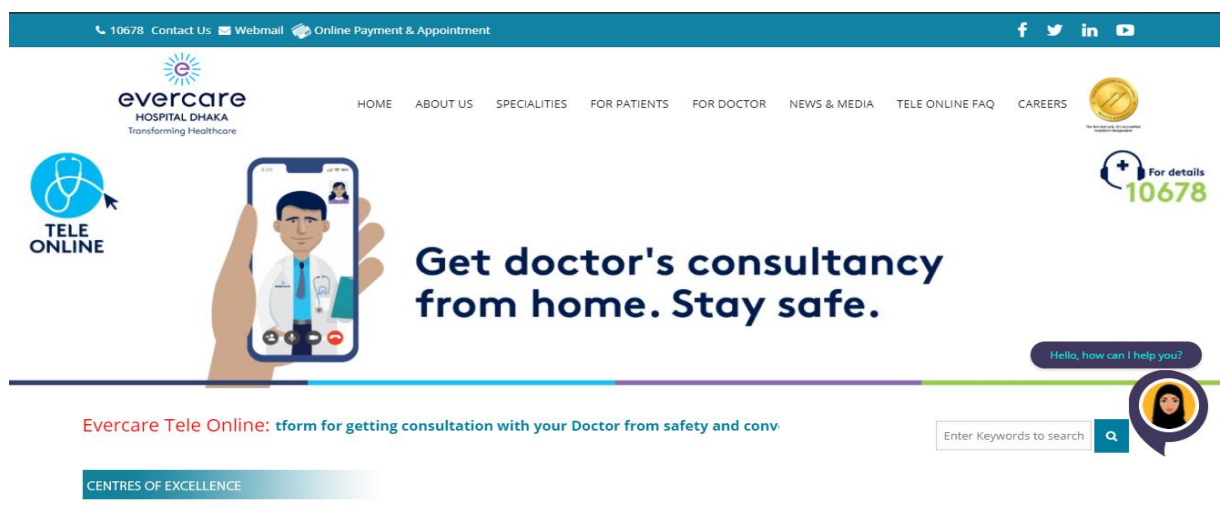


Figure 04: Evercarebd home page.

Best features of Evercarebd:

- Guideline for vaccination.
- Proper vaccine information.
- List of all vaccines with prices.

Limitations of Evercarebd:

- No digital system.
- Maintain vaccination system with old way,
- No reminder system.
- Vaccination system is not automated.

2. bihsh.org.bd (<http://www.bihsh.org.bd>)

bihsh.org.bd is another system in our country which helps to consultant with doctors and manage home service system.



The screenshot displays the website of the Bangladesh Institute of Health Sciences General Hospital (BIHS). The header includes the BIHS logo and navigation links: Home, About Us, Services & Facilities, Our Department, News & Events, Webmail, FAQ, Career, and Contact Us. The main content area features a 'Useful Links' section with links to 'Our Packages', 'Our Clients', 'Registration Information', and 'Career'. Below this is a 'Latest News' section with a notice about COVID-19 services. The central focus is the 'Vaccination Program of BIHS Hospital' section, which includes a paragraph explaining the importance of vaccines and a table listing the vaccination schedule.

Age	Vaccine
Birth	BCG, Oral Polio (first dose)
6 weeks	Penta (first dose), Oral Polio (second dose),
10 weeks	Penta (second dose), Oral Polio (third dose)
14 weeks	Penta (third dose), Oral Polio (fourth dose),
9 months	MR (Rubella)
1 year	Varilix
15-18 months	Measles, Oral Polio (fifth dose)
2 years	Typhoid

Figure 05: bihsh.org.bd management page.

Best features of bihsh.org.bd:

- Authentic login system.
- Instant contact with a consultant.
- Provide home service systems.
- Online payment systems.

Limitations of bihsh.org.bd:

- Lacking a scheduling system.
- There are no campaign systems.
- No reminding system.

3. surokkha.gov.bd (<https://surokkha.gov.bd/>)

surokkha.gov.bd is the government online COVID-19 registration system. Where they use authentic registration system, SMS notification, provide exact location and also provide certificate of vaccination.

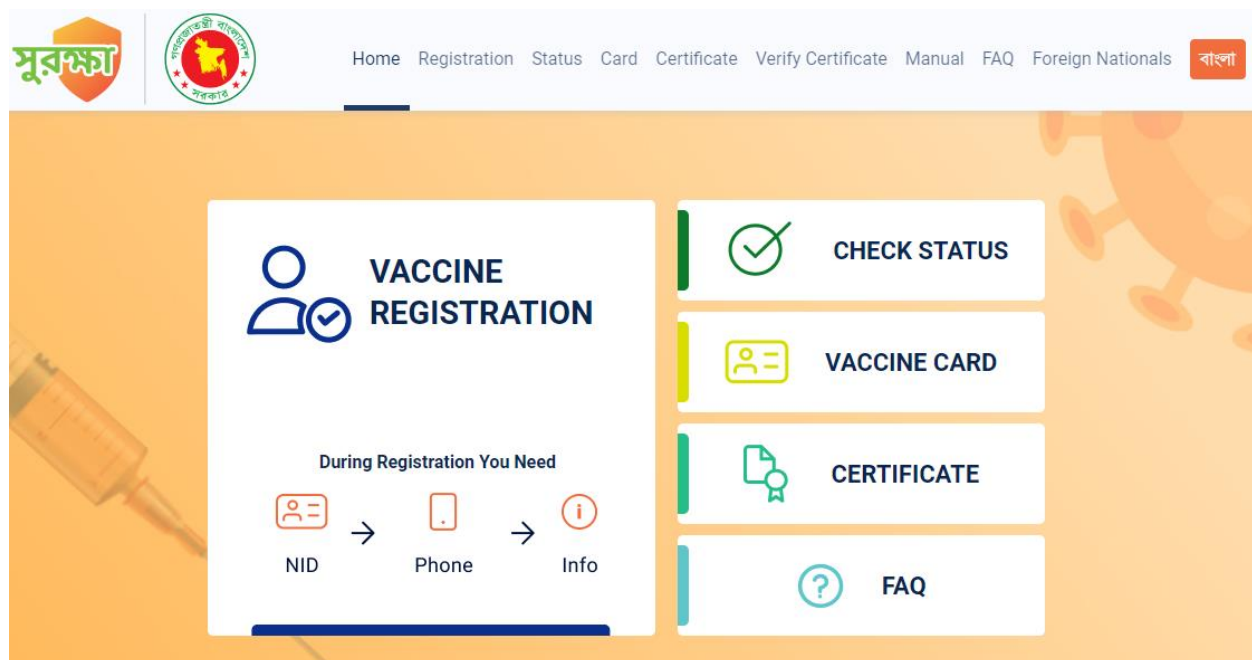


Figure 06: COVID-19 Registration process.

Best features of surokkha.gov.bd:

- Authentic register system.
- Provide mobile SMS reminder.
- Suggest exact location.
- Provide a certificate.

Limitations of surokkha.gov.bd:

- No campaign system.
- Not using an online payment system.
- No suggestion of a nearby location.

Chapter 4- Methodology

- ❖ **What to use Why to use**
- ❖ **Section of Methodology**

Chapter 4 – Methodology

Essentially, a methodology is a collection of methods, practices, processes, techniques, procedures, and rules. In project management, methodologies are specific, strict, and usually contain a series of steps and activities for each phase of the project's life cycle. (paymoapp.com, 2021)

4.1 What to use Why to use

I have chosen the Dynamic System Management Method (DSDM) to improve this system. The first is according to the clear software method, I chose it because DSDM helps to know possible budget solutions, time constraints and repetitive development processes.

Main ideology of DSDM Atern:

- ❖ The results of the development are visible directly and instantly.
- ❖ Since users are actively involved in the development of the system, they are more likely to embrace it and continue with it.
- ❖ The bureaucracy broke down the barriers of communication between the interested parties.
- ❖ System is delivered on time and on budget.
- ❖ Ability of the users to affect the project's direction.

(www.linkedin.com, 2021)

Technique of DSDM

1. MoSCoW prioritization:

Must have	These provide a minimum usable subset (MUS) that guarantees project delivery.
Should have	A should have may be distinguished by reviewing the amount of pain caused by not meeting it in terms of the value of the business or the number of people affected.
Could have	Describe a requirement which is considered desirable but it is not necessary.
Won't have	One advantage of the MoSCoW approach is that it puts several initiatives in the "won't-not-have" category. This helps manage expectations about what will not be included in any specific disclosure.

2. Time Boxing:

A time box is a period of time in which to accomplish some task.

- Product delivery is required at the end of work.
- Contain several tasks.
- Tasks may vary as determined, not to be distributed.
- The rest of the time can change tasks during repetitions that respond quickly to business demand.

3. Iterative Development:

Iterative development is a way of breaking down the software development of a large application into smaller chunks. (searchsoftwarequality.techtarget, 2021)

- ❖ Specific implementation of software development life cycle.
- ❖ Focused on simplified broader features.
- ❖ Breaking down large software applications into smaller ones.

4.2 Sections of methodology

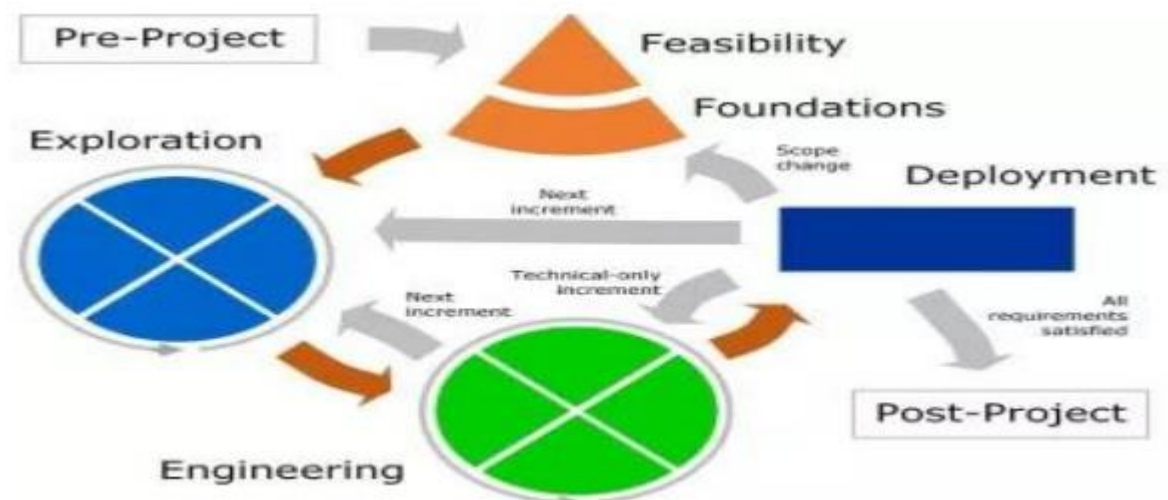


Figure 07: Section of methodology.

Here I have described section about the DSDM methodology. It is under 5 section within phase.

- **Pre-project:**

In this part initiation of the project, approving the terms of mention for the work.

- **Feasibility:**

Typically, it is a short chapter to measure the possibility and the outline business case.

- **Foundations:**

In this phase assuring about the development is understood and well-defined, well enough so that the possibility can be base lined at the high level and the equipment components and ideals agreed, before the improvement activity begins.

- **Exploration:**

Iterative development time during teams increase on the high level requirement to demonstrate the functionality.

- **Engineering:**

In this part where the result is engineered to be deployable for publication.

- **Deployment:**

In this part ensure that the project solutions are made is existing.

- **Post project:**

In this phase judges the added benefits.

Chapter 5- Planning

❖ **Project Plan.**

❖ **Test Plan.**

5.1 Project Plan

A project plan is a formal document designed to guide the control and execution of a project. A project plan is the key to a successful project and is the most important document that needs to be created when starting any business project. (techopedia, 2021)

5.1.1 Work Breakdown Structure (WBS)

Here I have created a chart of the work breakdown structure, which will help a developer team to easily get an idea of how the project was done and how it was completed. This chart will help to implement this project very easily.

Tasks	Duration	Starting	Ending
01. Initial work of project	4 days	Sat 01/02/2021	Tue 04/02/2021
❖ Research about products.			
❖ Compression with similar types of products.			
❖ Note down the new features and limitations.			
02. Project proposal creation	6 days	We 05/02/2021	We 12/02/2021
❖ Create new project proposal document and Get feedback from the supervisor.			
❖ Identify the core feature.			
03. Analysis of the project system	6 days	Th 13/02/2021	We 20/02/2021
❖ Researching the market of the system.			
❖ To create a plan how to complete the project.			

Tasks	Duration	Starting	Ending
04. Making Design	10 days	Th 21/02/2021	We 04/03/2021
❖ Drawing diagrams of the system.			
❖ Create a Database.			
❖ User interface design for the system.			
05. Deployment of the project	15 days	Th 05/03/2021	We 25/03/2021
❖ Implement code of the project.			
❖ Build the proposed feature.			
06. Testing of the system	10 days	Th 26/03/2021	Th 08/04/2021
❖ Involve the user of the system.			
❖ Checking session for the testing features.			
07. Documentation of the project	6 days	Su 09/04/2021	Th 16/04/2021
❖ Documentation is need to make in time further developed the project.			
08. Summation of final project			
❖ Binding book, approve it from professionals.	5 days	Su 19/04/2021	Th 23/04/2021
Total time (Days)	63 Days		

5.1.2 Time Boxing

The time box divides large tasks into smaller parts, making it easier for developer's work. The time period that the developers set, they try to finish their work within that time. Here I given this chart below.

Time Boxes	Task Name	Resource Name
T - 01	introductions	Analyst
	Initial study	Analyst
	Literature Review	Analyst
	Methodology	Analyst
T - 02	Planning	Analyst, user
	Feasibility	Analyst, Developer
	Foundation	Analyst, Developer
	Exploration	Analyst, Developer
T - 03	Engineering	Analyst, Developer
	Deployment	Developer team, Tester Team
	Testing	Tester
	Implementation	Analyst, Developer
T - 04	Evaluation	Analyst, Developer
	Critical Appraisal	Analyst, Developer
	Lesson Learned	Analyst
	Conclusion	Analyst, Developer, Tester

5.1.3 Gantt Chart

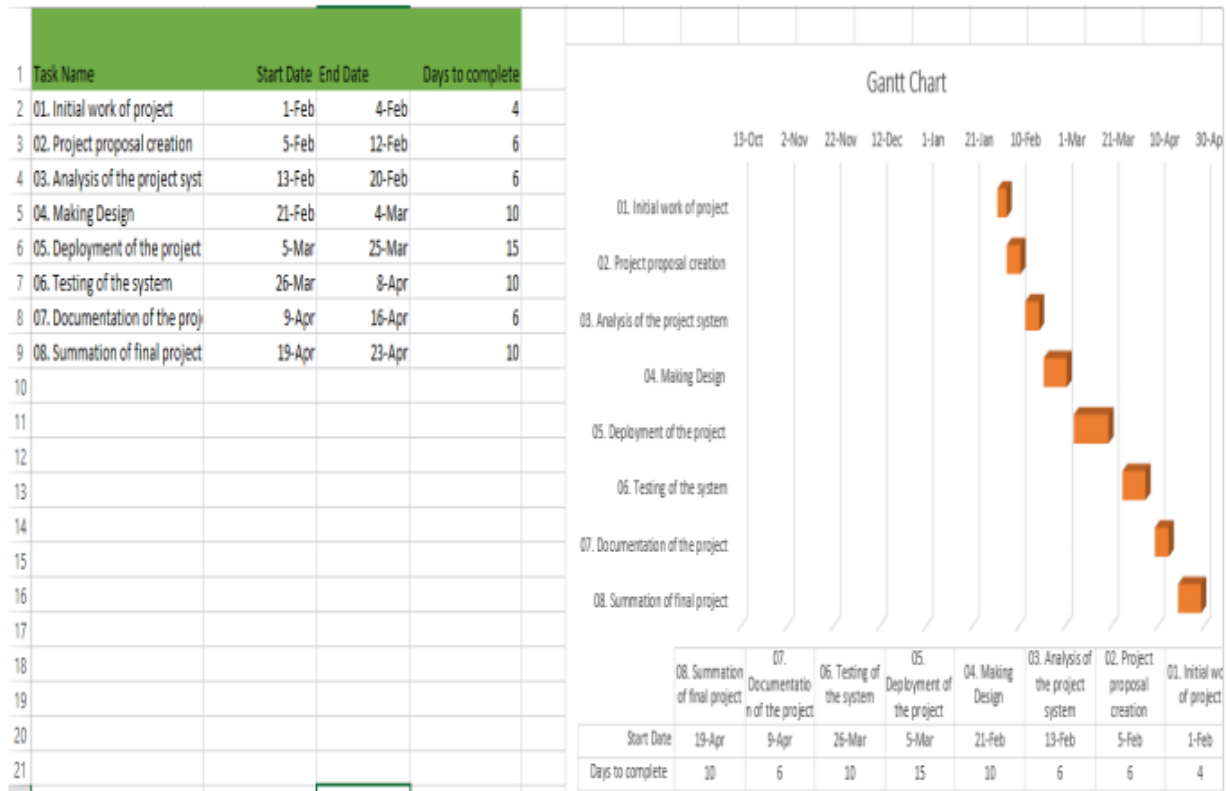


Figure 08: Gantt chart

5.2 Test Plan

In this section I will check the Requirement Function and Features of this project. In addition to checking all the functionality here, if there is any problem in the system, it will also be checked.

5.2.1 Required tests

There are many types of testing methods but here are some popular functional requirements I have chosen.

- **Unit testing**
- **Module testing**
- **Integration Testing**

- **Acceptance testing**
- **Performance testing**
- **Security testing**

Unit testing:

Unit testing, a testing method using which individual modules are tested to control if there are any issues by the developer of himself. It is concerned with efficient correctness of the standalone modules. The main aim is to separate each unit of the system to identify, analyze and fix the defects. (tutorialspoint, 2021)

Module testing:

Module testing is primarily focused on testing software modules or sub-program instead of testing the entire software application at once. Module testing in software engineering is very beneficial and always recommended as it is very easy to identify, understand and fix the defects at the module level instead of fixing them at the Application level. Till now the first paragraph we learned module testing definition. (softwaretestingclass, 2021)

Integration Testing:

Integration testing is a level of software testing where individual units / components are combined and tested as a group. The purpose of this level of testing is to expose faults in the interaction between integrated units. Test drivers and test stubs are used to assist in Integration Testing.

Acceptance testing:

Acceptance testing, a testing technique performed to determine whether or not the software system has met the requirement specifications. The main purpose of this test

is to evaluate the system's compliance with the business requirements and verify if it has met the required criteria for delivery to end users. (tutorialspoint, 2021)

Performance testing:

Performance testing, a non-functional testing technique performed to determine the system parameters in terms of responsiveness and stability under various workloads. Performance testing measures the quality attributes of the system, such as scalability, reliability and resource usage. (www.tutorialspoint.com, 2021)

Security testing:

Security testing is a type of Software Testing that uncovers vulnerabilities, threats, risks in a software application and prevents malicious attacks from intruders. The purpose of Security Tests is to identify all possible loopholes and weaknesses of the software system which might result in a loss of information, revenue, and reputation at the hands of the employees or outsiders of the Organization. (www.guru99.com, 2021)

Chapter 6: Feasibility

- ❖ **All type of Feasibility.**
- ❖ **Cost Benefit Analysis**
- ❖ **DSDM**

6.1 Economic feasibility:

Economic feasibility is a kind of cost benefit analysis of a project, which helps to support a system to be a complete system. That means the analysis and assessment of a project's potential support to the decision making process rationally and objectives of weakness, strength, opportunity and risks associated with it.

Benefits:

- This decision making process system helps to reduce risk before completing the project, if there are faults, this could help to make a final decision.
- This saves time and paper cost, because here the whole system data will be stored in the database.
- Have an idea about the cost of the whole system.
- Helping decision-makers limit the positive economic paybacks to the organization.
- Helps to stay financially risk free, if you have done cost analysis in a proper way.

Cost:

- Development and purchase costs.
 - Hardware (already got enough hardware facilities).
 - Software:
 - Operating system. (Installed, no need to change).
 - Software is needed to build the system.
- Hosting costs.
- Software upgrade and data storage cost.

S.N	Component	Price (BDT)
01.	Required Hardware	40,000/=
02.	Required Software	30,000/=
03.	Web-site Hosting	2,000/=
04.	Other Components cost	20,000/=
Total		92,000/=

Hardware Price: Required hardware's prices are given below:

S.N	Component	Price (BDT)
01.	Desktop/pc	40,000/=
02.	Wi-Fi Router	2,000/=
03.	Electrical components	2,000/=
Total		44,000/=

Software Price: Whatever is needed for this system that's required software list and prices are given below.

S.N	Component	Price (BDT)
01.	Xampp (Free)	0/=
02.	MS Office	5,000/=
03.	Browser (Free)	0/=
04.	Adobe Create Cloud	5,000/=
05.	License Windows OS	10,000/=
06.	PHPStorm	5,000/=
Total		25,000/=

Hosting Price:

S.N	Hosting Name	Price(BDT)
01.	https://www.VaccinationCamp.com	5,000/=
	Total Price	5,000/=

Others Component Prices:

S.N	Name	Price (BDT)
01.	Internet Connection Bill (1 year)	6,000/=
02.	Electricity Bill (1 year)	9,000/=
03.	Maintenances	5,000/=
04.	Employee Training	6,000
	Total	26,000/=

6.2 Operational feasibility

Operational feasibility is the measure of how well a proposed system solves the problems, and takes benefit of the opportunities identified during scope definition and how it satisfies the requirements identified in the requirements analysis phase of system development.

- Make sure the system is user friendly and easy to use.
- Ensure that user requirements are working in the system.
- Check if the requirements are working properly in the system.
- Providing a feedback system for any wrong input that is given by the user.
- The functionalities of the system must be calculative.
- User feedback for vaccination camp.
- User working process.

6.3 Cost Benefit Analysis

Here I will show how much cost has been spent in total to build this system and how much cost can be a benefit. Then we will understand what we will benefit from in this system. I show the total cost and benefits of this system below.

Cost Estimation:

Need for	Cost (taka)
Hardware	40,000/=
Software	60,000/=
Hosting	3,000/=
Others	10.000/=
Maintenance	5,000/=
Implementation	15,000/=
Total	1,33,000/=

Benefit Estimation:

Need for	Benefit (taka)
Business Improvement	80,000/=
Improvement of Product	30,000/=
Save for Changes	50,000/=
Total	1,60,000/=

6.4 DSDM – good or not for this project

One of the great things of DSDM is that it does not compromise on quality on any system. It is very difficult for me to complete all the requirements wherever this force is to complete all the requirements. So, DSDM is very important to complete my project.

- ❖ **Over all Requirement List.**
- ❖ **What Technology Implemented**
- ❖ **Recommendation & Justification**

7.1 Overall Requirement List

Functional requirements:

Statements of services the system should provide how the system should react to particular inputs and how the system should behave in particular situations.

➤ For User:

- Users are able to register the system.
- Login to the system.
- Able to update profile.
- Change password.
- Able to Child registration.
- Can register for multiple children.
- Select vaccine for child.
- Able to see the full vaccine list.
- Can delete Child profile.
- Re-register for missing doses.
- Users are able to register for Covid-19 vaccine.
- Users are able to see invoice details on online payment.
- Able to request for home service.
- See Home visit schedule by Doctor or related staff.
- Able to request for consultation with a doctor.
- See the payment invoice for the doctor schedule.
- Users are able to see the notification of vaccine schedule reminder.
- Able to public message to authority.

➤ For Admin:

- Login the system.
- Enter vaccine list.
- Confirm vaccine dose.
- Make an invoice for the upcoming vaccine.

- See the request for doctor schedule.
- Confirm doctor schedule time with payment invoice.
- Able to approve re-registration vaccine request.
- Update home service request with invoice.
- Able to add a new vaccine for children.
- Can make a new hospital list and update old hospital information.
- Add a doctor and update their information.
- Manage doctor schedule.
- Add a new campaign.
- Can be able to add covid-19 vaccine.
- Update covid-19 vaccine doses.
- See public message.
- Log out.

➤ **For Doctor:**

- Login in this system
- See schedule.
- Contact the patient.
- Provide report.
- Logout

7.2 List of system-wide non-functional requirements:

Constraints on the services or functions offered by the system such as timing constraints, constraints on the development process, standards are non-functional requirements.

- **Validation:** Validation is determining if the system complies with the requirements and performs functions for which it is intended and meets the organization's goals and user needs. Validation is done at the end of the development process and takes place after verifications are completed.

- **Security:** Security is a very important part in this system. Here we use encrypted and the authorized user only uses this system by using valid email and password.
- **Verification:** Verification is an act of testing, checking and auditing that makes sure that the product is designed to deliver all functionality to the customer. Verification is done at the starting of the development process.
- **Reliability:** The system should be so reliable that it would work for a long time without any problem and we can easily trust the system. There are two terms related to software reliability.

Fault: Fault means a defect in the software like a bug in the code which can cause failure in the software.

Failure: Failure means that when the behavior of the software is not the same as the specified one.

- **Response time:** The system response time towards any task. In other words, performance is the speed or how effectively the software responds to the given task. Performance can be tested by MIPS (millions of instructions per second)
- **System efficiency and effectiveness:** Efficiency is the capacity to do things right. Effectiveness is the capacity to do the right thing.
- **Accessibility:** Accessibility features are designed to help people with disabilities use technology more easily.

7.3 What Technology I have implemented

For developing this system, I have used two types of technology. One is a client server application another is a web server application.

Client/server application:

A client/server application contains a client program that consumes the services provided by a server program. The client requests services from the server by calling the functions in the server site. In distributed computing systems, where client programs and server programs are connected with different machines and possibly different environments, clients and servers connect through a communication layer that's called middleware.

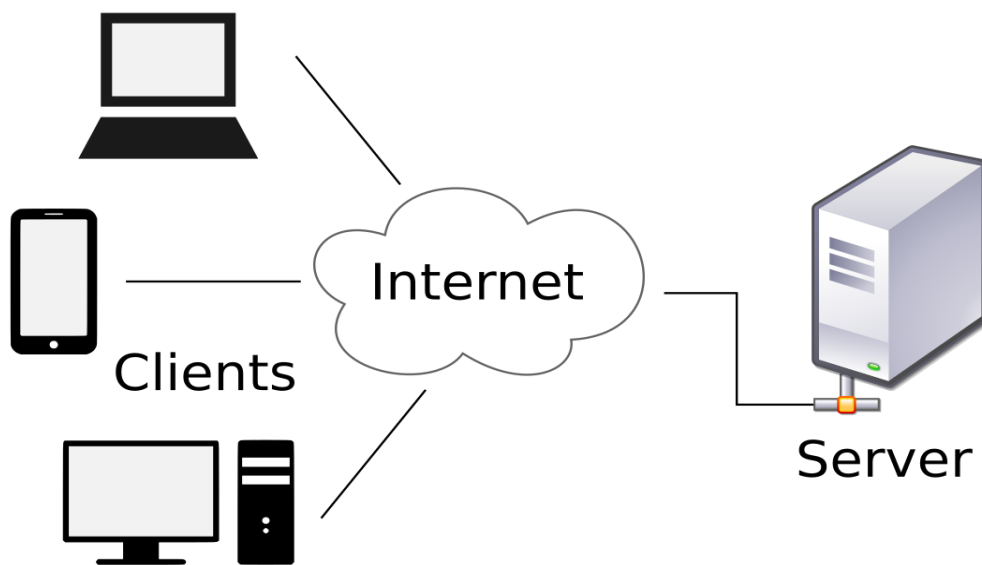


Figure 09: client /server application

- A server can provide multiple services.
- Multiple clients can request a single server program.
- A client can get services from multiple servers.
- The server program runs on a machine which provides service from remote to clients.

Web server application:

A web server is software and hardware that uses HTTP (Hypertext Transfer Protocol) and other protocols to connect to client requests over the www (World Wide Web). The main purpose of a web server is to display website content through processing, storing and delivering web-site to clients. Besides HTTP, web servers also help SMTP (Simple

Mail Transfer Protocol) and FTP (File Transfer Protocol), used for email, file disposal and storage.

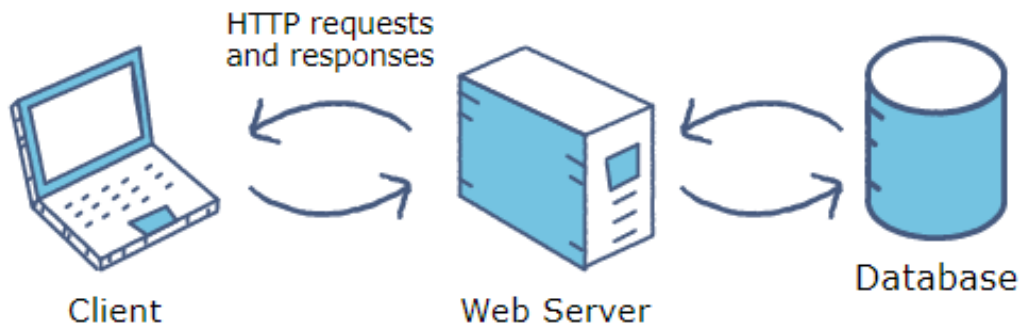


Figure 10: web server application

- Receiving and sending emails.
- Downloading request for FTP files.
- Help to build and publish web pages.

7.4 Recommendations and Justifications

Here I have recommended a web server application. Why I choose it, some reasons are given below.

Justification:

- No need to install new software. Users are able to access it with any browser.
- It helps to store big data backups with strong security.
- Over the internet, users can access from anywhere.
- Users can directly access the server using smart devices and computers.
- Low budget devices also can access the server.

Chapter 8- Exploration

- ❖ **Old Full System Use Case**
- ❖ **Old Full System Activity Diagram**
- ❖ **Prototype of new system**

8.1 Old Full System Use Case

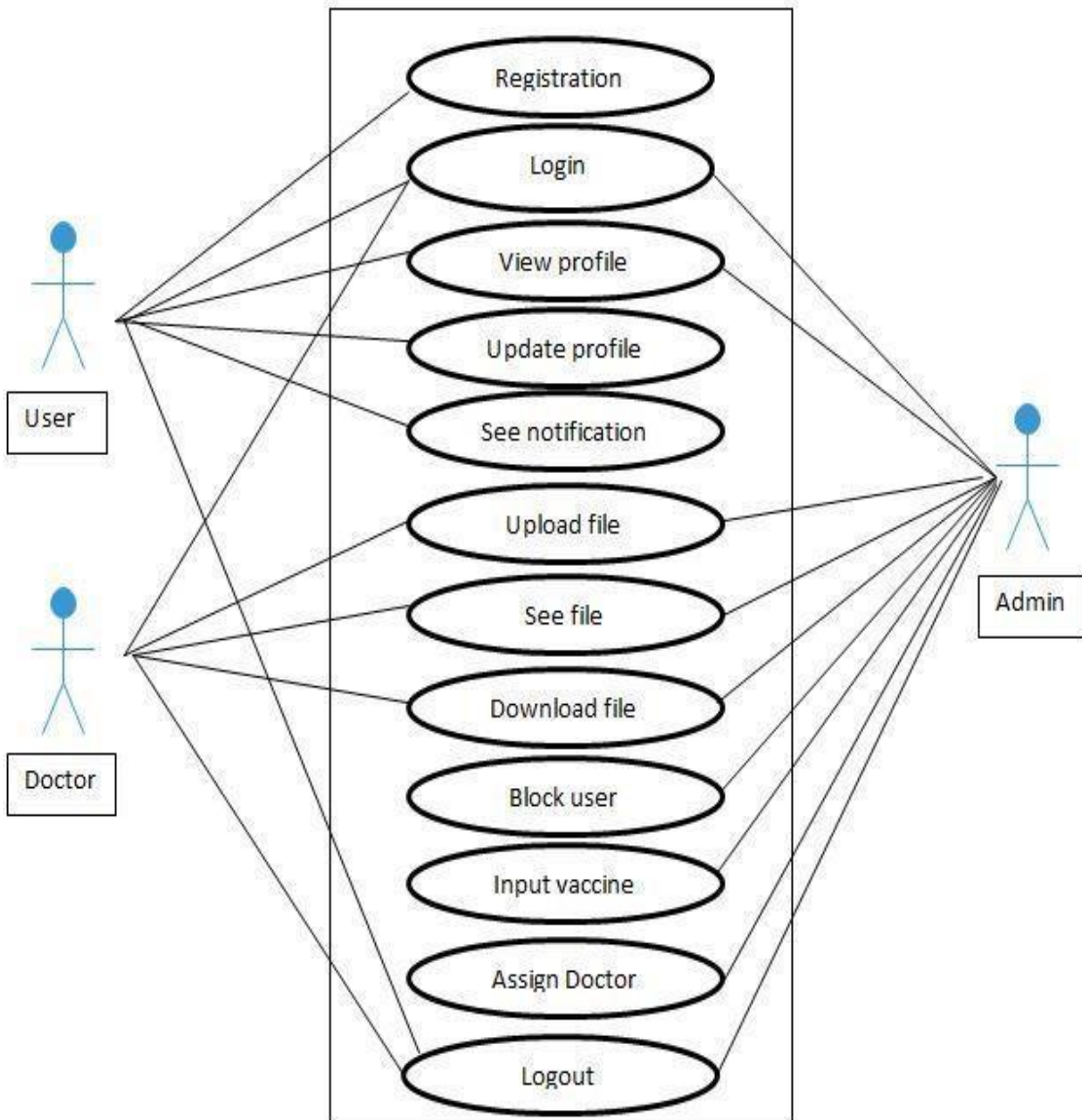


Figure 11: Old system Use Case diagram for This system

8.2 Old Full System Activity Diagram

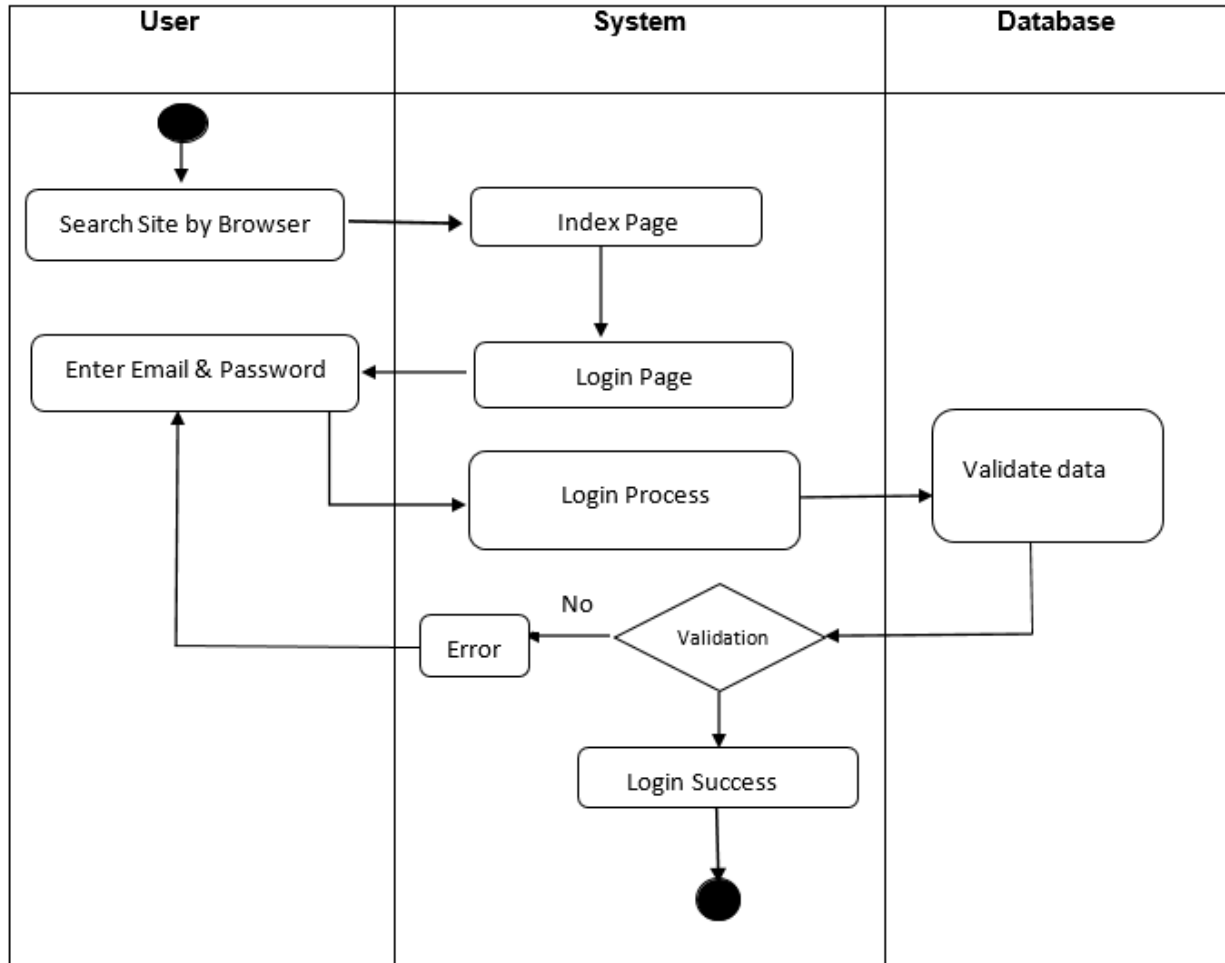


Figure 12: Activity diagram for user login

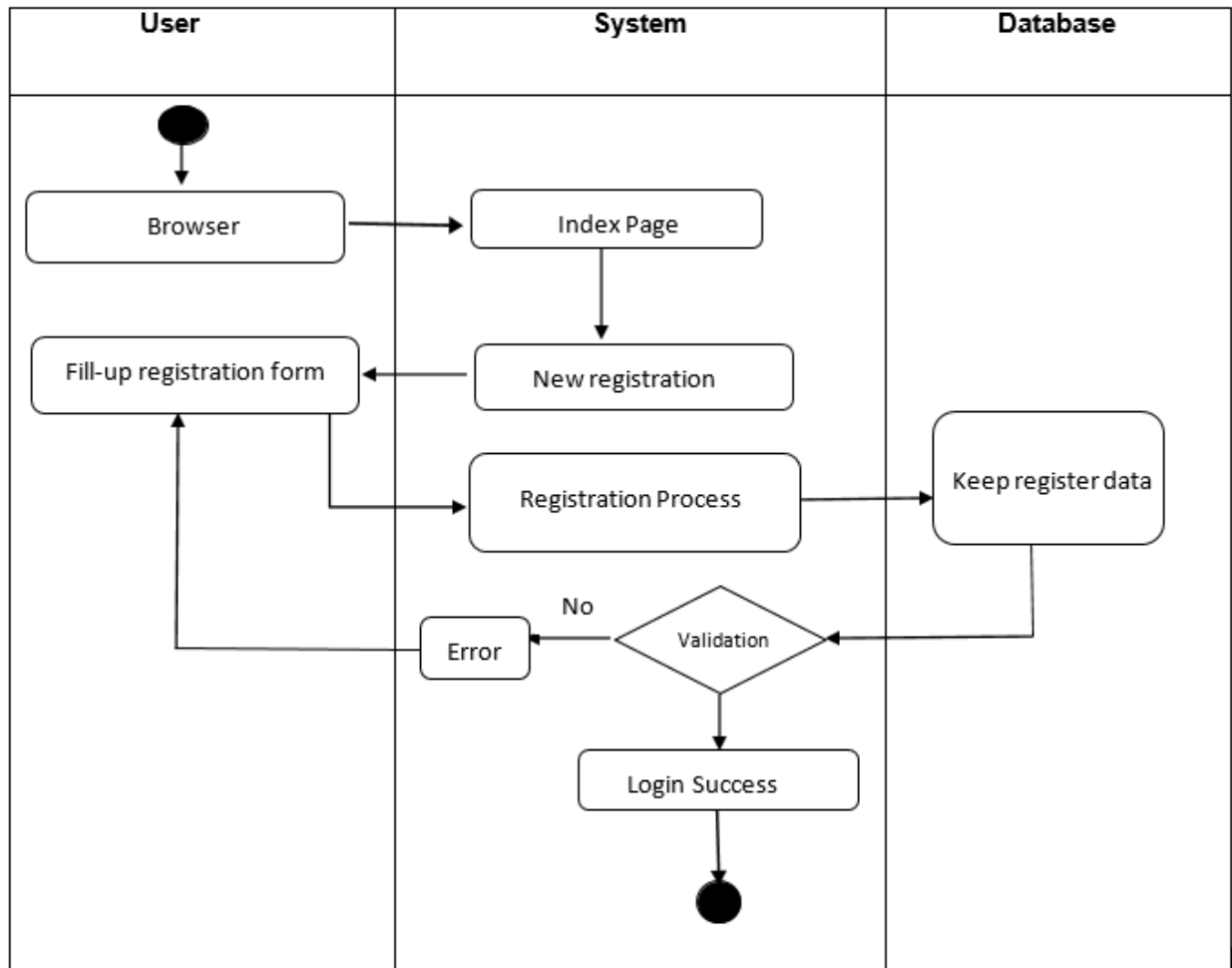


Figure 13: Activity diagram for user Registration.

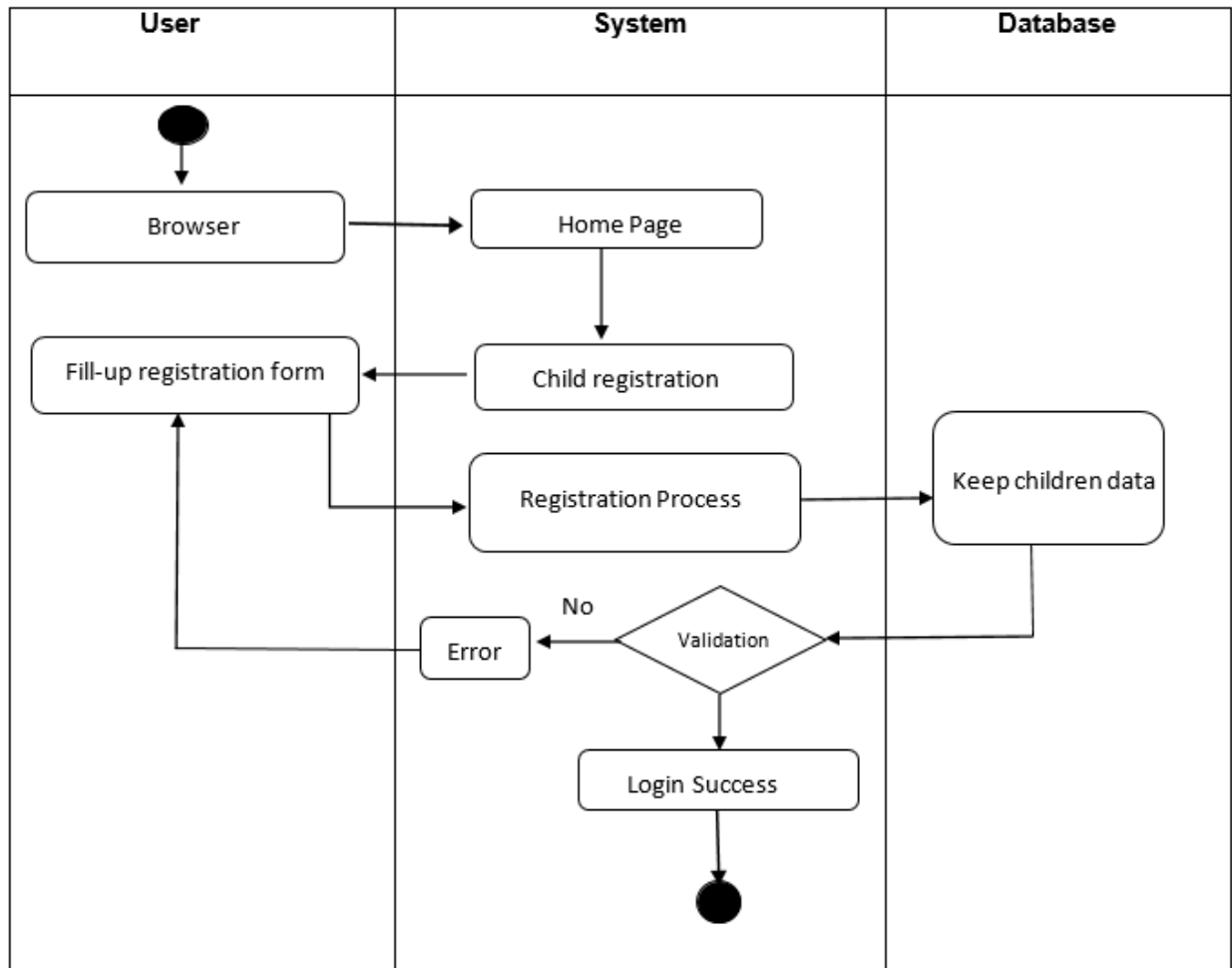


Figure 14: Activity diagram for Children registration.

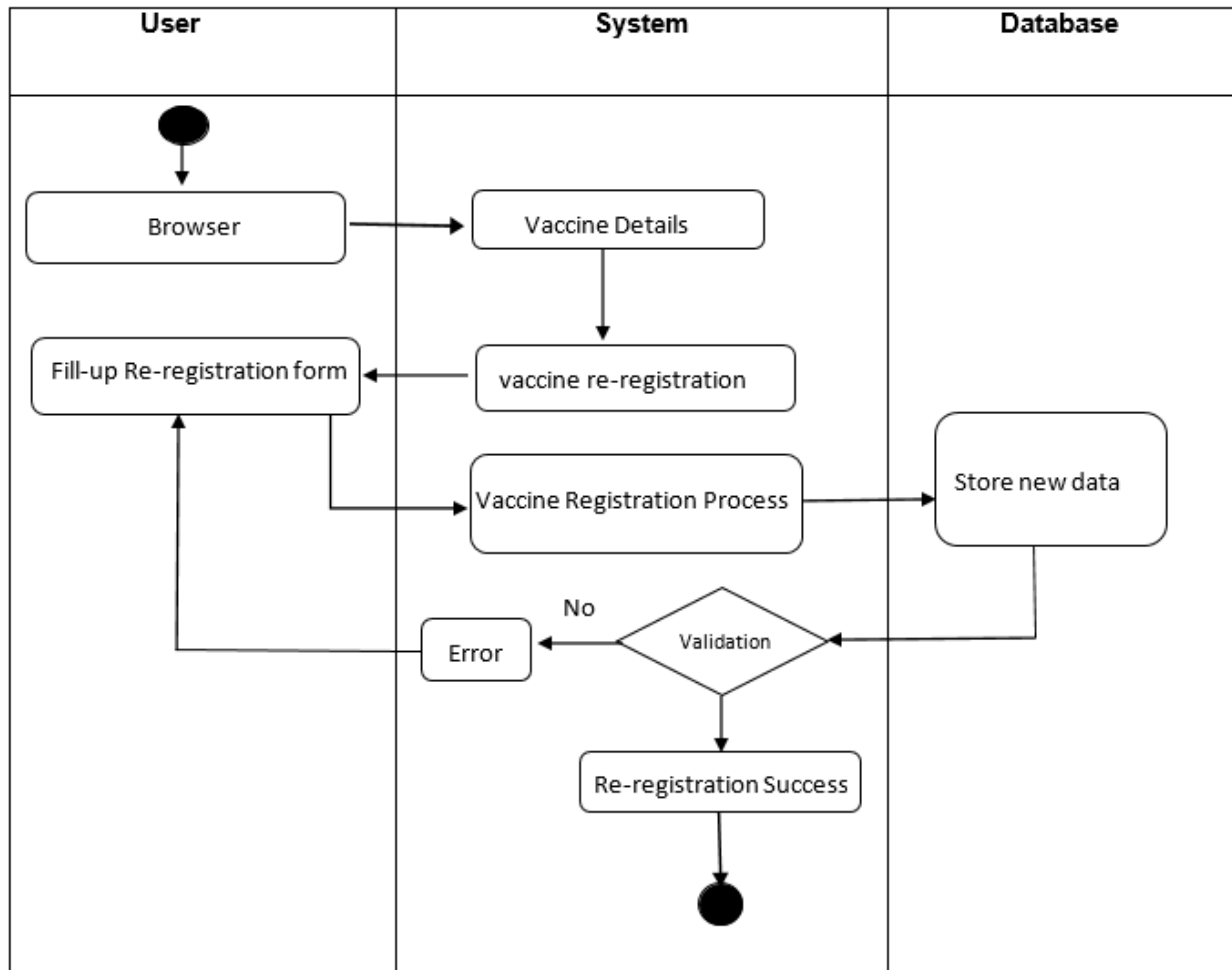


Figure 15: Activity diagram for re-registration missing vaccine dose.

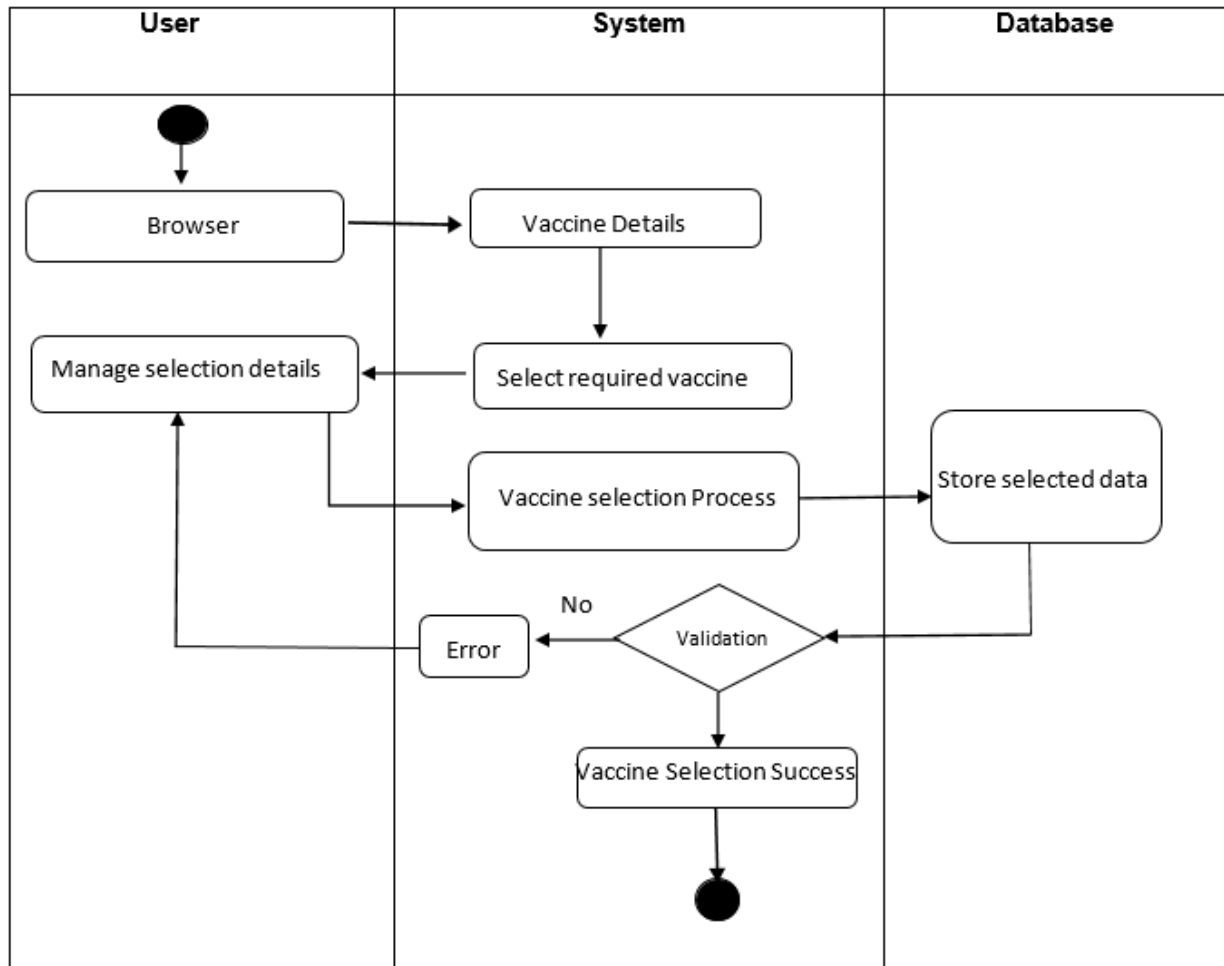


Figure 16: Activity diagram for selection of vaccine for children.

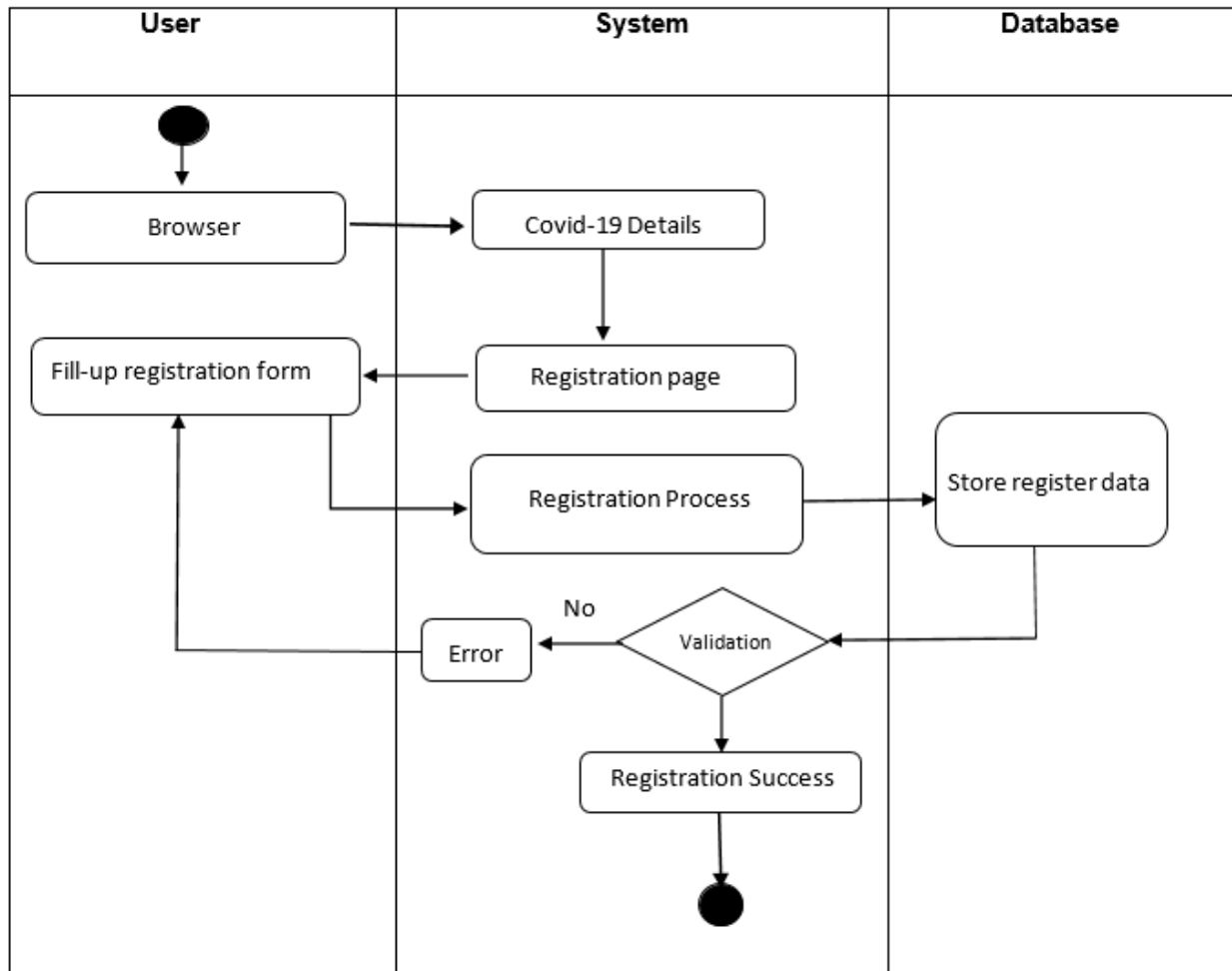


Figure 17: Activity diagram for Covid-19 vaccine.

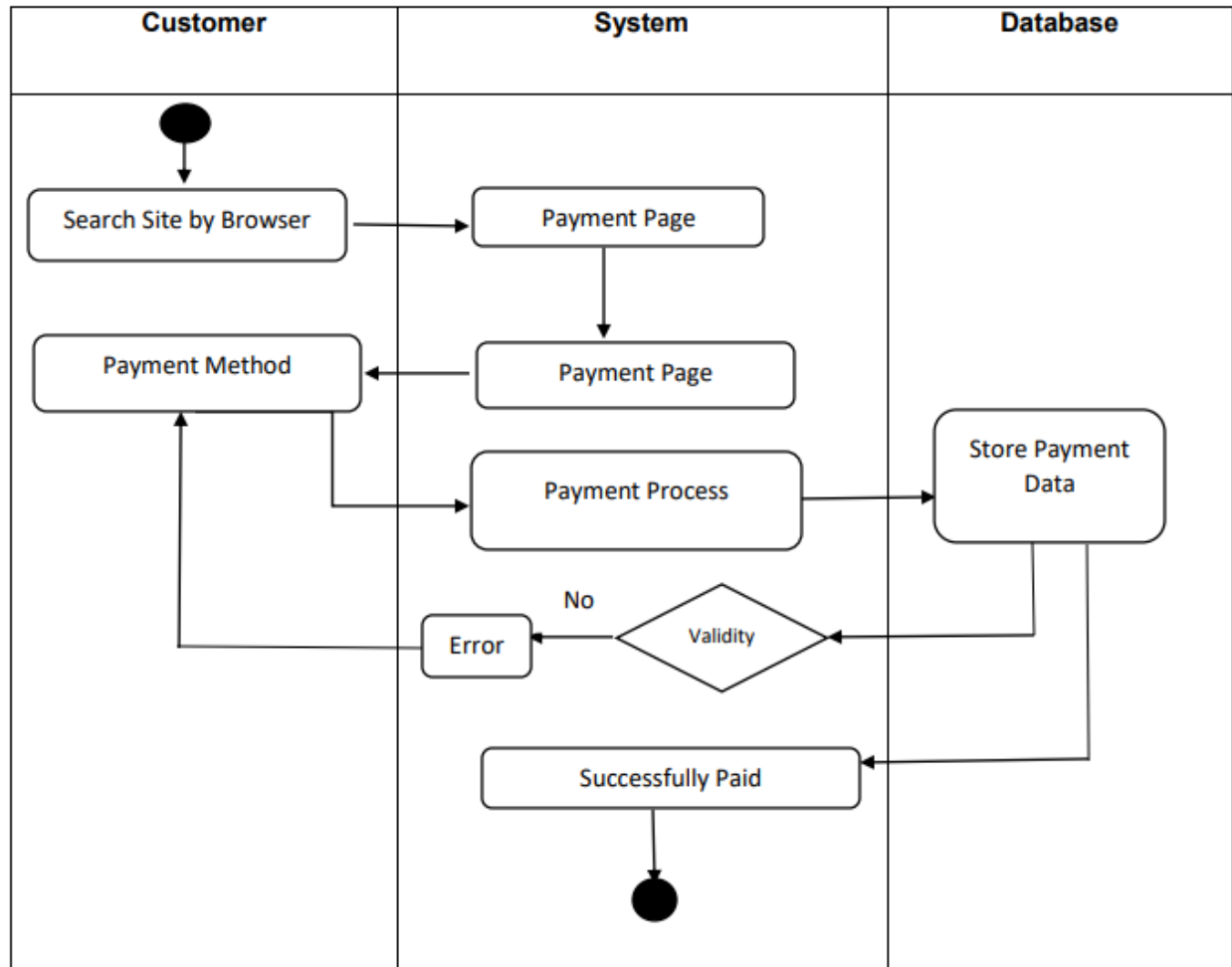


Figure 18: Activity diagram for payment system.

8.3 Prototype of new system

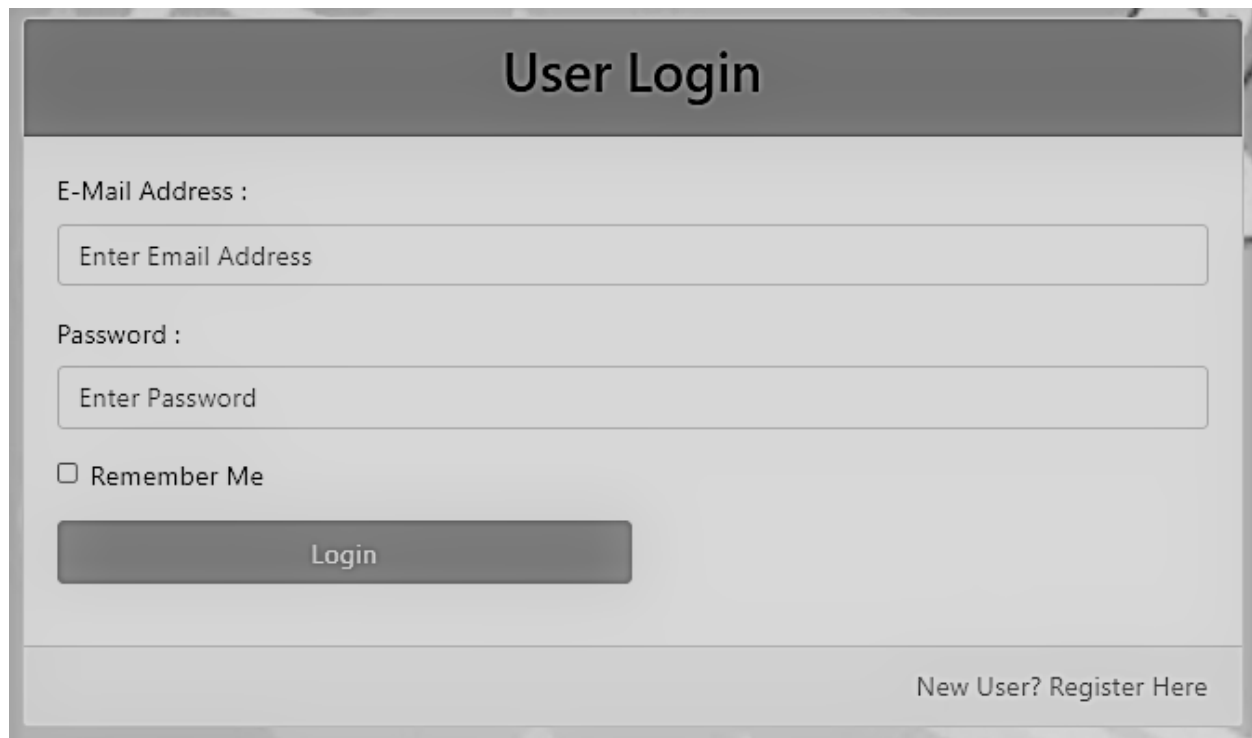
In this graphical view of the future system. People can easily realize the new system.



Figure 19: prototype of home page.

The image displays a 'User Registration' form. The title 'User Registration' is centered at the top in a bold, dark font. Below the title, the form contains several input fields: 'Name' (with placeholder 'Enter Name'), 'E-Mail Address' (with placeholder 'Enter Email Address'), 'Phone' (with placeholder 'Enter Phone Number'), 'Gender' (with radio buttons for 'Male' and 'Fe-Male'), 'Address' (with placeholder 'Enter Address'), 'Password' (with placeholder 'Enter Password'), and 'Confirm Password' (with placeholder 'Enter Confirm Password'). A dark 'Register' button is positioned at the bottom of the form.

Figure 20: prototype of user registration.



A prototype of a user login form. It features a dark grey header with the text "User Login". Below the header, there are two input fields: "E-Mail Address :" and "Password :". Each input field has a placeholder text "Enter Email Address" and "Enter Password" respectively. Below the password field, there is a checkbox labeled "Remember Me". A dark grey "Login" button is positioned below the checkbox. At the bottom right of the form, there is a link that says "New User? Register Here".

User Login

E-Mail Address :
Enter Email Address

Password :
Enter Password

☐ Remember Me

Login

New User? Register Here

Figure 21: prototype of user login.



A prototype of a user dashboard. It has a dark grey sidebar on the left with a "User panel" header and a menu of options: Dashboard, Update Profile, Reg New Child, Eligible Vaccine, Appointment, Covid19 Vaccine Reg., My Application., and Home Service. The main content area has a light grey background and a "Well Come Sayem" header. Below the header, there is a profile card. The card contains a profile picture of a man and a table with the following information: Name (Sayem), Email (sayem@gmail.com), Phone (01833995689), Gender (Male), and Address (kaptai). An "Update Profile" button is located at the bottom right of the profile card.

User panel

- Dashboard
- Update Profile
- Reg New Child
- Eligible Vaccine
- Appointment
- Covid19 Vaccine Reg.
- My Application.
- Home Service

Well Come Sayem



Name	Sayem
Email	sayem@gmail.com
Phone	01833995689
Gender	Male
Address	kaptai

Update Profile

Figure 22: prototype of User dashboard.

Name

Sayem

Email

sayem@gmail.com

Gender ☒ Male ☐ Fe-Male

Phone Number

01833995689

Address

kaptai

Update Now

Figure 23: Update user profile.

First Name *

Enter First Name

Last Name *

Enter Last Name

Birth Date *

mm/dd/yyyy 

Birth Certificate

Enter Birth Certificate Number If Have

Submit

Figure 24: New child registration.

All Children Details

+ New Registration

Show 10 entries

Search:

#	Name	Birth Date	Age	Action	Add Date
1	Emon Khan	07-May-2021	0 Years 1 Months 18Days	Delete	2021-06-09
2	Saifan Khan	13-Jul-2021	0 Years 0 Months 18Days	Delete	2021-06-15
3	Ahmed Musa	04-May-2021	0 Years 1 Months 21Days	Delete	2021-06-20
4	Maruf Khan	23-May-2021	0 Years 1 Months 2Days	Delete	2021-06-21

Showing 1 to 4 of 4 entries

Previous

1

Next

Figure 25: All children list.

Click Submit Button To See Eligible Vaccine For Your Child

Child Name

Bappy khan

Child Age

0 Years 0 Months 29Days

Submit

Vaccine List

#	Check Now	Vaccine Name	Age Limit	Number Of Dose	Break
1	<input checked="" type="checkbox"/>	BCG	0 to 1	1	1 Month
2	<input checked="" type="checkbox"/>	Pentavalent(DPT, Hepatitis-B, Hib)	0 to 1	3	2 Month
3	<input checked="" type="checkbox"/>	PCV	0 to 1	3	2 Month
4	<input checked="" type="checkbox"/>	OPV	0 to 1	4	2 Month
5	<input checked="" type="checkbox"/>	MR Vaccine	0 to 1	1	6 Month
6	<input checked="" type="checkbox"/>	Ham vaccine	0 to 2	1	15 Month

Submit

Figure 26: Eligible vaccine for children.

Child Name :	Guardian Phone:
<input type="text" value="Maruf khan"/>	<input type="text" value="01833995689"/>
Select Missing Vaccine Name : *	Missing Dose : *
<input type="text" value="-----Select One-----"/>	<input type="text" value="Example: 1"/>
Select Hospital : *	Dose Fee : *
<input type="text" value="-----Select One-----"/>	<input type="text" value="500"/>
<input type="button" value="Submit"/>	

Figure 27: prototype of re-registration for missing vaccine.

Date Missing Application List						
Show <input type="text" value="10"/> entries				Search: <input type="text"/>		
#	Child Name	Vaccine	Missing Dose	Hospital	Take Date	More
2	Ahmed Musa	BCG	1	Square hospital Ltd	<input type="text" value="mm/dd/yyyy"/> <input type="button" value="Update"/>	<input type="button" value="View"/>

Showing 1 to 1 of 1 entries

Previous **1** Next

Figure 28: Date missing application list.

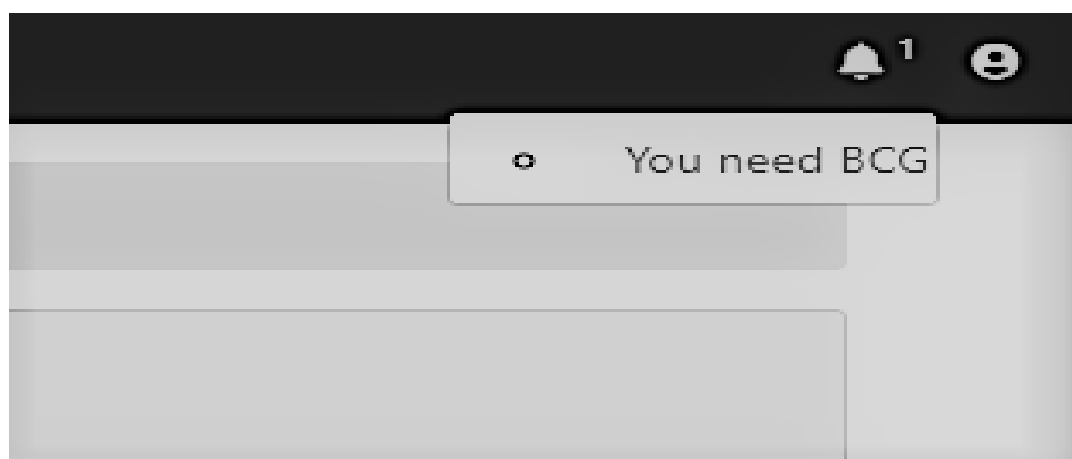


Figure 29: prototype of notification.

Select Child :

Select Vaccine Name : *

Dose Number : *

Current Dose Taken Date : *

Service Fee : *

Guardian Phone:

Current Address : *

Figure 30: prototype of Consultant request.

My Application

Show entries

Search:

#	Child Name	Vaccine	Missing Dose	Hospital	Take Date	Payment History
1	Ahmed Musa	Musa	BCG	Square hospital Ltd	2021-06-25	<input type="button" value="View"/>
2	Ahmed Musa	Musa	BCG	Square hospital Ltd	Not Set Yet	<input type="button" value="View"/>

Showing 1 to 2 of 2 entries

Previous **1** Next

Figure 31: prototype of user application.

Registration Covid19 Vaccine

<p>Full Name: *</p> <input type="text" value="Sayem"/>	<p>Email: *</p> <input type="text" value="sayem@gmail.com"/>
<p>Phone: *</p> <input type="text" value="01833995689"/>	<p>NID Number: *</p> <input type="text" value="Enter NID Number"/>
<p>Birth Date: *</p> <input type="text" value="mm/dd/yyyy"/> <input type="text" value="📅"/>	<p>Select Hospital: *</p> <input type="text" value="----Select One-----"/> <input type="text" value="v"/>
<p>Address: *</p> <input type="text" value="Enter Address"/>	

Figure 32: prototype of COVID-19 registration.

User Login

E-Mail Address :

Password :

☐ Remember Me

[New User? Register Here](#)

Figure 33: prototype of admin login.

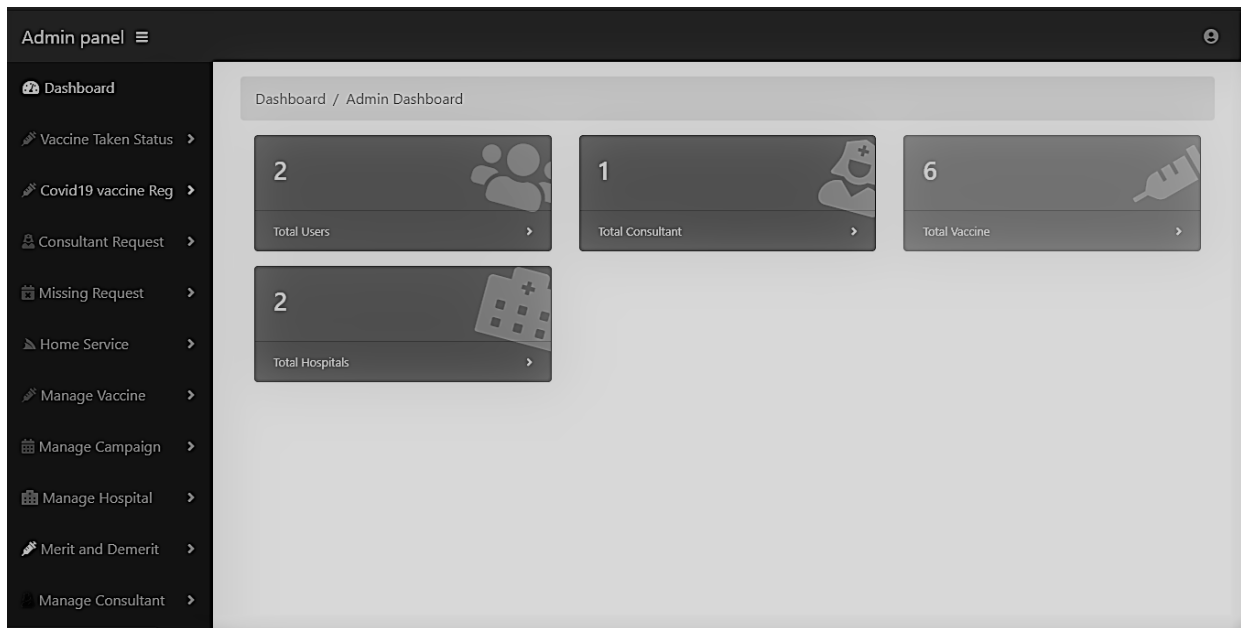


Figure 34: prototype of admin dashboard.

Vaccine Name *

Number Of Vaccine Dose *

Disease Name *

Age Limit *

Vaccine Taken Time (In Month) *

Vaccine Image *

No file chosen

Figure 35: prototype of add new vaccine.

All Vaccine Details

+ Add New Vaccine

Show 10 entries

Search:

#	Vaccine Name	Dose	Disease Name	Age Limit	Action	More
1	BCG	1	Tuberculosis	0 to 1	<div>Edit</div> <div>Delete</div>	<div>View</div>
2	Pentavalent(DPT, Hepatitis-B, Hib)	3	Diphtheria, Whooping Cough	0 to 1	<div>Edit</div> <div>Delete</div>	<div>View</div>
3	PCV	3	Pneumococcal, Pneumonia	0 to 1	<div>Edit</div> <div>Delete</div>	<div>View</div>
4	OPV	4	Polio myelitis	0 to 1	<div>Edit</div> <div>Delete</div>	<div>View</div>
5	MR Vaccine	1	Measles Rubella	0 to 1	<div>Edit</div> <div>Delete</div>	<div>View</div>
6	Ham vaccine	1	Measles	0 to 2	<div>Edit</div> <div>Delete</div>	<div>View</div>

Showing 1 to 6 of 6 entries

Previous

1

Next

Figure 36: prototype of all vaccine list.

Add New Consultant

Manage Consultant

Name *

Enter Name

Email *

Enter Email

Phone *

Enter Phone Number

Designation *

Enter Doctor Designation

Current Job Institute Name *

Current Job Institute Name

Image *

Choose File

No file chosen

Booking Price *

Booking Price

Submit

Figure 37: prototype of add new consultant.




All Consultant List							+ Add New Consultant	
Show 10 entries		Search:						
#	Name	Email	Phone	Price	Profile	Action		
1	Dr. Shamsul Arefin	Sahmsul@gmail.com	01974836547	500.00 T.K	 View	Delete		
2	Dr.-Mohammad-Shofiqur-Rahman	Dr.Shaofiqur121@gmail.com	01795748391	700.00 T.K	 View	Delete		
3	Dr.-Mohammad-Shofiqur-Rahman	shofiqur12@gmail.com	01974836547	600.00 T.K	 View	Delete		
Showing 1 to 3 of 3 entries							Previous	1 Next

Figure 38: All consultant list.

Hospital Name : *	
<input type="text" value="Enter Hospital Name"/>	
Hospital Phone Number : *	
<input type="text" value="Enter Hospital Phone Number"/>	
Hospital Address : *	
<input type="text" value="Enter Hospital Address"/>	
Map Link : *	
<input type="text" value="Enter Hospital Address"/>	<input type="button" value="Generate Map Link"/>

Figure 39: Add new hospital.

All Hospital List							+ Add New Hospital
Show <input type="text" value="10"/> entries				Search: <input type="text"/>			
#	Hospital Name	Phone	Address	Action	More	Add Vaccine	
1	Square hospital Ltd	01876485960	Panthapath	<button>Edit</button> <button>Delete</button>	<button>More</button>	<button>+ Add</button>	
2	Ibn Sina hospital	01974836222	Dhanmondi 15	<button>Edit</button> <button>Delete</button>	<button>More</button>	<button>+ Add</button>	
3	Delta Medical Hospital	01985768932	Mirpur-1	<button>Edit</button> <button>Delete</button>	<button>More</button>	<button>+ Add</button>	
4	Uttara Crescent Hospital	01987465783	Uttara, Dhaka	<button>Edit</button> <button>Delete</button>	<button>More</button>	<button>+ Add</button>	
5	ISLAMI BANK HOSPITAL	01886475987	Motijheel, Dhaka	<button>Edit</button> <button>Delete</button>	<button>More</button>	<button>+ Add</button>	
6	Azimpur Maternity Hospital	01833995689	Azimpur	<button>Edit</button> <button>Delete</button>	<button>More</button>	<button>+ Add</button>	
Showing 1 to 6 of 6 entries						Previous	1 Next

Figure 40: prototype of all hospital list.



Title *	<input type="text" value="Enter Title"/>
Start Date *	<input type="text" value="mm/dd/yyyy"/> 
End Date *	<input type="text" value="mm/dd/yyyy"/> 
Campaign Location *	<input type="text" value="Enter Location Name"/>
Image*	<input type="button" value="Choose File"/> No file chosen

Figure 41: prototype of host new campaign.

Manage Campaign

+ Add New Campaign

Show 10 entries
Search:

#	Title	Start Date	End Date	Location	Image	Action
1	Vitamin A plus campaign 2021	2021-06-14	2021-06-29	uttar tolarbag, Mirpur-1		Edit Delete
2	Covid-19 vaccine Campaign 2021	2021-06-23	2021-06-26	uttar tolarbag, Mirpur-1		Edit Delete

Showing 1 to 2 of 2 entries
Previous
1
Next

Figure 42: prototype of campaign list.

Add Covid19 Vaccine

Disses Name: *

Enter Dissee Name

Vaccine Name: *

Enter Vaccine Name

Number Dose: *

Enter Vaccine Dose

Break Time: *

Enter Vaccine Break Time

Image: *

Choose File
No file chosen

Figure 43: prototype of add COVID-19 vaccine.

- ❖ **New System Modules**
- ❖ **Use Case**
- ❖ **Class Diagram**
- ❖ **Sequence Diagram**
- ❖ **System Interface Design**

9.1 New System Modules

The main module of the project is given below with description.

9.1.1 Registration and login module

In this system, there are two types of user are login in the system. One is user other one is admin.

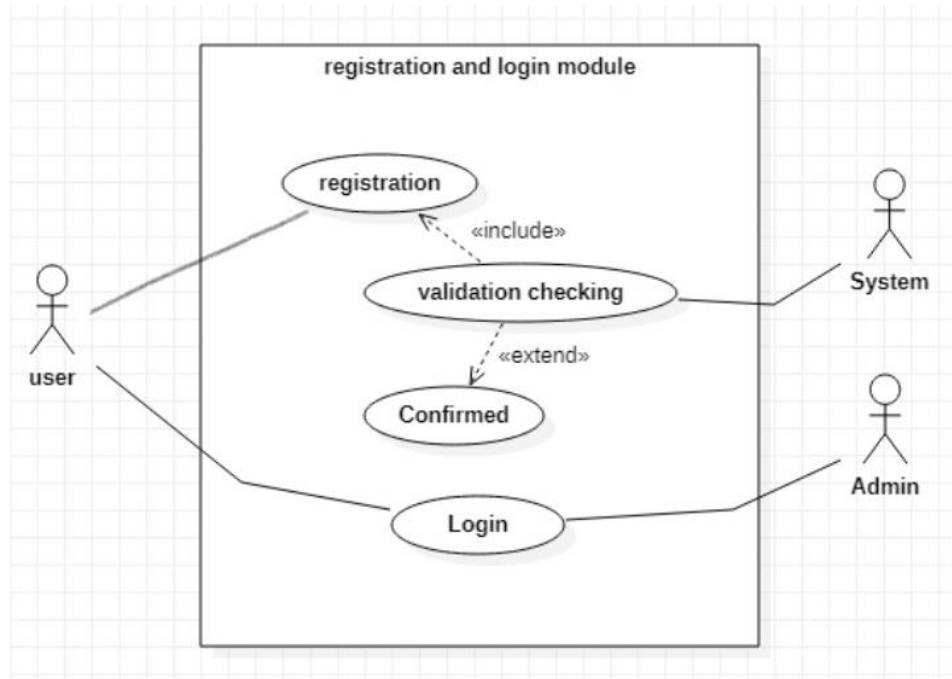


Figure 44: Use case for Registration and Login

User Case details:

Use case for system “Registration”

S.L	User Action	S.L	System Response
1.	New user should click on user registration link.	2.	System show the registration form to user.
3.	User need to fill-up the registration form with valid data.	4.	The system checks the validation of input data and store it.

Use Case “Login”

S.L	User Action	S.L	System Response
1.	Old user enter valid email and password then enter on login button.	2	System will check the validation and permit to login user.

9.1.2 Module for vaccine registration for children

Vaccination process for register children.

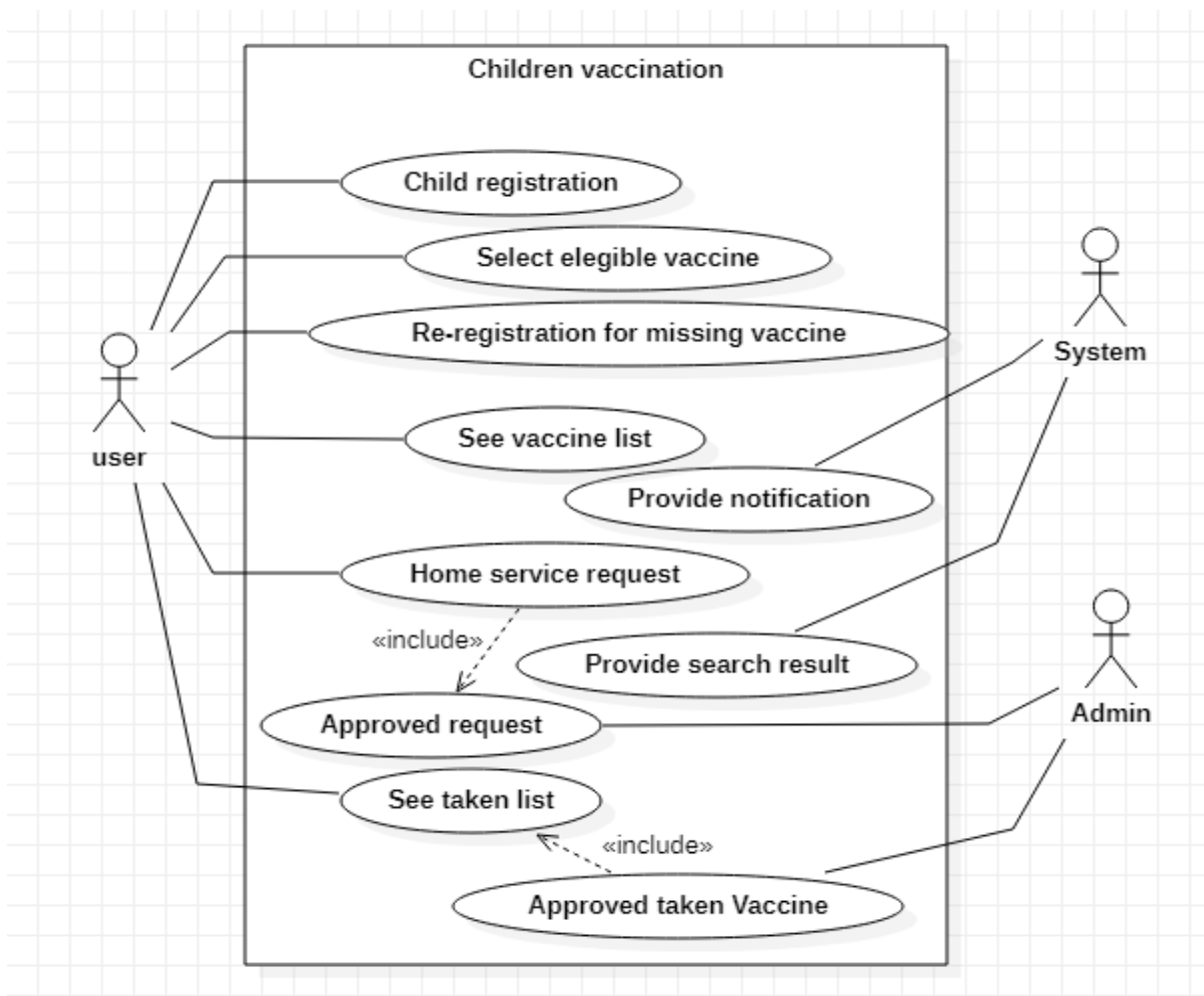


Figure 45: Vaccination process for register children.

Use case for “Vaccination process for register children”

S.L	User Action	S.L	System Response
1.	Select an eligible vaccine for children.	2.	System will show the vaccine list.
3.	Re-registration for missing dose.	4.	System will provide the token for the missing dose.
5.	Click on notification.	6.	Show the upcoming vaccine date for registered children.
7.	Request for home service.	8.	System admin approved the request and the system provided the invoice.
9.	Search Children name from multiple children list.	10.	Show the exact children with details.

9.1.3Module for Covid-19 vaccine registration module

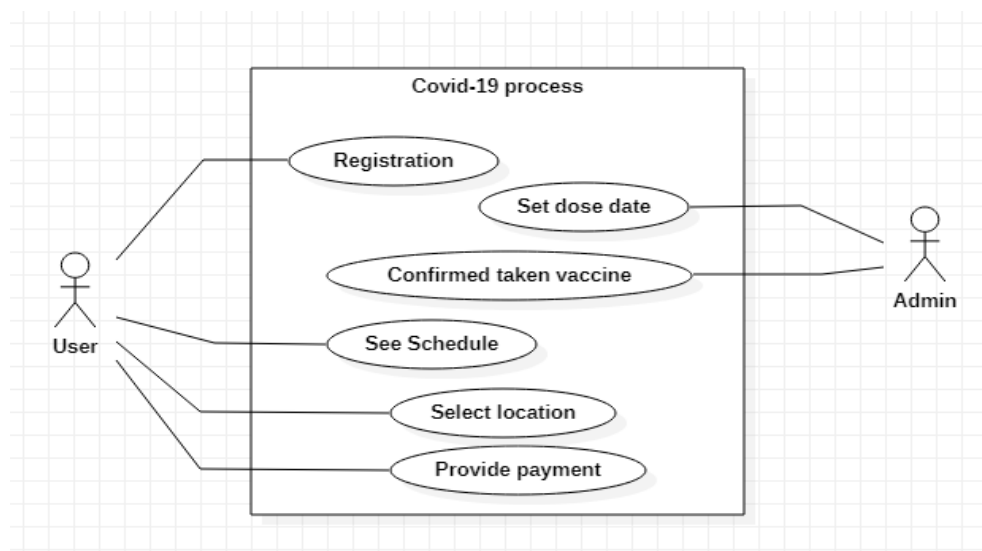


Figure 46: COVID-19 registration process.

Use case for “COVID_19 registrations”

S.L	User Action	S.L	System Response
1.	New users should click on user registration link.	2.	System shows the registration form to the user.
3.	Users need to fill-up the registration form with valid data.	4.	The system checks the validation of input data and stores it.

9.1.4 Payment system process module

Customers provide payment for vaccination.

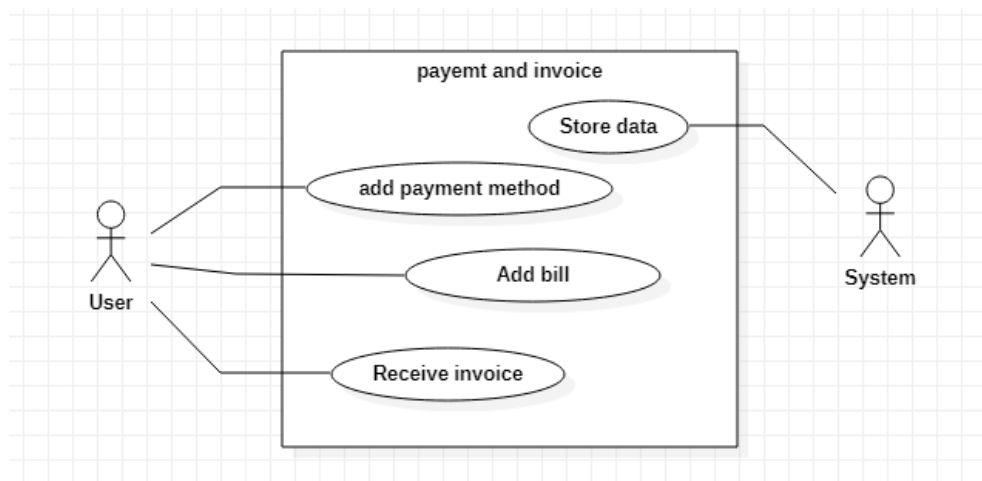
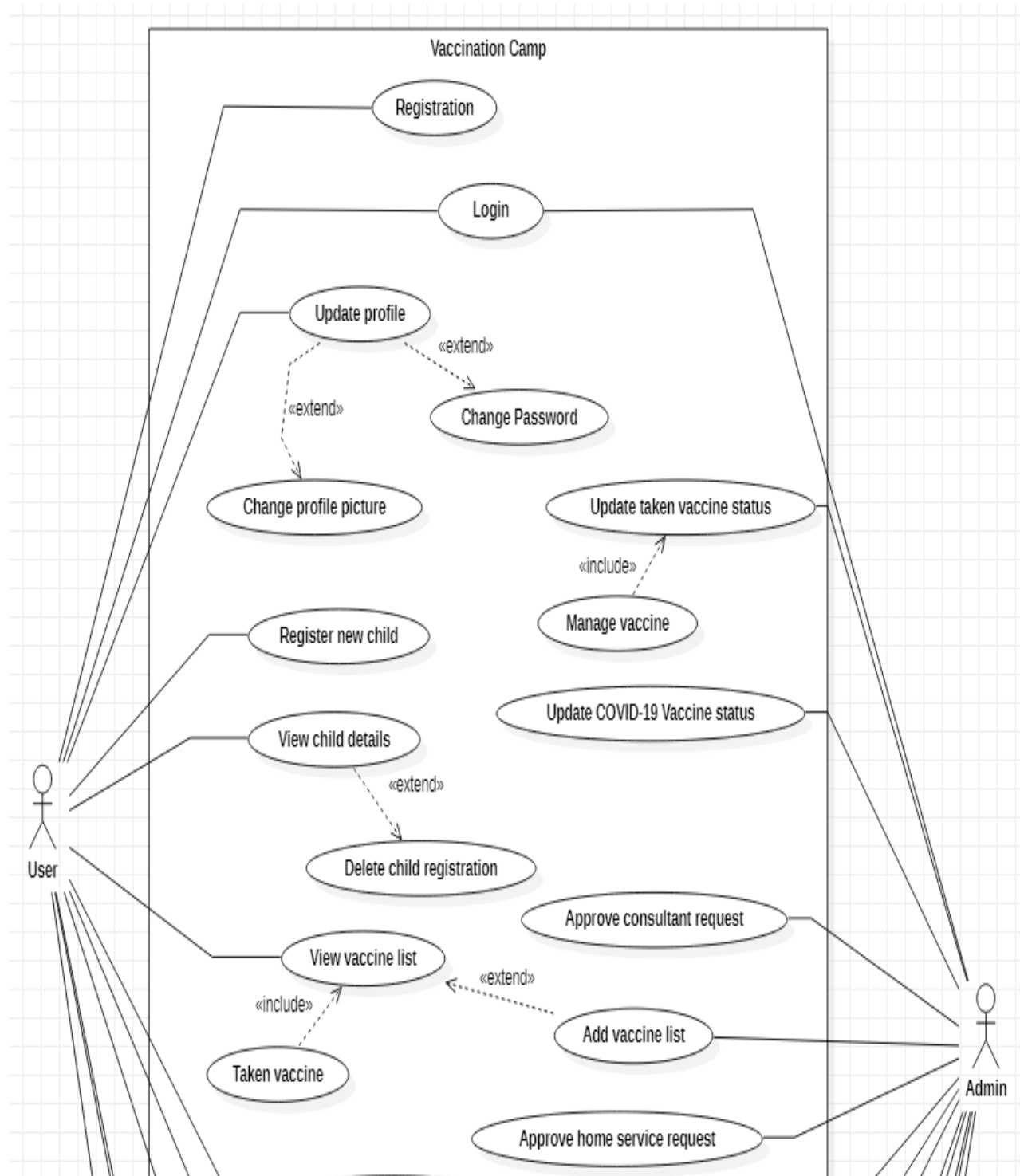


Figure 47: Vaccination payment process.

Use case “Payment system”

S.L	User Action	S.L	System Response
1.	User clicks on the Payment method.	2.	System will show the token.
3.	Process to pay E-payment for vaccine.	4.	System provides a payment invoice.

9.2 Use Case



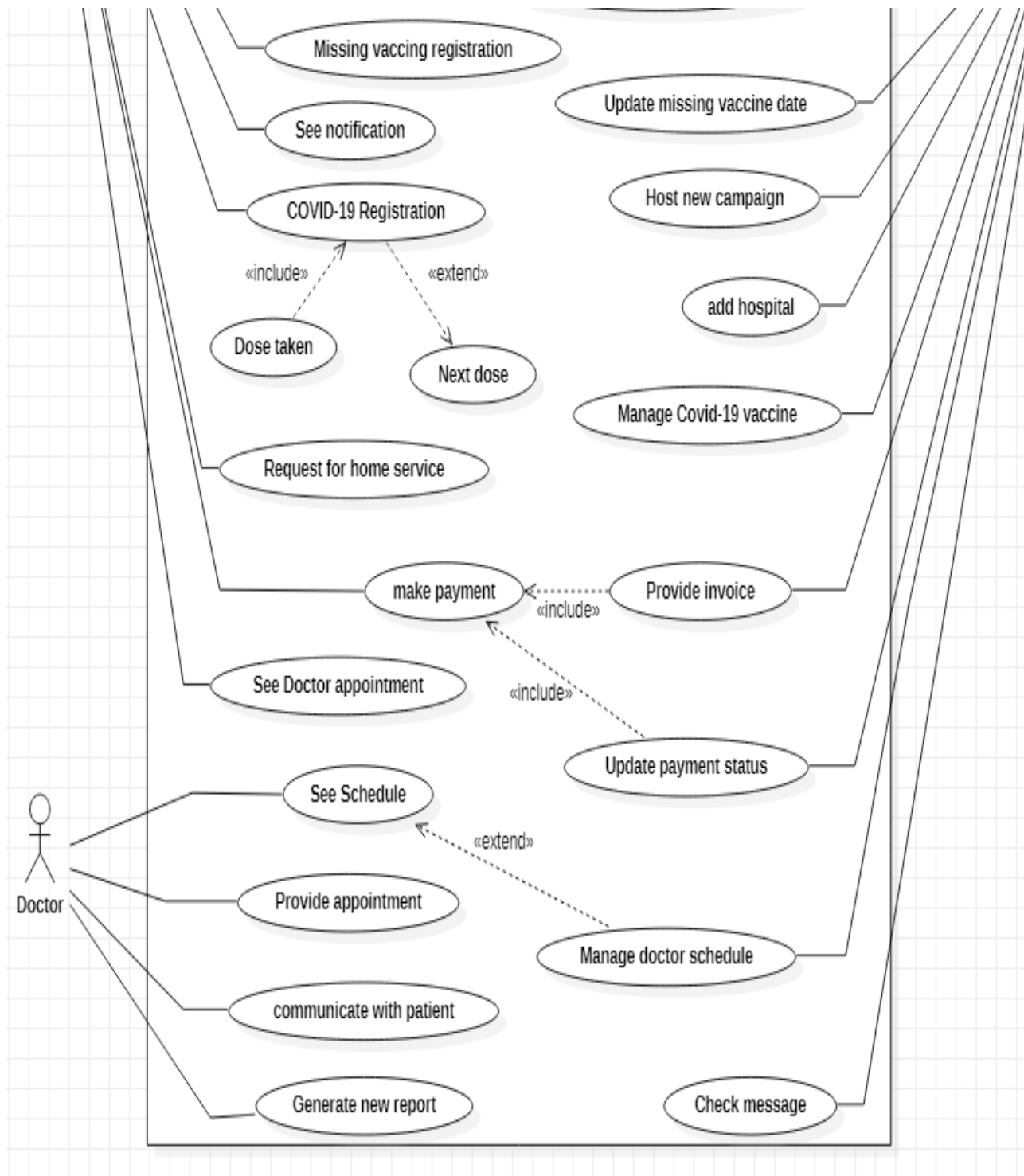


Figure 48: Use Case Diagram.

9.3 Class Diagram

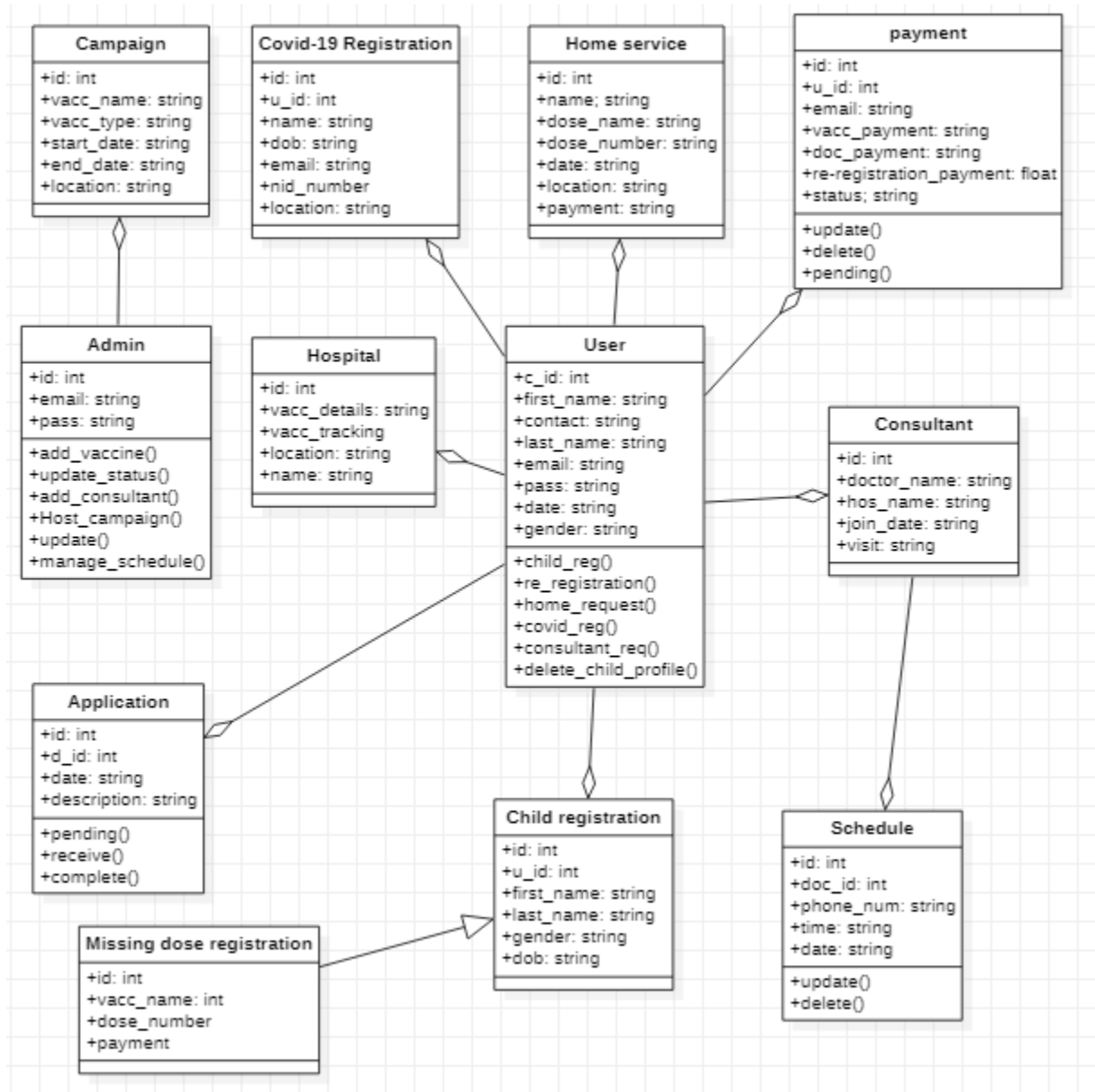


Figure 49: Class diagram for vaccination camp.

9.4 Sequence Diagram

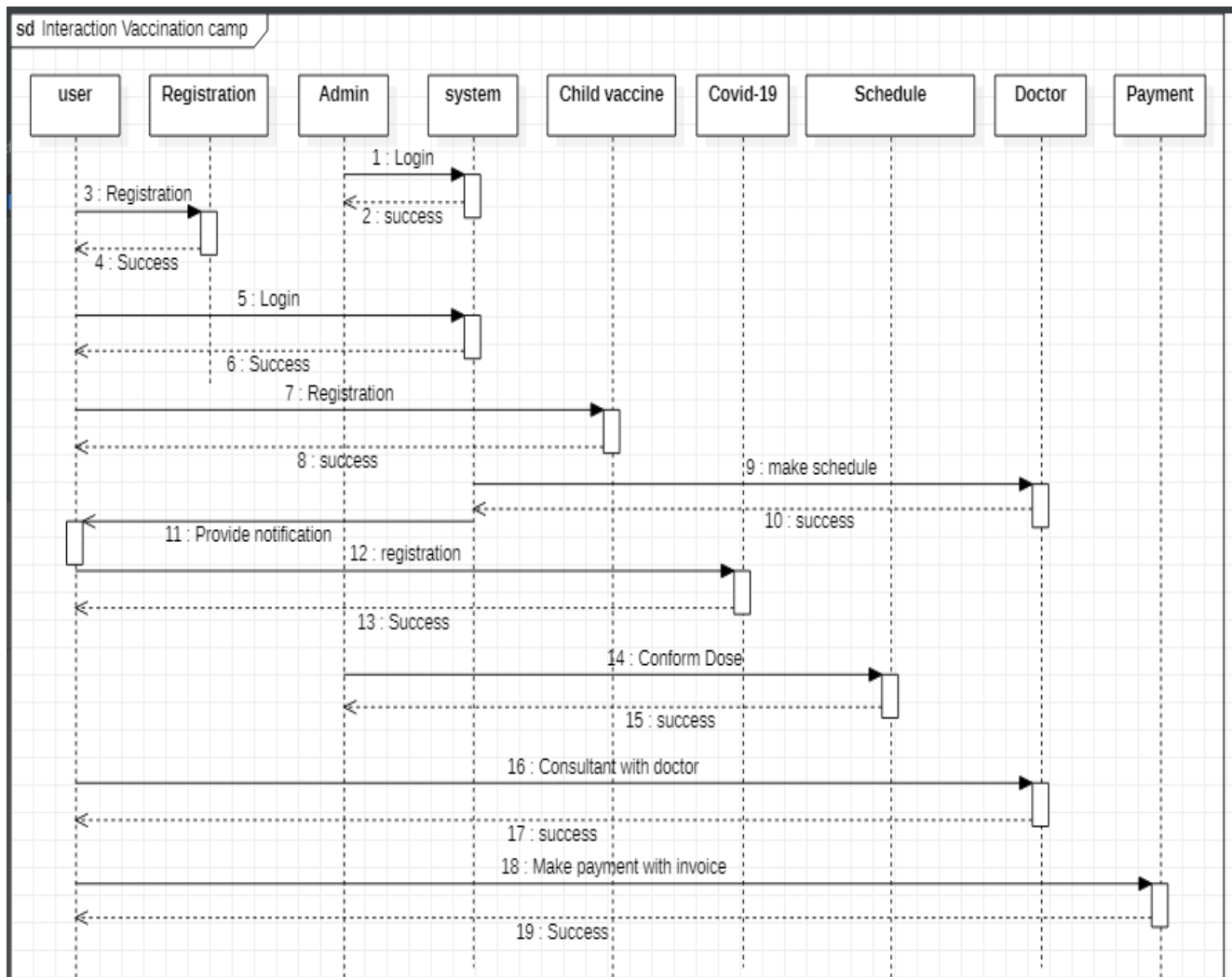


Figure 50: Sequence diagram.

9.5 System Interface Design / Prototype

➤ Main page of vaccination camp.



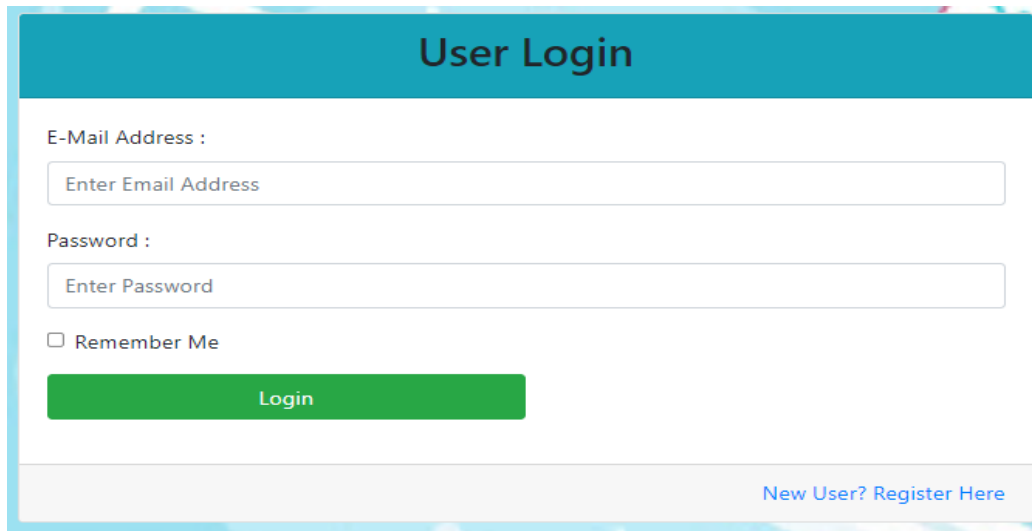
Figure 51: Home page.

➤ User registration page.

The image shows a 'User Registration' form. The form has a teal header with the title 'User Registration'. Below the header are several input fields: 'Name' (with placeholder 'Enter Name'), 'E-Mail Address' (with placeholder 'Enter Email Address'), 'Phone' (with placeholder 'Enter Phone Number'), 'Gender' (with radio buttons for 'Male' and 'Female'), 'Address' (with placeholder 'Enter Address'), 'Password' (with placeholder 'Enter Password'), and 'Confirm Password' (with placeholder 'Enter Confirm Password'). At the bottom of the form is a blue button labeled 'Register'.

Figure 52: User registration.

➤ Customer login

A user login form with a teal header. The form contains fields for E-Mail Address and Password, a checkbox for Remember Me, a green Login button, and a link for New User? Register Here.

User Login

E-Mail Address :

Enter Email Address

Password :

Enter Password

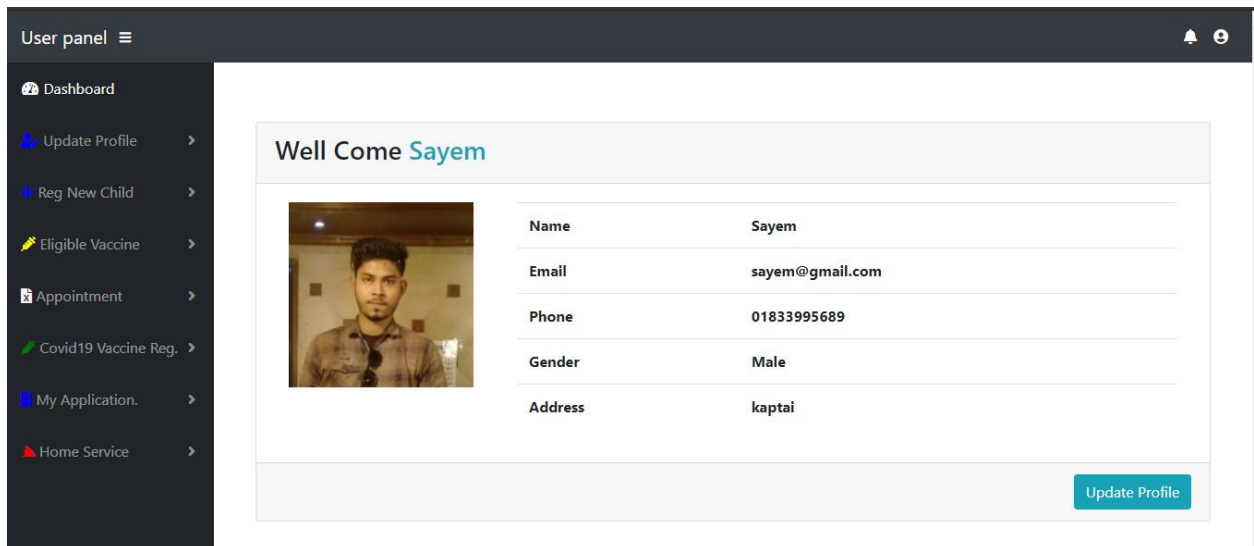
☐ Remember Me

Login

[New User? Register Here](#)

Figure 53: user login.

➤ User dashboard

A user dashboard with a dark sidebar and a main content area. The sidebar lists navigation options like Dashboard, Update Profile, Reg New Child, Eligible Vaccine, Appointment, Covid19 Vaccine Reg., My Application, and Home Service. The main content area shows a welcome message, a profile picture, and a table of user details (Name, Email, Phone, Gender, Address) with an Update Profile button.

User panel

Dashboard

Update Profile

Reg New Child

Eligible Vaccine


Appointment

Covid19 Vaccine Reg.

My Application.

Home Service

Well Come Sayem



Name	Sayem
Email	sayem@gmail.com
Phone	01833995689
Gender	Male
Address	kaptai

Update Profile

Figure 54: User dashboard.

➤ **Update user profile**

Name

Sayem

Email

sayem@gmail.com

Gender ☒ Male ☐ Fe-Male

Phone Number

01833995689

Address

kaptai

Update Now

Figure 55: User profile update.

➤ **New child registration**

First Name *

Enter First Name

Last Name *

Enter Last Name

Birth Date *

mm/dd/yyyy

Birth Certificate

Enter Birth Certificate Number If Have

Submit

Figure 56: Child registration.

➤ **Select vaccine for child.**

Click Submit Button To See Eligible Vaccine For Your Child

Child Name	Bappy khan	Child Age	0 Years 0 Months 29Days	↓ Submit
------------	------------	-----------	-------------------------	----------

Vaccine List

#	Check Now	Vaccine Name	Age Limit	Number Of Dose	Break
1	<input checked="" type="checkbox"/>	BCG	0 to 1	1	1 Month
2	<input checked="" type="checkbox"/>	Pentavalent(DPT, Hepatitis-B, Hib)	0 to 1	3	2 Month
3	<input checked="" type="checkbox"/>	PCV	0 to 1	3	2 Month
4	<input checked="" type="checkbox"/>	OPV	0 to 1	4	2 Month
5	<input checked="" type="checkbox"/>	MR Vaccine	0 to 1	1	6 Month
6	<input checked="" type="checkbox"/>	Ham vaccine	0 to 2	1	15 Month

Submit

Figure 57: Select eligible vaccine

➤ **Re-registration for missing vaccine.**

Child Name :	Guardian Phone:
<input type="text" value="Maruf khan"/>	<input type="text" value="01833995689"/>
Select Missing Vaccine Name : *	Missing Dose : *
<input type="text" value="-----Select One-----"/>	<input type="text" value="Example: 1"/>
Select Hospital : *	Dose Fee : *
<input type="text" value="-----Select One-----"/>	<input type="text" value="500"/>
<div>Submit</div>	

Figure 58: Re-registration for missing vaccine

➤ **Registration for COVID-19 vaccine.**

Registration Covid19 Vaccine

Full Name: *

Email: *

Phone: *

NID Number: *

Birth Date: *

Select Hospital: *

----Select One-----

▼

Address: *

Enter Address

Submit

Figure 59: Registration for COVID-19 vaccine

➤ **Home service request.**

Select Child :

-----Select One-----

▼

Select Vaccine Name : *

-----Select One-----

▼

Dose Number : *

Current Dose Taken Date : *

Service Fee : *


Guardian Phone:

Current Address : *

Submit

Figure 60: Home service request

➤ Consultant with doctor.



Name	Dr.-Mohammad-Shofiqur-Rahman
Email	Dr.Shaofiqur121@gmail.com
Phone	01795748391
Designation	Child Pediatric Specialist
Current Work At	Delta Medical Hospital
Booking Price	700.00 T.K
Join Date	14-Jun-2021

[📞 Book Appointment](#)

Figure 61: Consultant with doctor

➤ Make payment invoice for vaccine.

Invoice Number: VC3134

User Information:
Sayem
01833995689
kaptai

Payment Method: Bkash
Account Number: 01748498758
Transaction ID: UCS8TX

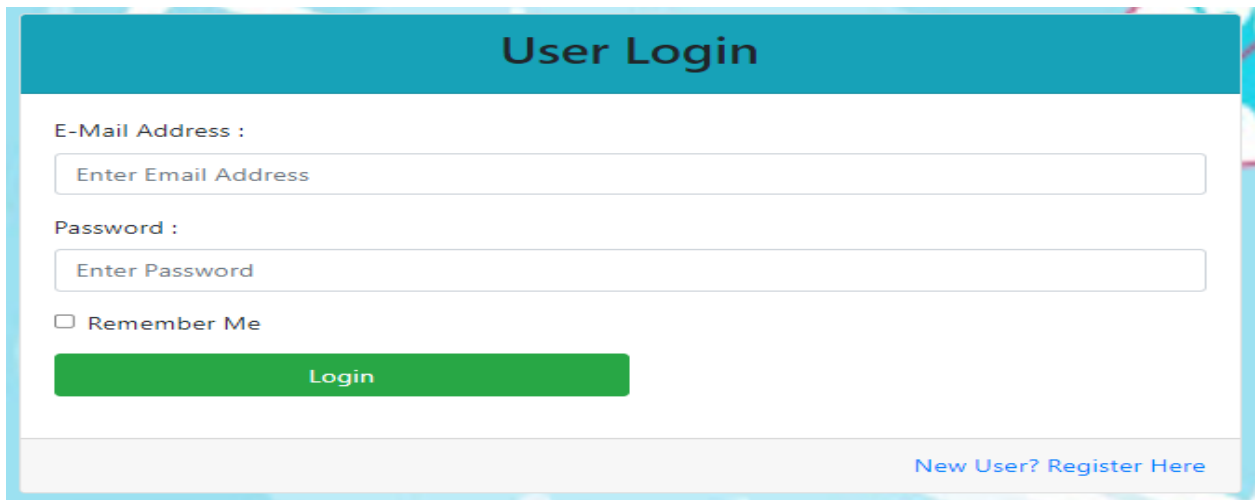
Hospital Details:
Square Hospital Ltd

Vaccine Summary

#	Vaccine Name	Missing Dose	Price	Taken Date	Hospital
1	BCG	1	500.00	2021-06-25	Square hospital Ltd

Figure 62: Payment invoice.

➤ **Admin login**



The image shows a 'User Login' form with a teal header. It contains two input fields: 'E-Mail Address' with the placeholder 'Enter Email Address' and 'Password' with the placeholder 'Enter Password'. Below these is a checkbox labeled 'Remember Me'. A green 'Login' button is positioned below the password field. At the bottom right, there is a link that says 'New User? Register Here'.

Figure 63: Admin login page.

➤ **Amin dashboard.**

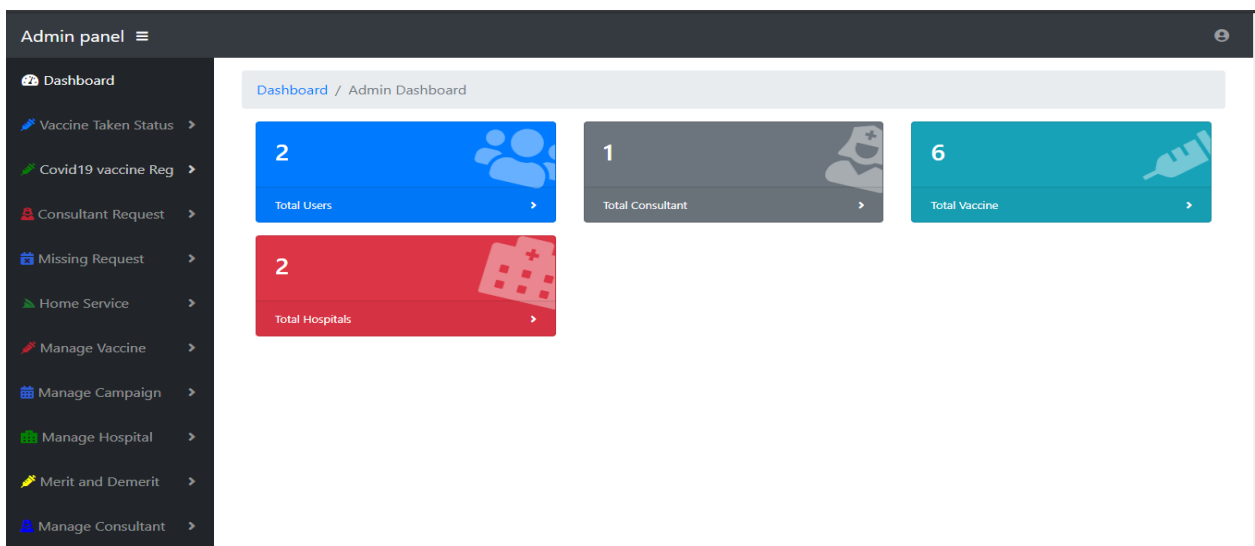


Figure 64: Admin dashboard.

➤ **Add new vaccines.**

Vaccine Name *

Number Of Vaccine Dose *

Disease Name *

Age Limit *

Vaccine Taken Time (In Month) *

Vaccine Image *

No file chosen

Figure 65: New vaccine add.

➤ **Update vaccine status.**

Registered Vaccine and Current Status					
Show <input type="text" value="10"/> entries			Search: <input type="text"/>		
# ↑↓	Vaccine Name ↑↓	Vaccine Dose ↑↓	Dose Taken ↑↓	Next Dose ↑↓	Update ↑↓
1	BCG	1	✓	All Dose Taken	All Dose Taken
2	Pentavalent(DPT, Hepatitis-B, Hib)	3	✓ ✓ ✓	Sep-13-2021	--Select One-- <input type="button" value="Update"/>
3	PCV	3	✓ ✓ ✓	Sep-13-2021	--Select One-- <input type="button" value="Update"/>
4	OPV	4	✓ ✓ ✓ ✓	Sep-13-2021	--Select One-- <input type="button" value="Update"/>
5	MR Vaccine	1	✓	Jan-13-2022	--Select One-- <input type="button" value="Update"/>

Showing 1 to 5 of 5 entries

Previous
1
Next

Figure 66: Update vaccine status.

➤ **Add COVID-19 vaccines.**

Add Covid19 Vaccine

Disses Name: *

Vaccine Name: *

Number Dose: *

Break Time: *

Image: *




No file chosen

Figure 67: Add new COVID-19 vaccine.

➤ **Update COVID-19 status.**

Corona Vaccine

Show entries Search:

#	Name	NID	Phone	Vaccine Dose	Dose Taken	Next Dose	More
1	Sayem	9477634634882837	01833995689	2	 	Jul-21-2021	 View

Showing 1 to 1 of 1 entries Previous **1** Next

Figure 68: Update COVID-19 status.

➤ Add hospital.

Hospital Name : *

Hospital Phone Number : *

Hospital Address : *

Map Link : *

Generate Map Link

Figure 69: Added new hospital list.

➤ Manage hospital.

All Hospital List							
Show <input type="text" value="10"/> entries				Search: <input type="text"/>			
#	Hospital Name	Phone	Address	Action	More	Add Vaccine	
1	Square hospital Ltd	01876485960	Panthapath	Edit Delete	More	+ Add	
2	Ibn Sina hospital	01974836222	Dhanmondi 15	Edit Delete	More	+ Add	
3	Delta Medical Hospital	01985768932	Mirpur-1	Edit Delete	More	+ Add	
4	Uttara Crescent Hospital	01987465783	Uttara, Dhaka	Edit Delete	More	+ Add	
5	ISLAMI BANK HOSPITAL	01886475987	Motijheel, Dhaka	Edit Delete	More	+ Add	
6	Azimpur Maternity Hospital	01833995689	Azimpur	Edit Delete	More	+ Add	

Showing 1 to 6 of 6 entries
Previous
1
Next

Figure 70: Manage all hospital.

➤ **Add vaccine in hospital.**

Hospital Name:

Delta Medical Hospital

☐ BCG

☐ Pentavalent(DPT, Hepatitis-B, Hib)

☐ PCV

☐ OPV

☐ MR Vaccine

☐ Ham vaccine

Submit

Figure 71: Available vaccine in hospital.

➤ **Add consultant.**

Add New Consultant [Manage Consultant](#)

Name *

Email *

Phone *

Designation *

Current Job Institute Name *

Image * No file chosen

Booking Price *

Submit

Figure 72: Add new consult.

➤ **Manage consultant.**

All Consultant List

+ Add New Consultant

Show 10 entries

Search:

#	Name	Email	Phone	Price	Profile	Action
1	Dr. Shamsul Arefin	Sahmsul@gmail.com	01974836547	500.00 T.K	View	Delete
2	Dr.-Mohammad-Shofiqur-Rahman	Dr.Shaofiqur121@gmail.com	01795748391	700.00 T.K	View	Delete
3	Dr.-Mohammad-Shofiqur-Rahman	shofiqur12@gmail.com	01974836547	600.00 T.K	View	Delete

Showing 1 to 3 of 3 entries

[Previous](#) [1](#) [Next](#)

Figure 73: manage all consultant.

➤ **Host new campaign.**

Title *

Enter Title

Start Date *

mm/dd/yyyy

End Date *

mm/dd/yyyy

Campaign Location *

Enter Location Name

Image *

Choose File

No file chosen

Figure 74: Add new campaign.

➤ **Manage campaign.**

Manage Campaign



+ Add New Campaign

Show

10

entries

Search:

#	Title	Start Date	End Date	Location	Image	Action
1	Vitamin A plus campaign 2021	2021-06-14	2021-06-29	uttar tolarbag, Mirpur-1		<div>Edit</div> <div>Delete</div>
2	Covid-19 vaccine Campaign 2021	2021-06-23	2021-06-26	uttar tolarbag, Mirpur-1		<div>Edit</div> <div>Delete</div>

Showing 1 to 2 of 2 entries

Previous

1

Next

Figure 75: Manage all campaign.

- **Update COVID-19 vaccine status with date.**

Covid19 Vaccine Registration Details

Show

10

 entries

Search:

#	Name	NID	Phone	Dose Taken	Update Status	Next Dose
1	abdullah	9477634634882837	01833995689	<div><div>✓</div><div>✓</div></div>	<div>--Sele<div>Update</div></div>	Jul-15-2021
2	Sayem	9477634634882837	01833995689	<div><div>✓</div><div>✗</div></div>	<div>--Sele<div>Update</div></div>	Jul-21-2021
3	abdullah	0988766774887878	01673875635	<div><div>✗</div><div>✗</div></div>	<div>--Sele<div>Update</div></div>	<div>mm/dd/yyyy<div>📅</div><div>Update</div></div>

Showing 1 to 3 of 3 entries

Previous

1

Next

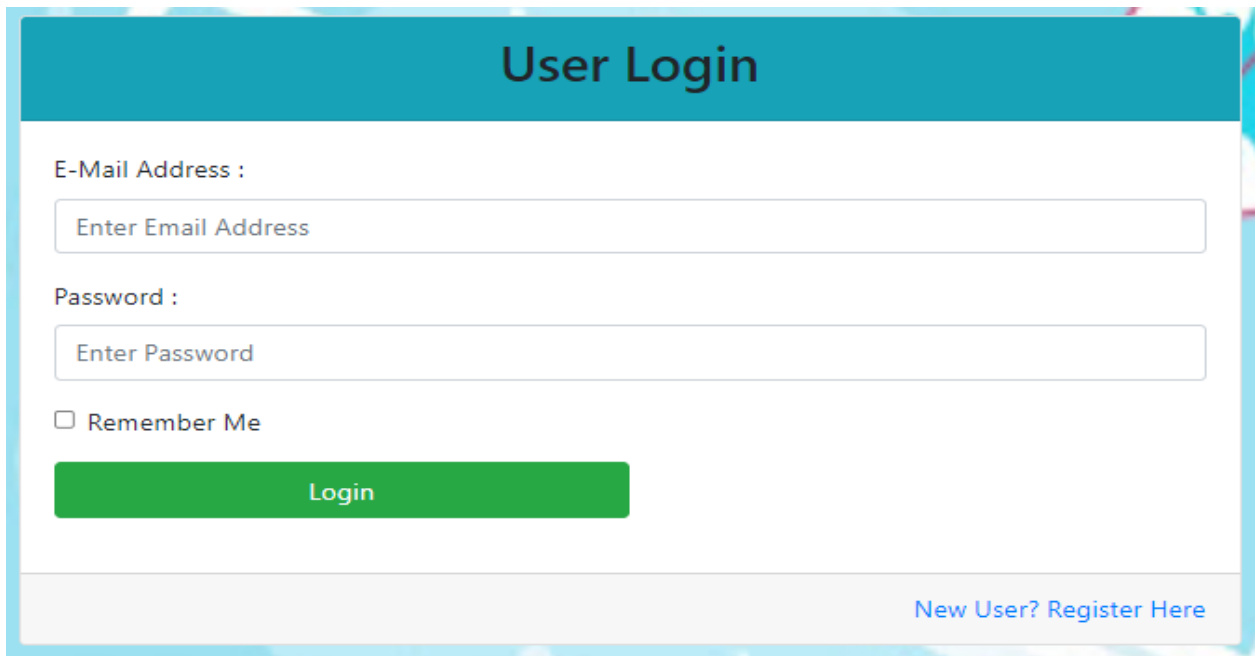
Figure 76: Update vaccine status.

❖ **Core Module Coding Samples**

❖ **Possible Problem Break Down**

10.1 Core Module Coding Samples

➤ Login System.

A screenshot of a web form titled "User Login". The form has a teal header with the title. Below the header, there are two input fields: "E-Mail Address :" and "Password :". The "E-Mail Address" field has a placeholder text "Enter Email Address". The "Password" field has a placeholder text "Enter Password". Below these fields is a checkbox labeled "Remember Me". At the bottom of the form is a green button labeled "Login". In the bottom right corner of the form, there is a link that says "New User? Register Here".

User Login

E-Mail Address :

Enter Email Address

Password :

Enter Password

☐ Remember Me

Login

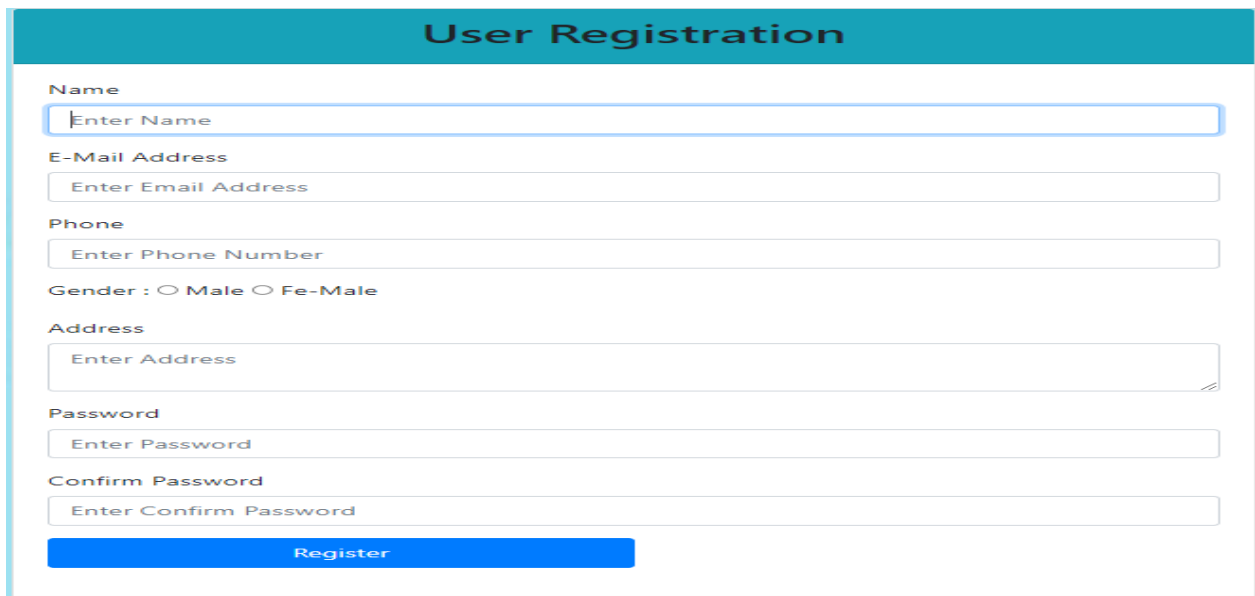
[New User? Register Here](#)

Figure 77: Login system.

```
protected function redirectTo()
{
    if (Auth::user()->role_id == 1){
        return route('admin.index');
    }elseif (Auth::user()->role_id == 2){
        return route('user.index');
    }
}

/**
 * Create a new controller instance.
 *
 * @return void
 */
public function __construct()
{
    $this->middleware('guest')->except('logout');
}
}
```

➤ Registration system.



The image shows a web form titled "User Registration" with a teal header. The form contains several input fields: "Name" (with placeholder "Enter Name"), "E-Mail Address" (with placeholder "Enter Email Address"), "Phone" (with placeholder "Enter Phone Number"), "Gender" (with radio buttons for "Male" and "Fe-Male"), "Address" (with placeholder "Enter Address"), "Password" (with placeholder "Enter Password"), and "Confirm Password" (with placeholder "Enter Confirm Password"). A blue "Register" button is at the bottom.

Figure 78: user registration.

```
protected function validator(array $data)
{
    return Validator::make($data, [
        'name' => ['required', 'string', 'max:255'],
        'email' => ['required', 'string', 'email', 'max:255', 'unique:users'],
        'phone' => ['required', 'string', 'max:11', 'min:11'],
        'address' => ['required', 'string', 'max:255'],
        'gender' => ['required', 'string', 'max:255'],
        'password' => ['required', 'string', 'min:4', 'confirmed'],
    ]);
}


/**
 * Create a new user instance after a valid registration.
 *
 * @param array $data
 * @return \App\Models\User
 */
protected function create(array $data)
{
    return User::create([
        'name' => $data['name'],
        'email' => $data['email'],
        'phone' => $data['phone'],
        'address' => $data['address'],
        'gender' => $data['gender'],
        'password' => Hash::make($data['password']),
    ]);
}
```

➤ Child registration.

First Name *

Last Name *

Birth Date *

Birth Certificate

Submit

Figure 79: New child registration.

```
public function add_new_child(Request $request){  
    // $user_id = Auth::user()->id;  
  
    $this->validate($request, [  
        'first_name' => 'required | min:3 |max: 30',  
        'last_name' => 'required | min:3 |max: 30',  
        'birth_date' => 'required',  
    ],[  
        'first_name.required' => 'Please Enter First Name',  
        'first_name.min' => 'Please Enter Minimum 3 Character Value In First Name',  
        'first_name.max' => 'Please Enter Maximum 30 Character Value In First Name',  
        'last_name.required' => 'Please Enter Last Name',  
        'last_name.min' => 'Please Enter Minimum 3 Character Value In Last Name',  
        'last_name.max' => 'Please Enter Maximum 30 Character Value In Last Name',  
        'birth_date.required' => 'Please Select Birth Date',  
    ]);  
  
    $reg_child = new Child_registration();  
  
    $reg_child->user_id      = Auth::user()->id;  
    $reg_child->first_name   = $request->first_name;  
    $reg_child->last_name    = $request->last_name;  
    $reg_child->birth_date   = $request->birth_date;  
    $reg_child->birth_certificate = $request->birth_certificate;  
  
    $reg_child->save();  
  
    return redirect()->route('user.Reg_child.view_all_children')->with('success', 'New Children Data Added Successful');  
}
```

➤ Re-registration missing vaccine.

Child Name :	Guardian Phone:
<input type="text" value="Maruf khan"/>	<input type="text" value="01833995689"/>
Select Missing Vaccine Name : *	Missing Dose : *
<input type="text" value="-----Select One-----"/>	<input type="text" value="Example: 1"/>
Select Hospital : *	Dose Fee : *
<input type="text" value="-----Select One-----"/>	<input type="text" value="500"/>
<input type="button" value="Submit"/>	

Figure 80: Re-registration for missing vaccine.

```
public function reg_missingVaccine(Request $request){
    $this->validate($request, [
        'missing_dose' => 'required'
    ],[
        'missing_dose.required' => 'Please Enter you missing Dosedose'
    ]);

    $invoice = rand(100,10000);
    $missing = new MissingVaccine();
    $missing->childID = $request->childID;
    $missing->userID = $request->userID;
    $missing->dose_fee = $request->dose_fee;
    $missing->phone = $request->phone;
    $missing->vacID = $request->vacID;
    $missing->missing_dose = $request->missing_dose;
    $missing->hospital_name = $request->hospital_name;
    $missing->invoice_number = $invoice;

    $missing->save();
    $id = $missing->id;

    dd($id);
    return redirect()->route('user.missing_vaccine.pay_now', compact('id'))->with('success', 'Registration success');
}
```

➤ Notification.

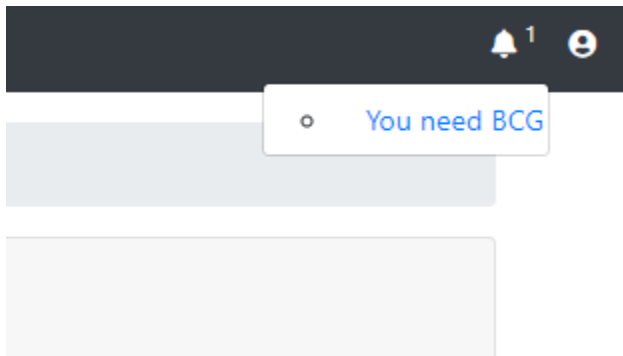


Figure 81: Show upcoming vaccine reminder.

```
@php( $reg_vaccine = DB::table('reg_vaccines')
->join('users','users.id','=','reg_vaccines.user_id')
->join('vaccines','vaccines.id','=','reg_vaccines.vaccine_id')
->join('child_registrations','child_registrations.id','=','reg_vaccines.child_id')
->select('users.id as userID','child_registrations.id as childID','child_registrations.first_name as
childFirst_name', 'child_registrations.last_name as childLastName','child_registrations.birth_date
as birthDay', 'vaccines.id as vaccineID','vaccines.vaccine_name as
vaccineName','vaccines.number_of_dose as vaccineDose','vaccines.break as Break','reg_vaccines.id as
regID','reg_vaccines.dose_taken as doseTake', 'reg_vaccines.taken_date as
takeDate','reg_vaccines.status')
->where('reg_vaccines.user_id','=', Auth::user()->id)
->get()
)

@foreach($reg_vaccine as $reg)
<?php
    $birth_date = (date('Y-m-d', strtotime($reg->birthDay)));
    $break = $reg->Break;
    $date = new DateTime($birth_date);
    $date->modify('+ '.$break.' month');
    $date_dose = $date->format('M-d-Y');

    $take = new DateTime($date_dose);
    $take->modify('- 2 days');
    $take_dose = $take->format('M-d-Y');

    $today = date('M-d-Y');

    if ($take_dose == $today){
        echo '1';
    }else{
        echo '';
    }
}
?>

@endforeach
```


➤ Add vaccine.

All Vaccine Details							+ Add New Vaccine
Show 10 entries		Search:					
#	Vaccine Name	Dose	Disease Name	Age Limit	Action		More
1	BCG	1	Tuberculosis	0 to 1	Edit	Delete	View
2	Pentavalent(DPT, Hepatitis-B, Hib)	3	Diphtheria, Whooping Cough	0 to 1	Edit	Delete	View
3	PCV	3	Pneumococcal, Pneumonia	0 to 1	Edit	Delete	View
4	OPV	4	Polio myelitis	0 to 1	Edit	Delete	View
5	MR Vaccine	1	Measles Rubella	0 to 1	Edit	Delete	View
6	Ham vaccine	1	Measles	0 to 2	Edit	Delete	View

Showing 1 to 6 of 6 entries

Previous 1 Next

Figure 82: Add vaccine list.

```

public function add_vaccine(Request $request){
    $this->validate($request, [
        'vaccine_name' => 'required | unique:vaccines',
        'number_of_dose' => 'required',
        'disease' => 'required',
        'age_limit' => 'required',
        'description' => 'required',
        'break' => 'required',
        'vaccine_image' => 'required | mimes:jpg,png,jpeg|max:7048'
    ],[
        'vaccine_name.required' => 'Please Enter Vaccine Name',
        'category_name.unique' => 'This Name Is All Ready Added',
        'number_of_dose.required' => 'Please Enter Number Dose',
        'disease.required' => 'Please Enter Disease Name',
        'age_limit.required' => 'Please Enter Age Limit',
        'description.required' => 'Please Enter Description',
        'break.required' => 'Please Enter Vaccine Taken Time',
        'vaccine_image.required' => 'Please Select An Image',
        'vaccine_image.mimes' => 'Please Select Jpg,png,jpeg Type',
        'vaccine_image.max' => 'Please Select Image Less Then 8 Mb'
    ]);

    $vaccine = new Vaccine();
    $vaccine->vaccine_name = $request->vaccine_name;
    $vaccine->number_of_dose = $request->number_of_dose;
    $vaccine->disease = $request->disease;
    $vaccine->age_limit = $request->age_limit;
    $vaccine->break = $request->break;
    $vaccine->description = $request->description;

    if ($request->hasFile('vaccine_image')) {
        $file = $request->file('vaccine_image');
        $extension = $file->getClientOriginalExtension();
        $fileName = time() . '.' . $extension;
        $file->move('Vaccine/images/', $fileName);
        $vaccine->vaccine_image = $fileName;
    } else {
        return $request;
        $vaccine->vaccine_image = '';
    }

    $vaccine->save();

    return redirect()->route('admin.vaccine.get_all_vaccine')->with('success','New Vaccine Added Successful');
}

```

➤ Invoice.

Invoice Number: VC3134

User Information:
Sayem
01833995689
kaptai

Hospital Details:
Square Hospital Ltd

Payment Method: Bkash
Account Number: 01748498758
Transaction ID: UCS8TX

Vaccine Summary

#	Vaccine Name	Missing Dose	Price	Taken Date	Hospital
1	BCG	1	500.00	2021-06-25	Square hospital Ltd

Figure 83: payment invoice.

```
public function get_certificate($id){
    $page_name = ' Vaccination Card';
    $reg_vaccine = DB::table('reg_vaccines')
        ->join('users','users.id','=', 'reg_vaccines.user_id')
        ->join('vaccines','vaccines.id','=', 'reg_vaccines.vaccine_id')
        ->join('child_registrations','child_registrations.id','=', 'reg_vaccines.child_id')
        ->select('users.id as userID', 'users.email as userEmail','users.phone as userPhone', '
            users.address as userAddress', 'child_registrations.id as childID','
            child_registrations.first_name as childFirst_name', 'child_registrations.last_name as
            childLastName','child_registrations.birth_date as birthDay', 'vaccines.id as vaccineID','
            vaccines.vaccine_name as vaccineName','vaccines.number_of_dose as vaccineDose','
            vaccines.break as Break','reg_vaccines.id as regID','reg_vaccines.dose_taken as doseTake', '
            reg_vaccines.taken_date as takeDate','reg_vaccines.status', 'reg_vaccines.created_at as
            regDate')
        ->where('reg_vaccines.id','=', $id)
        ->get();

    dd($reg_vaccine);
    return view('user.vaccine_details.certificate',compact('page_name','reg_vaccine'));
}
```

➤ Campaign.

Title *

Start Date *

End Date *

Campaign Location *

Image *

No file chosen

Figure 84: hosting campaign.

```
public function add_campaign(Request $request){
    $this->validate($request,[
        'title' => 'required',
        'start_date' => 'required',
        'end_date' => 'required',
        'description' => 'required',
        'location' => 'required',
        'image' => 'required | mimes:jpg,png,jpeg|max:7048'
    ],[
        'title.required' => 'Please Enter Title',
        'start_date.required' => 'Please Enter Start Date',
        'end_date.required' => 'Please Enter End Date',
        'description.required' => 'Please Enter Description',
        'location.required' => 'Please Enter Location Name',
        'image.required' => 'Please Select An Image',
        'image.mimes' => 'Please Select Jpg,png,jpeg Type',
        'image.max' => 'Please Select Image Less Than 8 Mb'
    ]);

    $campaign = new Campaign();

    $campaign->title = $request->title;
    $campaign->start_date = $request->start_date;
    $campaign->end_date = $request->end_date;
    $campaign->location = $request->location;
    $campaign->description = $request->description;

    if ($request->hasFile('image')) {
        $file = $request->file('image');
        $extension = $file->getClientOriginalExtension();
        $fileName = time() . '.' . $extension;
        $file->move('campaign/images/', $fileName);
        $campaign->image = $fileName;
    } else {
        return $request;
        $campaign->image = '';
    }

    $campaign->save();
    return redirect()->route('admin.campaign.get_all_campaign')->with('success','New Campaign Added Successful');
}
```

➤ Taken vaccine status.

Registered Vaccine and Current Status						
Show <input type="text" value="10"/> entries		Search: <input type="text"/>				
# ↑↓	Child Name ↑↓	Vaccine Name ↑↓	Vaccine Dose ↑↓	Dose Taken ↑↓	Next Dose ↑↓	More ↑↓
1	Saifan khan	BCG	1	✓	Aug-13-2021	View
2	Saifan khan	Pentavalent(DPT, Hepatitis-B, Hib)	3	✓✓✓	Sep-13-2021	View
3	Saifan khan	PCV	3	✓✓✓	Sep-13-2021	View
4	Saifan khan	OPV	4	✓✓✓✓	Sep-13-2021	View
5	Saifan khan	MR Vaccine	1	✓	Jan-13-2022	View
Showing 1 to 5 of 5 entries						Previous 1 Next

Figure 85: update vaccine status.

```

class UpdateVaccineTakenController extends Controller
{
    public function view(){
        $page_name = 'Update Vaccine Taken Status';

        $date = date('Y-m-d');
        $reg_vaccine = DB::table('reg_vaccines')
            ->join('users','users.id','=','reg_vaccines.user_id')
            ->join('vaccines','vaccines.id','=','reg_vaccines.vaccine_id')
            ->join('child_registrations','child_registrations.id','=','reg_vaccines.child_id')
            ->select('users.id as userID','child_registrations.id as childID','child_registrations.first_name as
                childFirst_name','child_registrations.last_name as childLastName','vaccines.id as vaccineID','
                vaccines.vaccine_name as vaccineName','vaccines.number_of_dose as vaccineDose','reg_vaccines.id as regID','
                reg_vaccines.dose_taken as doseTake','reg_vaccines.taken_date as takeDate','reg_vaccines.status')
            ->groupBy('childID')
            ->get();

        return view('admin.vaccine_take.view',compact('page_name','reg_vaccine'));
    }
}

```

```

public function view_vaccine_taken_details($id){
    $page_name = 'Registered Vaccine and Current Status';

    $reg_vaccine = DB::table('reg_vaccines')
        ->join('users','users.id','=','reg_vaccines.user_id')
        ->join('vaccines','vaccines.id','=','reg_vaccines.vaccine_id')
        ->join('child_registrations','child_registrations.id','=','reg_vaccines.child_id')
        ->select('users.id as userID','child_registrations.id as childID','child_registrations.first_name as
            childFirst_name', 'child_registrations.last_name as childLastName','child_registrations.birth_date as birthDay
            ', 'vaccines.id as vaccineID','vaccines.vaccine_name as vaccineName','vaccines.number_of_dose as vaccineDose',
            'vaccines.break as Break','reg_vaccines.id as regID','reg_vaccines.dose_taken as doseTake', '
            reg_vaccines.taken_date as takeDate','reg_vaccines.status')
        ->where('reg_vaccines.child_id','=', $id)
        ->get();
}

```

```

public function update(Request $request, $id){
    $this->validate($request,[
        'dose_taken' => 'required',
    ]);

    $update = RegVaccine::find($id);

    $date = date('Y-m-d');
    $update->dose_taken = $request->dose_taken;
    $update->taken_date = $date;
    $update->save();

    return back();
}


```

➤ Vaccine registration.

First Name *

Last Name *

Birth Date *

Birth Certificate

Figure 86: registration for vaccine.

```
public function reg_vaccine(Request $request){
    $this->validate($request,[
        'user_id'    => 'required',
        'child_id'   => 'required',
        'vaccine_id' => 'required'
    ]);
    foreach ($request->vaccine_id as $id => $vaccine){
        $reg          = new RegVaccine();
        $reg->user_id  = $request->user_id;
        $reg->child_id  = $request->child_id;
        $reg->vaccine_id = $request->vaccine_id [$id];
        $reg->status    = 0;
        $reg->save();
    }
    return back()->with('success', 'Registration successful');
}
```

➤ Application details.

My Application

Show entries Search:

#	Child Name	Vaccine	Missing Dose	Hospital	Take Date	Payment History
1	Ahmed Musa	Musa	BCG	Square hospital Ltd	2021-06-25	View
2	Ahmed Musa	Musa	BCG	Square hospital Ltd	Not Set Yet	View

Showing 1 to 2 of 2 entries Previous **1** Next

Figure 87: User application.

```
public function details($id){
    $page_name = 'My Application Details';
    $application = DB::table('services')
        ->join('users','users.id', '=', 'services.userID')
        ->join('vaccines','vaccines.id', '=', 'services.vacID')
        ->join('child_registrations','child_registrations.id','=', 'services.childID')
        ->where('services.id','=', $id)
        ->get();

    return view('user.services.full_details', compact('page_name','application'));
}
}
```

➤ Home service request.

Select Child : <div>-----Select One-----</div>	Select Vaccine Name : <div>-----Select One-----</div>
Dose Number : <div>Example: 1</div>	Current Dose Taken Date : <div>mm/dd/yyyy</div>
Service Fee : <div>500</div>	Guardian Phone: <div></div>
Current Address : <div></div>	
<div>Submit</div>	

Figure 88: user home service request.

```
public function RequestService(Request $request){
    $this->validate($request, [
        'dose_number' => 'required',
        'takenDate'   => 'required'
    ],[
        'dose_number.required' => 'Please Enter Dose Number',
        'takenDate.required'   => 'Please Enter Current Dose Taken Date'
    ]);

    $invoice = rand(100,10000);
    $service = new Services();
    $service->childID      = $request->childID;
    $service->userID       = $request->userID;
    $service->fee          = $request->fee;
    $service->phone        = $request->phone;
    $service->vacID        = $request->vacID;
    $service->dose_number   = $request->dose_number;
    $service->takenDate     = $request->takenDate;
    $service->address      = $request->address;
    $service->invoice_number = $invoice;

    $service->save();
    $id = $service->id;
    return redirect()->route('user.services.pay_now', compact('id'))->with('success', 'Registration
    success');
}
```


10.2 Possible problem break down

I had to face some problems to create the system. To do this, I have divided the whole work into smaller parts according to the specific time period. I have tried to get the task done within the stipulated time.

Analyze the project

- Analysis the whole system
- Set a time period
- Whole task divided into smaller parts

Design and developed database

- Select proper attribute
- Create relations
- Implement full database

Design and implement frontend interface

- Design a prototype
- Make navigation
- Create design

Developing backend site

- Create relation with database system
- Make relationship with front end site
- Check functionality
- Implement technologies

Chapter 11- Testing

❖ **Test Case**

❖ **Unit Testing**

❖ **Module Testing**

❖ **Integration Testing**

11.1 Test Case

A test case is a document, which has a set of test data, expected results, preconditions and post conditions, established for a specific test scenario in order to validate compliance against a particular requirement.

Test Case acts as the starting point for the test implementation, and after applying a set of input standards, the application has a complete outcome and leaves the system at some end point or also known as implementation post condition. (tutorialspoint, 2021)

S.L	Case	Expected result	Actual result
01	Test case ID		
02	Name of testing		
03	Type of testing		
04	priority		
05	Pre-condition		
06	Post-condition		

11.2 Unit Testing

➤ Test Log-1 (Unit testing)

Unit Testing: 1	Project Name	Vaccination camp	Test Design By: Abdullah Al Murshed
Source of data: Customer	Test Name	Unit Testing	Test Date: 13/06/2021
Description	Check Validation of User Registration		
Steps	Test action	Excepted Result	Actual Result
	All field are empty.	System will show the message for input field with valid data.	All validation message are shown perfectly.

User Registration

Name

The name field is required.

E-Mail Address

The email field is required.

Phone

The phone field is required.

Gender : ☐ Male ☐ Fe-Male

Address

The address field is required.

Password

The password field is required.

Confirm Password

Figure 89: All validation message shown perfectly.

➤ **Test Log-2 (Unit testing)**

Unit Testing: 2	Project Name	Vaccination camp	Test Design By: Abdullah Al Murshed
Source of data:	Test Name	Unit Testing	Test Date: 13/06/2021
Customer			
Description	Check Validation of User Registration		
	Test action	Excepted Result	Actual Result
Steps	Input old email.	The email has been already taken.	Message shown perfectly.

User Registration

Name

E-Mail Address

The email has already been taken.

Phone

Gender : ☐ Male ☐ Fe-Male

Address

Password

Confirm Password

Register

Figure 90: Invalid email address.

➤ **Test Log-3 (Unit testing)**

Unit Testing: 3		Project Name	Vaccination camp	Test Design By: Abdullah Al Murshed
Source of data:	Test Name	Unit Testing	Test Date: 13/06/2021	
Customer				
Description	Check Validation of User Registration			
Steps	Test action	Excepted Result	Actual Result	
	Input wrong password.	The password confirmation does not match	Message shown perfectly.	

User Registration

Name

E-Mail Address

Phone

Gender : ☐ Male ☐ Fe-Male

Address

Password

The password confirmation does not match.

Confirm Password

Register

Figure 91: Input wrong password.

11.3 Module Testing

➤ Test Log-1 (Module testing)

integration Testing: 1	Project Name	Vaccination camp	Test Design By: Abdullah Al Murshed
Source of data: User	Test Name	Unit Testing	Test Date: 13/06/2021
Description	Check user registration email		
Steps	Test action	Excepted Result	Actual Result
	Input wrong email format	Show message for invalid email address.	Show actual message

User Registration

Name

E-Mail Address

Phone

Gender : ☒ Male ☐ Fe-Male

Address

Password

Confirm Password

Register

Please include an '@' in the email address. 'sayem' is missing an '@'.

Figure 92: Enter invalid email.

➤ **Test Log-2 (Module testing)**

integration Testing: 1	Project Name	Vaccination camp	Test Design By: Abdullah Al Murshed
Source of data: User	Test Name	Unit Testing	Test Date: 13/06/2021
Description	Check user Login		
Steps	Test action	Excepted Result	Actual Result
	Input invalid email and password.	Show invalid data.	System works perfectly.

User Login

E-Mail Address :

saem@gmail.com

These credentials do not match our records.

Password :

....

☐ Remember Me

Login

[New User? Register Here](#)

Figure 93: User login check.

11.4 Integration Testing

➤ Test Log-1 (Integration testing)

integration Testing: 1	Project Name	Vaccination camp	Test Design By: Abdullah Al Murshed
Source of data: Admin	Test Name	Unit Testing	Test Date: 13/06/2021
Description	Check admin login and system authentication		
Steps	Test action	Excepted Result	Actual Result
	Input valid email and password.	Email and password are valid to show in the admin dashboard.	Successfully show admin dashboard.

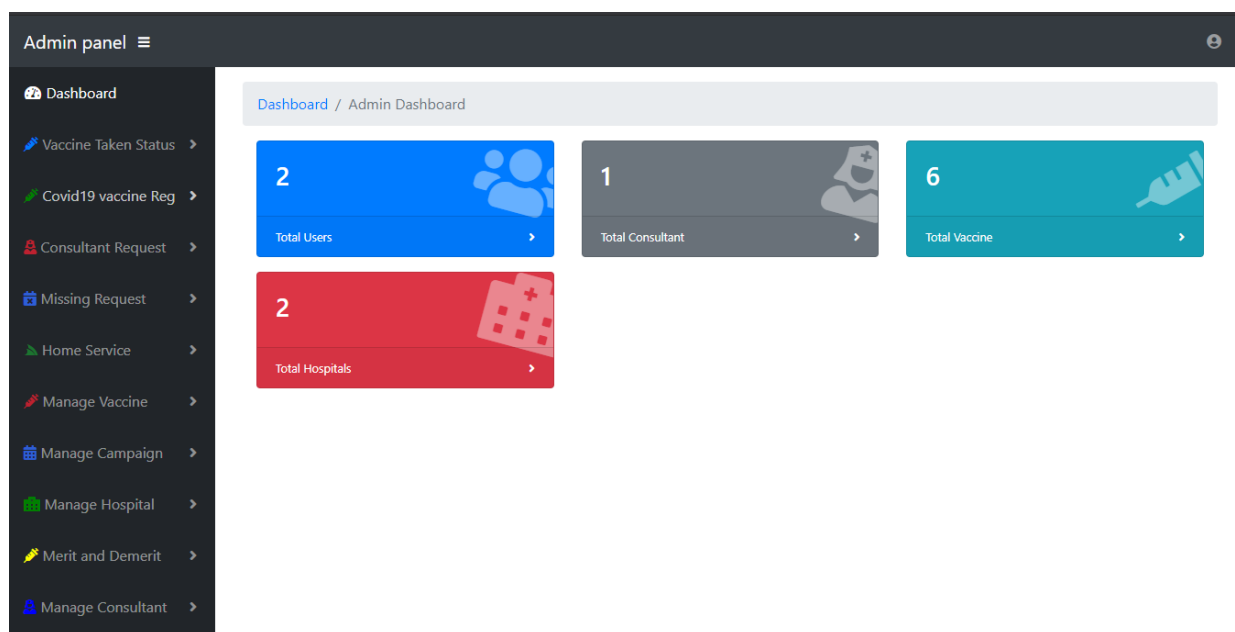


Figure 94: show admin dashboard

➤ Test Log-2 (Integration testing)

integration Testing: 2	Project Name	Vaccination camp	Test Design By: Abdullah Al Murshed
Source of data: Admin	Test Name	Unit Testing	Test Date: 13/06/2021
Description	Check to hosting new campaign		
Steps	Test action	Excepted Result	Actual Result
	Input valid information.	New campaign was successful.	Successfully hosted a new campaign.




Manage Campaign

+ Add New Campaign

New Campaign Added Successful X

Show 10 entries

Search:

# 1	Title 1	Start Date 1	End Date 1	Location 1	Image 1	Action 1
1	Vitamin A plus campaign 2021	2021-06-14	2021-06-29	uttar tolarbag, Mirpur-1		<a>Edit <a>Delete
2	Covid-19 vaccine Campaign 2021	2021-07-05	2021-07-30	uttar tolarbag, Mirpur-1		<a>Edit <a>Delete
3	Vitamin A	2021-06-14	2021-06-16	Mirpur-2		<a>Edit <a>Delete

Showing 1 to 3 of 3 entries

Previous
1
Next

Figure 95: Successfully host new campaign.

Chapter 12- Implementation

❖ **Training**

❖ **Big Bang**

12.1 Training

Training is a very important part for a new system. It helps to know new systems and how to use them. Users need to train to understand the system. When a user knows this system's functionality, the user uses the system fluently. I trained the user admin about this system. Because the admin maintains this system. Here I show the training details of the system.

S/L	Name of users	Training	Time limit	Details of training
01	Customer	Training needed for new child registration and understand the vaccine list.	1 hour	Users understand the full process of the vaccination system.
		How to re-register for missing vaccine doses.	30 min	Learn to register for missing doses if they miss vaccine doses.
		How to request a Doctor schedule.	15 min	Understanding how to contact a doctor.
		How to register COVID-19 vaccine and understand the vaccine doses.	20 min	Users can understand the process of COVID-19 vaccination processing.
		How to make payment.	10 min	Users learned here, how they provide payment and collect invoice.
02	Admin	How to maintain a full system.	3 hours.	Here the admin learned how he/she maintains the whole system.

12.2 Big Bang (no pilot, parallel implementation scheme)

Big bang assumption is a hardware or software migration technique that involves getting rid of the current system and transferring all users to the new system instantaneously. Implementation of the big bang is easier than other procedures such as parallel adoption, phased adoption, and pilot alterations. Because users can't try to learn from the old system.

Parallel Implementation scheme:

The scheme language can be altered into a parallel processing language by adding two new data forms, two processor organization primitives, and a task sharing mechanism. The mechanism can help to support task making, scheduling, and task organization.

❖ **Objective that could Met**

❖ **Objective totally not met/touch**

13.1 Objective that could be met

Here I will describe the objective which I met during my system development period. I have separated those objectives in three parts: - **Academic objectives, personal Objectives and Business Objectives.**

Academic Objectives13:

1. Appliance software development method in this system.
2. Creating project articles.
3. Using a well feasibility study about the project and risk factors.
4. Project based on database system.
5. Write a good test script and test plan.

Business Objectives:

1. Create a full online digital vaccination system.
2. Make a perfect vaccine tracking system.

Personal Objectives:

1. Complete full requirements.
2. Using high validation in the system.
3. Make crystal clear documentation.
4. Proper reminder system.

13.1.1 Academic Objectives

Objective 1: Implement software develop methodology in this project

In my project I have used the DSDM model for developing this system. In this part I am describing the systems. Here I will define some features of that:

Success:

Before starting this work, I collected a lot of data that is related to this project. The success of this objective is very satisfying. This part is covered in a window and the estimated results will be published.

How much better could have been done:

One of the great things of DSDM is that it does not compromise on quality on any system. It is very difficult for me to complete all the requirements wherever this force is to complete all the requirements.

Better solution:

That's why I created a time box to complete the system which will help me to complete the task on time.

Business specialists are connecting to developers when production plans use procedures for the report.

Success:

I have done the documentation of each part very well for better understanding. In the documentation part, I have added all kinds of diagrams which must be needed for a software or the system. The diagrams that I have added are very important for this system and they will be easy to understand about the user system and I have mentioned the details of the diagram below the protector.

How much better could have been done:

I started working on the documentation before I started working on my system. Where I first analyzed the system and the system budget. Then I made diagrams that helped to develop the system. And it was very helpful in terms of system interface. But it was very difficult for me to design the diagrams.

Better solution:

For the diagram I have used star UML software and Microsoft office which helps me to complete my documentation easily. Microsoft Excel helps to make Gantt Charts for my project.

Objective 3: Analyze the feasibility study of the project and risk factors

For measuring the tasks feasibility, Better understanding of this system requires full coverage of many sites which are operational, technical and economical.

Success:

Here I have described all kinds of feasibility studies and made good documentation on them. And details of the Cost Benefit Analysis of the whole system, which gives an initial account of the profit and loss of the total cost of the system.

How much better could have been done:

Cost benefit analysis is a very challenging task for me. I have gathered all resources for the system by analyzing the market and it was so challenging for me.

Better solution:

To solve this problem, we need to do a lot of market analysis now and in the future. Proper market research will help me to make my system richer.

Objective 4: Make database based project

It is a database based project system. Most of the data here is stored in the database. Everything from the vaccine list to the user vaccine schedule is backed up here. I have used MYSQL to store data here through Proper Relationships.

Success:

I can store all kinds of data here and I can fetch it when we need any information in the database management system.

How much better could have been done:

Many times it is difficult to fetch the correct data from the database. The reason is that not all relationships are working properly.

Better Solution:

I have to rebuild my entire database system through Proper Relationships. In this case, if I create a new ERD diagram and update the relations, this problem will be solved.

13.1.2 Business Objective

Objective 1: proper online vaccination system

It is a complete online vaccination management system. Here the whole schedule and dose update shows automatic.

Success:

After I have finished my testing part, I saw all requirements and all kinds of functionality are working properly.

How much better could have been done:

The biggest problem here is to update the date of the vaccine, the timing of the vaccine, the updated price of the vaccine and the tracking process. And it's another problem to find a hospital in the nearest location, to make sure that the specific hospital has all the vaccines.

Better Solution:

Standard SQL and Google API is used to fix this problem.

Objective 2: Update to proper vaccine tracking system

Another goal of my project is to track the COVID-19 vaccination system, schedule, and available vaccine doses.

Success:

All functionality in this part is working properly for using an authentic validation system.

How much better could have been done:

The big problem here is that the management is not able to control the vaccine doses. So the schedule is likely to be a little random.

Better Solution:

A proper vaccine tracking system can solve this problem.

13.1.3 Personal Objectives

Objective – Make full system with proper validation and verification and make my system

full error free.

My system is completely bug free and it is properly validated and completely authentic. No rogue can enter my system illegally.

Success:

Each function is fully validated in this system in a fully authentic way. And each function is very well checked in the testing chapter.

13.2 Which features could not be touched

In this project, I have described all of my project's requirements and completed most of the requirements. But, here I will describe the requirements which I have mentioned and not met with this.

Find nearest hospital:

Nearby location is a very important function for this system. When a user opens his current location, then the system automatically shows the nearby hospital where give child the vaccine.

Explain why not met the objective:

One of the reasons I could not add this objective to my system is because of my weakness. Another reason is the Google API. That's why I am not able to fulfill this requirement.

Overcome idea for met the objective:

This objective can be easily implemented by improving my weaknesses with adequate planning and analysis. Another way is maintaining the project time box for each objective. Time management is one of the important issues.

Chapter 14- Conclusion

- ❖ **Summary of the Project.**
- ❖ **Goal of the project.**
- ❖ **My experience.**

14.1 Summary of the project

Day by day people are getting acquainted with new technology and it is making people's life journey much easier. I created this system to match it. This system will help people gain knowledge about vaccination. Parents will also know what kind of problems will occur if children do not get the vaccine. This system is completely digital. Here users can do everything from online vaccine registration, referrals, doctor consultations, home service requests and hospital locations.

From the whole project, there are 14 chapters, all of which are well documented and each chapter is completed with goals and objectives in mind. Although not all purposes can be developed properly, the original system is clearly developed. All kinds of diagrams separate the old system and the new system and make it clear. After creating the diagram, I developed the system using LARAVEL, MYSQL, JQuery, and JavaScript. Most of the system testing reports were passed and made on time.

In addition, the system becomes bug-free at the end of the test.

14.2 Goal of the project

We are not the richest country in the world. Most of the people in our country live below the poverty line. The people of our country do not get many benefits like another richest country. Because the population of our country is very high. vaccination is very important for children to prevent many diseases such as developmental disability, hearing loss, pertussis, and polio, mumps, rubella, Hepatitis B, tetanus, diphtheria, chickenpox and pneumococcal infection. Most of the parents are not aware about this. So their children have fallen into many diseases.

So my main purpose is to make our country's parents aware of the dangers of not being vaccinated as well as to help them gain knowledge about the positive aspects of the vaccine. Remind them not to miss the dose. Assist parents with the location of nearby hospitals where their child can get vaccinated. This system has an automatic vaccine schedule, they can see which vaccines have been given to their children and which

vaccines have not been given. If a child develops a swollen hand or other infection after vaccination, they may contact a doctor using the system. Many times there are immunization programs in different areas, but most parents do not know when and where they are given. The system has a campaign for them so that they can see where the vaccine is being given. One of the purposes of this system is to save parents time. So that they can vaccinate their children very quickly even in busy times.

14.3 My experience

It took me a lot of hard work to build this system. I have been collecting a lot of information, so I have done a lot of analysis on many websites and many local and foreign sites. So it has helped me to gain a better knowledge about this system. I hope this digital vaccination system will make the vaccination process much easier.

I have had to face many kinds of problems while developing this system, I have learned a lot and had a good experience in fixing these problems. I think this experience will give me good enough support in my job field in the future.

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Appendices

Test Scripts

Unit Testing: 1		Project Name	Vaccination camp	Test Design By: Abdullah Al Murshed
Source of data:	Test Name	Unit Testing	Test Date: 13/06/2021	
Customer				
Description	Check Validation of User Registration			
Steps	Test action	Excepted Result	Actual Result	
	All field are empty.	System will show the message for the input field with valid data.	All validation messages are shown perfectly.	

User Registration

Name

The name field is required.

E-Mail Address

The email field is required.

Phone

The phone field is required.

Gender : ☐ Male ☐ Fe-Male

Address

The address field is required.

Password

The password field is required.

Confirm Password

Register

Figure 96: All validation messages shown perfectly.

Unit Testing: 2		Project Name	Vaccination camp	Test Design By: Abdullah Al Murshed
Source of data:	Test Name	Unit Testing	Test Date: 13/06/2021	
Customer				
Description	Check Validation of User Registration			
Steps	Test action	Excepted Result	Actual Result	
	Input old email.	The email has been already taken.	Message shown perfectly.	

User Registration

Name

E-Mail Address

The email has already been taken.

Phone

Gender : ☐ Male ☐ Fe-Male

Address

Password

Confirm Password

Register

Figure 97: Invalid email address.

Unit Testing: 3		Project Name	Vaccination camp	Test Design By: Abdullah Al Murshed
Source of data:	Test Name	Unit Testing	Test Date: 13/06/2021	
Customer				
Description	Check Validation of User Registration			
Steps	Test action	Excepted Result	Actual Result	
	Input wrong password.	The password confirmation does not match	Message shown perfectly.	

User Registration

Name

E-Mail Address

Phone

Gender : ☐ Male ☐ Fe-Male

Address

Password

The password confirmation does not match.

Confirm Password

Register

Figure 98: Input wrong password.

integration Testing: 1	Project Name	Vaccination camp	Test Design By: Abdullah Al Murshed
Source of data: User	Test Name	Unit Testing	Test Date: 13/06/2021
Description	Check user registration email		
Steps	Test action	Excepted Result	Actual Result
	Input wrong email format	Show message for invalid email address.	Show actual message

User Registration

Name

E-Mail Address

Phone

Gender : ☒ Male ☐ Fe-Male

Address

Password

Confirm Password

Register

Please include an '@' in the email address. 'sayem' is missing an '@'.

Figure 99: Enter invalid email.

integration Testing: 1	Project Name	Vaccination camp	Test Design By: Abdullah Al Murshed
Source of data: User	Test Name	Unit Testing	Test Date: 13/06/2021
Description	Check user Login		
Steps	Test action	Excepted Result	Actual Result
	Input invalid email and password.	Show invalid data.	System works perfectly.

User Login

E-Mail Address :

These credentials do not match our records.

Password :

☐ Remember Me

Login

[New User? Register Here](#)

Figure 100: User login check.

integration Testing: 1	Project Name	Vaccination camp	Test Design By: Abdullah Al Murshed
Source of data: Admin	Test Name	Unit Testing	Test Date: 13/06/2021
Description	Check admin login and system authentication		
Steps	Test action	Excepted Result	Actual Result
	Input valid email and password.	Email and password are valid to show in the admin dashboard.	Successfully show admin dashboard.

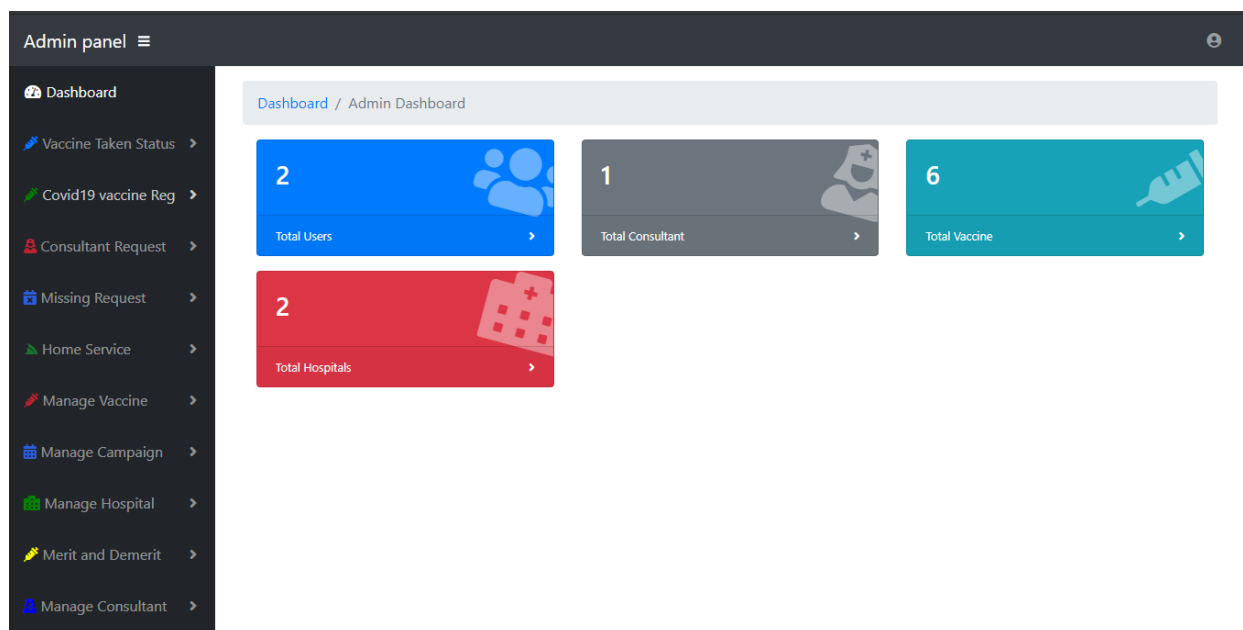


Figure 101: show admin dashboard

integration Testing: 2	Project Name	Vaccination camp	Test Design By: Abdullah Al Murshed
Source of data: Admin	Test Name	Unit Testing	Test Date: 13/06/2021
Description	Check to hosting new campaign		
Steps	Test action	Excepted Result	Actual Result
	Input valid information.	New campaign was successful.	Successfully hosted a new campaign.




Manage Campaign

[+ Add New Campaign](#)

New Campaign Added Successful

Show entries

Search:

#	Title	Start Date	End Date	Location	Image	Action
1	Vitamin A plus campaign 2021	2021-06-14	2021-06-29	uttar tolarbag, Mirpur-1		Edit Delete
2	Covid-19 vaccine Campaign 2021	2021-07-05	2021-07-30	uttar tolarbag, Mirpur-1		Edit Delete
3	Vitamin A	2021-06-14	2021-06-16	Mirpur-2		Edit Delete

Showing 1 to 3 of 3 entries

[Previous](#)
[1](#)
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Figure 102: Successfully host new campaign.

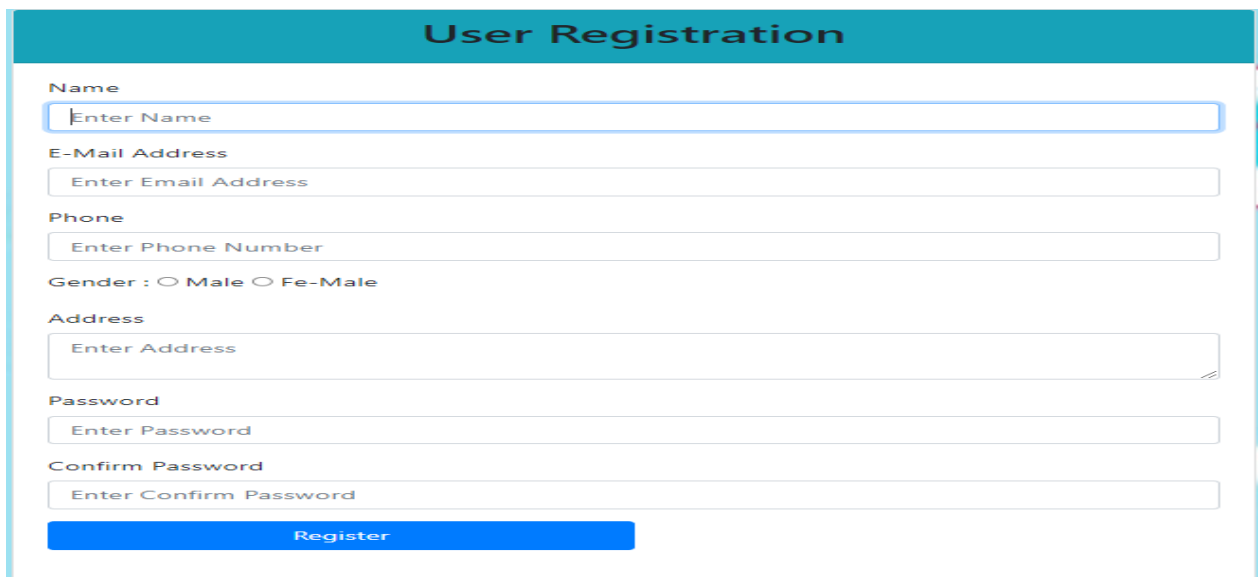
User Guide

User guide for admin:

- There needs to be an import SQL file from the local host. Which are located in the SQL folder of my Vaccination Camp.

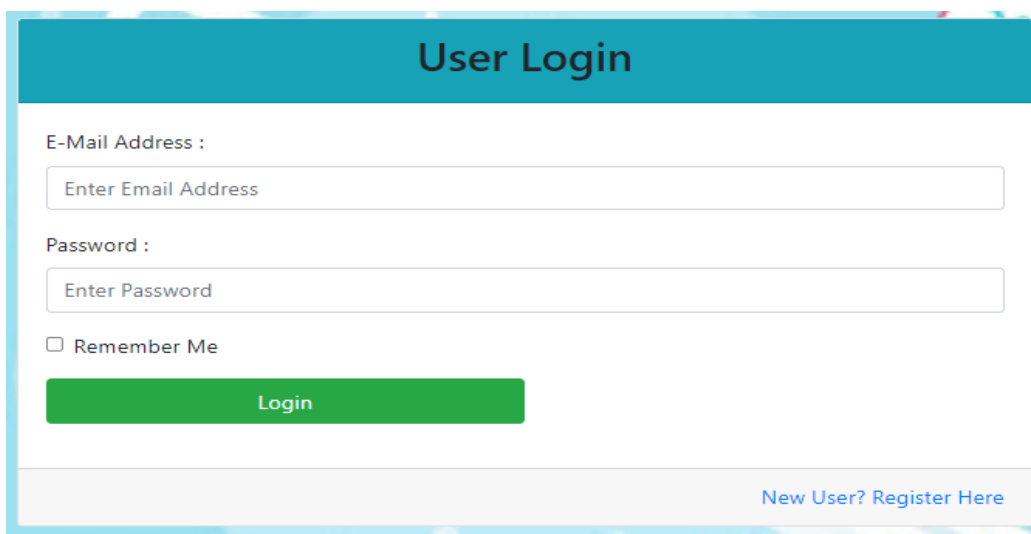
Admin can login with valid email and password:

User registration page.



The User Registration form is titled "User Registration" in a teal header. It contains several input fields: "Name" with a placeholder "Enter Name", "E-Mail Address" with a placeholder "Enter Email Address", "Phone" with a placeholder "Enter Phone Number", "Gender" with radio buttons for "Male" and "Fe-Male", "Address" with a placeholder "Enter Address", "Password" with a placeholder "Enter Password", and "Confirm Password" with a placeholder "Enter Confirm Password". A blue "Register" button is at the bottom.

Customer login



The User Login form is titled "User Login" in a teal header. It contains two input fields: "E-Mail Address" with a placeholder "Enter Email Address" and "Password" with a placeholder "Enter Password". Below these is a checkbox labeled "Remember Me". A green "Login" button is at the bottom. A link "New User? Register Here" is at the bottom right.

Figure 103: user login.

User dashboard

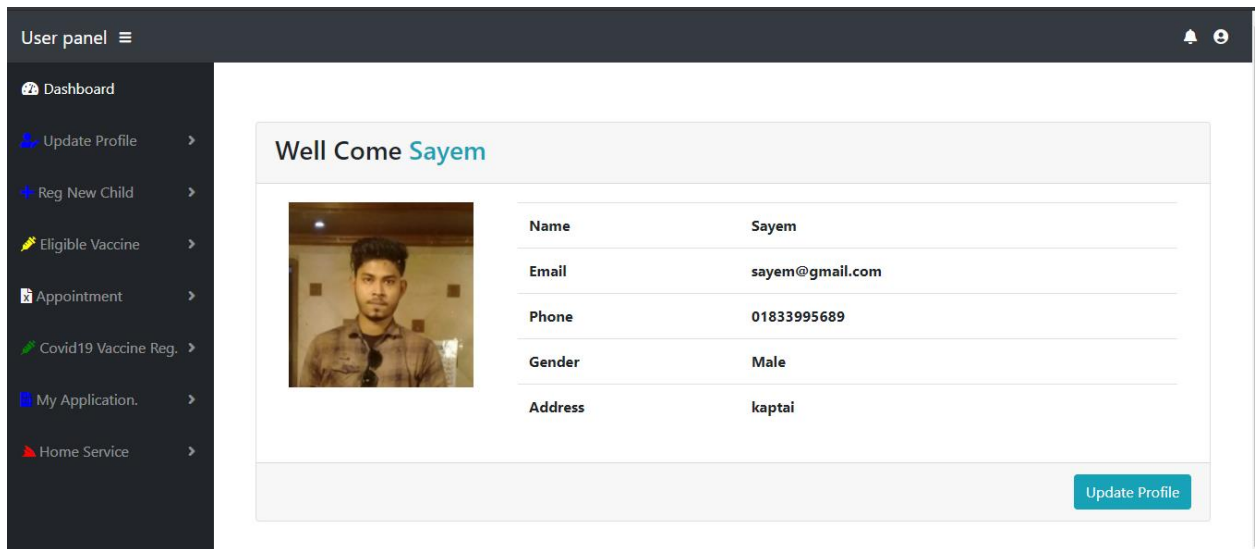


Figure 104: User dashboard.

Update user profile

Name

Sayem

Email

sayem@gmail.com

Gender ☒ Male ☐ Fe-Male

Phone Number

01833995689

Address

kaptai

Update Now


Figure 105: Update user profile

New child registration

First Name *

Last Name *

Birth Date *

Birth Certificate

Figure 106: New child registration

Select vaccine for child.

Click Submit Button To See Eligible Vaccine For Your Child

Child Name Child Age

Vaccine List

#	Check Now	Vaccine Name	Age Limit	Number Of Dose	Break
1	<input checked="" type="checkbox"/>	BCG	0 to 1	1	1 Month
2	<input checked="" type="checkbox"/>	Pentavalent(DPT, Hepatitis-B, Hib)	0 to 1	3	2 Month
3	<input checked="" type="checkbox"/>	PCV	0 to 1	3	2 Month
4	<input checked="" type="checkbox"/>	OPV	0 to 1	4	2 Month
5	<input checked="" type="checkbox"/>	MR Vaccine	0 to 1	1	6 Month
6	<input checked="" type="checkbox"/>	Ham vaccine	0 to 2	1	15 Month

Figure 107: Select eligible vaccine

Re-registration for missing vaccine.

Child Name :	Guardian Phone:
<input type="text" value="Maruf khan"/>	<input type="text" value="01833995689"/>
Select Missing Vaccine Name : *	Missing Dose : *
<input type="text" value="-----Select One-----"/>	<input type="text" value="Example: 1"/>
Select Hospital : *	Dose Fee : *
<input type="text" value="-----Select One-----"/>	<input type="text" value="500"/>
<input type="button" value="Submit"/>	

Figure 108: Re-registration for missing vaccine

Registration for COVID-19 vaccine.

Registration Covid19 Vaccine

Full Name: *	Email: *
<input type="text" value="Sayem"/>	<input type="text" value="sayem@gmail.com"/>
Phone: *	NID Number: *
<input type="text" value="01833995689"/>	<input type="text" value="Enter NID Number"/>
Birth Date: *	Select Hospital: *
<input type="text" value="mm/dd/yyyy"/>	<input type="text" value="----Select One-----"/>
Address: *	
<input type="text" value="Enter Address"/>	
<input type="button" value="Submit"/>	

Figure 109: Registration for COVID-19 vaccine

Home service request.

Select Child : -----Select One-----	Select Vaccine Name : -----Select One-----
Dose Number : Example: 1	Current Dose Taken Date : mm/dd/yyyy
Service Fee : 500	Guardian Phone:
Current Address : <div></div>	
<div>Submit</div>	

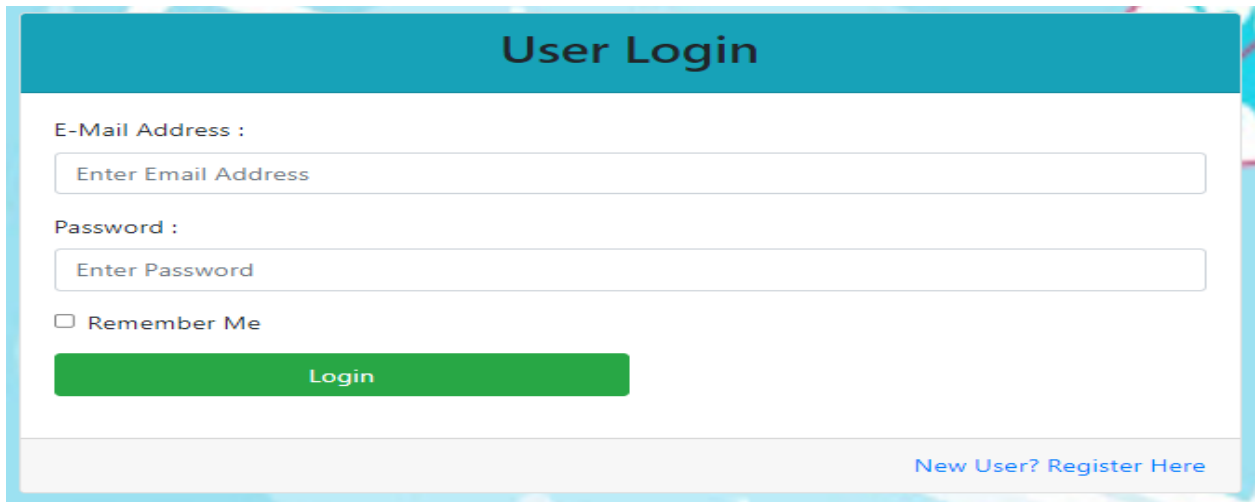
Figure 110: Home service request

Make payment invoice for vaccine.

Invoice Number: VC3134					
User Information: Sayem 01833995689 kaptai				Hospital Details: Square Hospital Ltd	
Payment Method: Bkash Account Number: 01748498758 Transaction ID: UCS8TX					
Vaccine Summary					
#	Vaccine Name	Missing Dose	Price	Taken Date	Hospital
1	BCG	1	500.00	2021-06-25	Square hospital Ltd

Figure 111: Payment invoice.

Admin login



The image shows a 'User Login' form with a teal header. It contains two input fields for 'E-Mail Address' and 'Password', a 'Remember Me' checkbox, and a green 'Login' button. A link for 'New User? Register Here' is at the bottom right.

User Login	
E-Mail Address :	<input type="text" value="Enter Email Address"/>
Password :	<input type="password" value="Enter Password"/>
<input type="checkbox"/> Remember Me	
<button>Login</button>	
New User? Register Here	

Figure 112: Admin login page.

Amin dashboard.

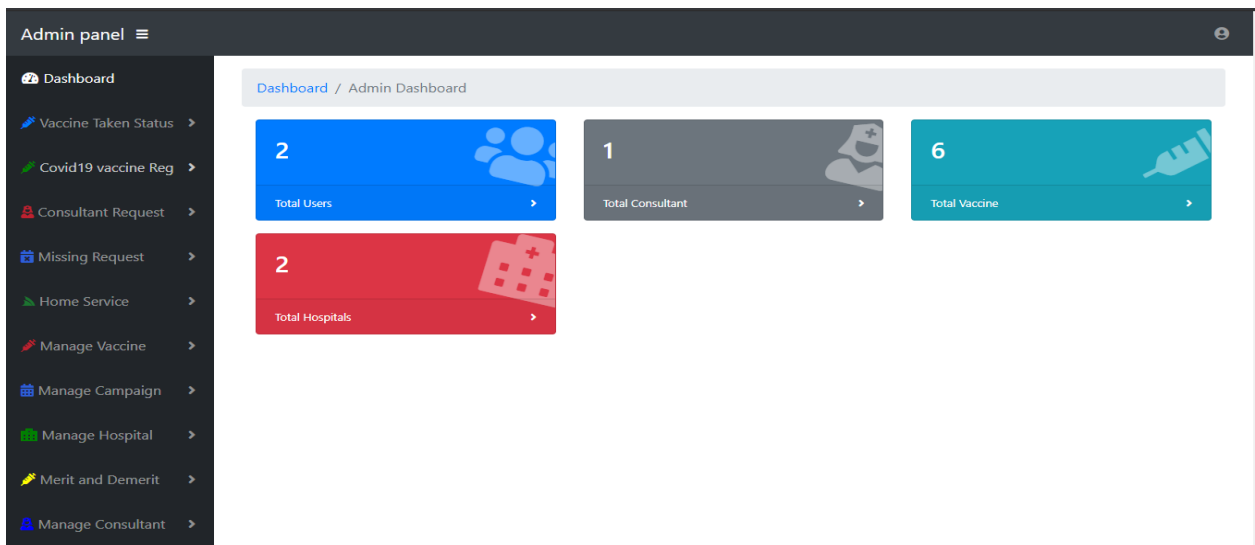


Figure 113: Admin dashboard.

Add new vaccines.

Vaccine Name *

Number Of Vaccine Dose *

Disease Name *

Age Limit *

Vaccine Taken Time (In Month) *

Vaccine Image *

Choose File

No file chosen

Figure 114: New vaccine add.

Update vaccine status.

Registered Vaccine and Current Status					
Show 10 entries		Search: <input type="text"/>			
#	Vaccine Name	Vaccine Dose	Dose Taken	Next Dose	Update
1	BCG	1	✓	All Dose Taken	All Dose Taken
2	Pentavalent(DPT, Hepatitis-B, Hib)	3	✓✓✓	Sep-13-2021	--Select One-- <input type="button" value="Update"/>
3	PCV	3	✓✓✓	Sep-13-2021	--Select One-- <input type="button" value="Update"/>
4	OPV	4	✓✓✓✓	Sep-13-2021	--Select One-- <input type="button" value="Update"/>
5	MR Vaccine	1	✓	Jan-13-2022	--Select One-- <input type="button" value="Update"/>
Showing 1 to 5 of 5 entries					Previous 1 Next

Figure 115: Update vaccine status.

Add COVID-19 vaccines.

Add Covid19 Vaccine

Disses Name: *

Vaccine Name: *

Number Dose: *

Break Time: *

Image: *

No file chosen




Figure 116: Add new COVID-19 vaccine.

Update COVID-19 status.

Corona Vaccine

Show entries

Search:

#	Name	NID	Phone	Vaccine Dose	Dose Taken	Next Dose	More
1	Sayem	9477634634882837	01833995689	2	 	Jul-21-2021	 View

Showing 1 to 1 of 1 entries

Previous **1** Next

Figure 117: Update COVID-19 status.

Add hospital.

Hospital Name : *

Hospital Phone Number : *

Hospital Address : *

Map Link : *

 [Generate Map Link](#)

Figure 118: Added new hospital list.

Manage hospital.

All Hospital List								+ Add New Hospital	
Show <input type="text" value="10"/> entries		Search: <input type="text"/>							
#	Hospital Name	Phone	Address	Action		More	Add Vaccine		
1	Square hospital Ltd	01876485960	Panthapath	Edit	Delete	More	+ Add		
2	Ibn Sina hospital	01974836222	Dhanmondi 15	Edit	Delete	More	+ Add		
3	Delta Medical Hospital	01985768932	Mirpur-1	Edit	Delete	More	+ Add		
4	Uttara Crescent Hospital	01987465783	Uttara, Dhaka	Edit	Delete	More	+ Add		
5	ISLAMI BANK HOSPITAL	01886475987	Motijheel, Dhaka	Edit	Delete	More	+ Add		
6	Azimpur Maternity Hospital	01833995689	Azimpur	Edit	Delete	More	+ Add		
Showing 1 to 6 of 6 entries								Previous	Next

Figure 119: Manage all hospital.

Add vaccine in hospital.

Hospital Name:

Delta Medical Hospital

☐ BCG

☐ Pentavalent(DPT, Hepatitis-B, Hib)

☐ PCV

☐ OPV

☐ MR Vaccine

☐ Ham vaccine

Submit

Figure 120: Available vaccine in hospital.

Add consultant.

Add New Consultant [Manage Consultant](#)

Name *

Email *

Phone *

Designation *

Current Job Institute Name *

Image * No file chosen

Booking Price *

Submit

Figure 121: Add new consult.

Manage consultant.

All Consultant List

+ Add New Consultant

Show 10 entries

Search:

#	Name	Email	Phone	Price	Profile	Action
1	Dr. Shamsul Arefin	Sahmsul@gmail.com	01974836547	500.00 T.K	View	Delete
2	Dr.-Mohammad-Shofiqur-Rahman	Dr.Shaofiqur121@gmail.com	01795748391	700.00 T.K	View	Delete
3	Dr.-Mohammad-Shofiqur-Rahman	shofiqur12@gmail.com	01974836547	600.00 T.K	View	Delete

Showing 1 to 3 of 3 entries

[Previous](#) [1](#) [Next](#)

Figure 122: manage all consultant.

Host new campaign.

Title *

Enter Title

Start Date *

mm/dd/yyyy

End Date *

mm/dd/yyyy

Campaign Location *

Enter Location Name

Image *

Choose File

No file chosen

Figure 123: Add new campaign.

Manage campaign.



Manage Campaign							+ Add New Campaign
Show <input type="text" value="10"/> entries					Search: <input type="text"/>		
# ↑↓	Title ↑↓	Start Date ↑↓	End Date ↑↓	Location ↑↓	Image ↑↓	Action ↑↓	
1	Vitamin A plus campaign 2021	2021-06-14	2021-06-29	uttar tolarbag, Mirpur-1		Edit Delete	
2	Covid-19 vaccine Campaign 2021	2021-06-23	2021-06-26	uttar tolarbag, Mirpur-1		Edit Delete	
Showing 1 to 2 of 2 entries							Previous 1 Next

Figure 124: Manage all campaign.

Update COVID-19 vaccine status with date.

Covid19 Vaccine Registration Details						
Show <input type="text" value="10"/> entries					Search: <input type="text"/>	
# ↑↓	Name ↑↓	NID ↑↓	Phone ↑↓	Dose Taken ↑↓	Update Status ↑↓	Next Dose ↑↓
1	abdullah	9477634634882837	01833995689	✓✓	--Sele Update	Jul-15-2021
2	Sayem	9477634634882837	01833995689	✓✓	--Sele Update	Jul-21-2021
3	abdullah	0988766774887878	01673875635	✓✓	--Sele Update	mm/dd/yyyy <input type="text"/> Update
Showing 1 to 3 of 3 entries						Previous 1 Next

Figure 125: Update vaccine status.

System Code

Login System.

```
protected function redirectTo()
{
    if (Auth::user()->role_id == 1){
        return route('admin.index');
    }elseif (Auth::user()->role_id == 2){
        return route('user.index');
    }
}

/**
 * Create a new controller instance.
 *
 * @return void
 */
public function __construct()
{
    $this->middleware('guest')->except('logout');
}
}
```

Figure 126: Login system.

Registration system.

```
protected function validator(array $data)
{
    return Validator::make($data, [
        'name' => ['required', 'string', 'max:255'],
        'email' => ['required', 'string', 'email', 'max:255', 'unique:users'],
        'phone' => ['required', 'string', 'max:11', 'min:11'],
        'address' => ['required', 'string', 'max:255'],
        'gender' => ['required', 'string', 'max:255'],
        'password' => ['required', 'string', 'min:4', 'confirmed'],
    ]);
}

/**
 * Create a new user instance after a valid registration.
 *
 * @param array $data
 * @return \App\Models\User
 */
protected function create(array $data)
{
    return User::create([
        'name' => $data['name'],
        'email' => $data['email'],
        'phone' => $data['phone'],
        'address' => $data['address'],
        'gender' => $data['gender'],
        'password' => Hash::make($data['password']),
    ]);
}
}
```

Figure 127: user registration.

Child registration.

```
public function add_new_child(Request $request){  
    // $user_id = Auth::user()->id;  
  
    $this->validate($request, [  
        'first_name' => 'required | min:3 |max: 30',  
        'last_name' => 'required | min:3 |max: 30',  
        'birth_date' => 'required',  
    ], [  
        'first_name.required' => 'Please Enter First Name',  
        'first_name.min' => 'Please Enter Minimum 3 Character Value In First Name',  
        'first_name.max' => 'Please Enter Maximum 30 Character Value In First Name',  
        'last_name.required' => 'Please Enter Last Name',  
        'last_name.min' => 'Please Enter Minimum 3 Character Value In Last Name',  
        'last_name.max' => 'Please Enter Maximum 30 Character Value In Last Name',  
        'birth_date.required' => 'Please Select Birth Date',  
    ]);  
  
    $reg_child = new Child_registration();  
  
    $reg_child->user_id = Auth::user()->id;  
    $reg_child->first_name = $request->first_name;  
    $reg_child->last_name = $request->last_name;  
    $reg_child->birth_date = $request->birth_date;  
    $reg_child->birth_certificate = $request->birth_certificate;  
  
    $reg_child->save();  
  
    return redirect()->route('user.Reg_child.view_all_children')->with('success', 'New Children Data Added Successful');  
}
```

Figure 128: New child registration.

Re-registration missing vaccine.

```
public function reg_missingVaccine(Request $request){  
    $this->validate($request, [  
        'missing_dose' => 'required'  
    ], [  
        'missing_dose.required' => 'Please Enter you missing Dosed'  
    ]);  
  
    $invoice = rand(100,10000);  
    $missing = new MissingVaccine();  
    $missing->childID = $request->childID;  
    $missing->userID = $request->userID;  
    $missing->dose_fee = $request->dose_fee;  
    $missing->phone = $request->phone;  
    $missing->vacID = $request->vacID;  
    $missing->missing_dose = $request->missing_dose;  
    $missing->hospital_name = $request->hospital_name;  
    $missing->invoice_number = $invoice;  
  
    $missing->save();  
    $id = $missing->id;  
  
    dd($id);  
    return redirect()->route('user.missing_vaccine.pay_now', compact('id'))->with('success', 'Registration success');  
}
```

Figure 129: Re-registration for missing vaccine.

Notification.

```
@php( $reg_vaccine = DB::table('reg_vaccines')
->join('users','users.id','=','reg_vaccines.user_id')
->join('vaccines','vaccines.id','=','reg_vaccines.vaccine_id')
->join('child_registrations','child_registrations.id','=','reg_vaccines.child_id')
->select('users.id as userID','child_registrations.id as childID','child_registrations.first_name as
childFirst_name', 'child_registrations.last_name as childLastName','child_registrations.birth_date
as birthDay', 'vaccines.id as vaccineID','vaccines.vaccine_name as
vaccineName','vaccines.number_of_dose as vaccineDose','vaccines.break as Break','reg_vaccines.id as
regID','reg_vaccines.dose_taken as doseTake', 'reg_vaccines.taken_date as
takeDate','reg_vaccines.status')
->where('reg_vaccines.user_id','=', Auth::user()->id)
->get()
)

@foreach($reg_vaccine as $reg)
<?php
    $birth_date = (date('Y-m-d', strtotime($reg->birthDay)));
    $break = $reg->Break;
    $date = new DateTime($birth_date);
    $date->modify('+'.$break.' month');
    $date_dose = $date->format('M-d-Y');

    $take = new DateTime($date_dose);
    $take->modify('- 2 days');
    $take_dose = $take->format('M-d-Y');

    $today = date('M-d-Y');

    if ($take_dose == $today){
        echo '1';
    }else{
        echo '';
    }
?>

@endforeach
```

Figure 130: Show upcoming vaccine reminder.

Add vaccine.

```
public function add_vaccine(Request $request){
    $this->validate($request, [
        'vaccine_name' => 'required | unique:vaccines',
        'number_of_dose' => 'required',
        'disease' => 'required',
        'age_limit' => 'required',
        'description' => 'required',
        'break' => 'required',
        'vaccine_image' => 'required | mimes:jpg,png,jpeg|max:7048'
    ],[
        'vaccine_name.required' => 'Please Enter Vaccine Name',
        'category_name.unique' => 'This Name Is All Ready Added',
        'number_of_dose.required' => 'Please Enter Number Dose',
        'disease.required' => 'Please Enter Disease Name',
        'age_limit.required' => 'Please Enter Age Limit',
        'description.required' => 'Please Enter Description',
        'break.required' => 'Please Enter Vaccine Taken Time',
        'vaccine_image.required' => 'Please Select An Image',
        'vaccine_image.mimes' => 'Please Select Jpg,png,jpeg Type',
        'vaccine_image.max' => 'Please Select Image Less Than 8 Mb'
    ]);

    $vaccine = new Vaccine();
    $vaccine->vaccine_name = $request->vaccine_name;
    $vaccine->number_of_dose = $request->number_of_dose;
    $vaccine->disease = $request->disease;
    $vaccine->age_limit = $request->age_limit;
    $vaccine->break = $request->break;
    $vaccine->description = $request->description;

    if ($request->hasFile('vaccine_image')) {
        $file = $request->file('vaccine_image');
        $extension = $file->getClientOriginalExtension();
        $fileName = time() . '.' . $extension;
        $file->move('Vaccine/images/', $fileName);
        $vaccine->vaccine_image = $fileName;
    } else {
        return $request;
        $vaccine->vaccine_image = '';
    }

    $vaccine->save();

    return redirect()->route('admin.vaccine.get_all_vaccine')->with('success','New Vaccine Added Successful');
}
```

Figure 131: Add vaccine list.

Invoice.

```
public function get_certificate($id){
    $page_name = ' Vaccination Card';
    $reg_vaccine = DB::table('reg_vaccines')
        ->join('users','users.id','=','reg_vaccines.user_id')
        ->join('vaccines','vaccines.id','=','reg_vaccines.vaccine_id')
        ->join('child_registrations','child_registrations.id','=','reg_vaccines.child_id')
        ->select('users.id as userID', 'users.email as userEmail', 'users.phone as userPhone', '
            users.address as userAddress', 'child_registrations.id as childID', '
            child_registrations.first_name as childFirst_name', 'child_registrations.last_name as
            childLastName', 'child_registrations.birth_date as birthDay', 'vaccines.id as vaccineID', '
            vaccines.vaccine_name as vaccineName', 'vaccines.number_of_dose as vaccineDose', '
            vaccines.break as Break', 'reg_vaccines.id as regID', 'reg_vaccines.dose_taken as doseTake', '
            reg_vaccines.taken_date as takeDate', 'reg_vaccines.status', 'reg_vaccines.created_at as
            regDate')
        ->where('reg_vaccines.id','=',$id)
        ->get();

    dd($reg_vaccine);
    return view('user.vaccine_details.certificate',compact('page_name','reg_vaccine'));
}
```

Figure 132: payment invoice.

Campaign.

```
public function add_campagin(Request $request){
    $this->validate($request,[
        'title' => 'required',
        'start_date' => 'required',
        'end_date' => 'required',
        'description' => 'required',
        'location' => 'required',
        'image' => 'required | mimes:jpg,png,jpeg|max:7048'
    ],[
        'title.required' => 'Please Enter Title',
        'start_date.required' => 'Please Enter Start Date',
        'end_date.required' => 'Please Enter End Date',
        'description.required' => 'Please Enter Description',
        'location.required' => 'Please Enter Location Name',
        'image.required' => 'Please Select An Image',
        'image.mimes' => 'Please Select Jpg,png,jpeg Type',
        'image.max' => 'Please Select Image Less Than 8 Mb'
    ]);

    $campaign = new Campgain();

    $campaign->title = $request->title;
    $campaign->start_date = $request->start_date;
    $campaign->end_date = $request->end_date;
    $campaign->location = $request->location;
    $campaign->description = $request->description;

    if ($request->hasFile('image')) {
        $file = $request->file('image');
        $extension = $file->getClientOriginalExtension();
        $fileName = time() . '.' . $extension;
        $file->move('campaign/images/', $fileName);
        $campaign->image = $fileName;
    } else {
        return $request;
        $campaign->image = '';
    }

    $campaign->save();
    return redirect()->route('admin.campgain.get_all_campaign')->with('success','New Campaign Added Successful');
}
```

Figure 133: hosting campaign.

Taken vaccine status.

```
class UpdateVaccineTakenController extends Controller
{
    public function view(){
        $page_name = 'Update Vaccine Taken Status';

        $date = date('Y-m-d');
        $reg_vaccine = DB::table('reg_vaccines')
            ->join('users','users.id','=','reg_vaccines.user_id')
            ->join('vaccines','vaccines.id','=','reg_vaccines.vaccine_id')
            ->join('child_registrations','child_registrations.id','=','reg_vaccines.child_id')
            ->select('users.id as userID','child_registrations.id as childID','child_registrations.first_name as
                childFirst_name', 'child_registrations.last_name as childLastName','vaccines.id as vaccineID','
                vaccines.vaccine_name as vaccineName','vaccines.number_of_dose as vaccineDose','reg_vaccines.id as regID','
                reg_vaccines.dose_taken as doseTake','reg_vaccines.taken_date as takeDate','reg_vaccines.status')
            ->groupBy('childID')
            ->get();

        return view('admin.vaccine_take.view',compact('page_name','reg_vaccine'));
    }
}
```

Figure 134: update vaccine status.

```

public function view_vaccine_taken_details($id){
    $page_name = 'Registered Vaccine and Current Status';

    $reg_vaccine = DB::table('reg_vaccines')
        ->join('users','users.id','=','reg_vaccines.user_id')
        ->join('vaccines','vaccines.id','=','reg_vaccines.vaccine_id')
        ->join('child_registrations','child_registrations.id','=','reg_vaccines.child_id')
        ->select('users.id as userID','child_registrations.id as childID','child_registrations.first_name as
            childFirst_name','child_registrations.last_name as childLastName','child_registrations.birth_date as birthDay
            ', 'vaccines.id as vaccineID','vaccines.vaccine_name as vaccineName','vaccines.number_of_dose as vaccineDose',
            'vaccines.break as Break','reg_vaccines.id as regID','reg_vaccines.dose_taken as doseTake', '
            reg_vaccines.taken_date as takeDate','reg_vaccines.status')
        ->where('reg_vaccines.child_id','=', $id)
        ->get();
}

```

```

public function update(Request $request, $id){
    $this->validate($request,[
        'dose_taken' => 'required',
    ]);

    $update = RegVaccine::find($id);

    $date = date('Y-m-d');
    $update->dose_taken = $request->dose_taken;
    $update->taken_date = $date;
    $update->save();

    return back();
}

```

Vaccine registration.

```

public function reg_vaccine(Request $request){
    $this->validate($request,[
        'user_id' => 'required',
        'child_id' => 'required',
        'vaccine_id' => 'required'
    ]);
    foreach ($request->vaccine_id as $id => $vaccine){
        $reg = new RegVaccine();
        $reg->user_id = $request->user_id;
        $reg->child_id = $request->child_id;
        $reg->vaccine_id = $request->vaccine_id [$id];
        $reg->status = 0;
        $reg->save();
    }
    return back()->with('success', 'Registration successful');
}

```

Figure 135: registration for vaccine.

Application details.

```
public function details($id){
    $page_name = 'My Application Details';
    $application = DB::table('services')
        ->join('users','users.id', '=', 'services.userID')
        ->join('vaccines','vaccines.id', '=', 'services.vacID')
        ->join('child_registrations','child_registrations.id','=', 'services.childID')
        ->where('services.id','=', $id)
        ->get();

    return view('user.services.full_details', compact('page_name','application'));
}
}
```

Figure 136: User application.

Home service request.

```
public function RequestService(Request $request){
    $this->validate($request, [[
        'dose_number' => 'required',
        'takenDate'   => 'required'
    ]], [
        'dose_number.required' => 'Please Enter Dose Number',
        'takenDate.required'   => 'Please Enter Current Dose Taken Date'
    ]);

    $invoice = rand(100,10000);
    $service = new Services();
    $service->childID      = $request->childID;
    $service->userID       = $request->userID;
    $service->fee          = $request->fee;
    $service->phone        = $request->phone;
    $service->vacID        = $request->vacID;
    $service->dose_number   = $request->dose_number;
    $service->takenDate     = $request->takenDate;
    $service->address      = $request->address;
    $service->invoice_number = $invoice;

    $service->save();
    $id = $service->id;
    return redirect()->route('user.services.pay_now', compact('id'))->with('success', 'Registration success');
}
```

Figure 137: user home service request.

Plagiarism Report:

