# VAXITRACK
# Smart Vaccination Management System

**By**

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## PROJECT ABSTRACT

The Vaccination management system acts as a web-based vaccine manager to the children. Young children are at increased risk for infectious diseases because their immune systems have not yet built up the necessary defenses to fight with infections and diseases. So, to avoid this there are some vaccinations from the child birth to teenage like bacillus Calmette Guerin, rotavirus etc.

Many of the parents forget to take vaccines for their children due to their hectic lifestyles. In order to resolve this problem, we are introducing this "Vaccination Management System". This system helps the parents to take vaccines regularly by reminding them through a notification. Our system consists of dataset of all the patients. Based on the dataset, the system sends an email a notification to the parents and remind them for taking vaccinations. The allied health professionals will update the daily vaccines provided to the patients, schedule the vaccines to be given and track the consumption. It ensures none of the patients skip their doses. The database will be updated regularly. It consists history and schedules of the upcoming vaccines as to be taken. The vaccination chart contains list of all the vaccines that has to be given to the child from birth to the age 14-16 years. This acts as a guide to the people who are unaware of number of vaccines to be taken. This also contains the cost of the vaccination.

The vaccination schedule contains all the details like vaccination to be taken, given dates and taken dates of the vaccination. This makes easily to analyze the dates and vaccines that has to be taken by the child. The remainder will provide an option where you can set the date on which your child has to take vaccination and you will be received a notification on that day. So, you cannot forget to take vaccination. The notification will be sent to the details you provided during registration.

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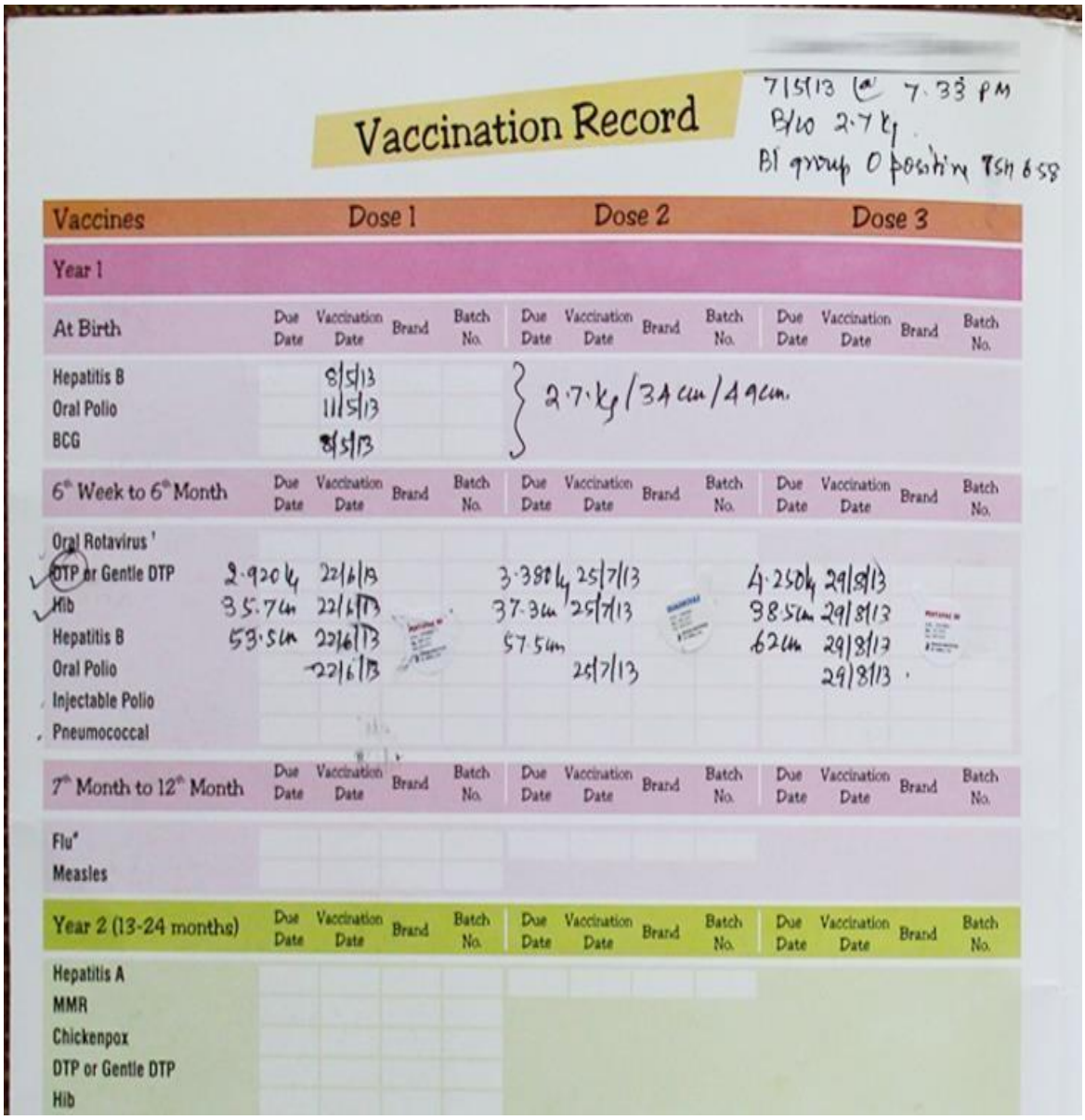
# 1. INTRODUCTION:

## 1.1. EXISTING SYSTEM:

From our research we have found that there is no hospital which is using an application to remind their patients for vaccinations, and also vaccines are provided for infants and children under teenage accepts such as by attending schools manually and there is a chance that some of the children and infants may miss the opportunity of getting vaccinated due to some mandatory reasons. After the baby birth the parents will be given vaccination book which contains all the details and schedules about the vaccinations to be taken.



Vaccination Record

7/5/13 @ 7.33 PM
B/w 2.7 kg
B1 group O positive TSH 6.58

| Vaccines | Dose 1 | | | | Dose 2 | | | | Dose 3 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Year 1** | | | | | | | | | | | | |
| **At Birth** | Due Date | Vaccination Date | Brand | Batch No. | Due Date | Vaccination Date | Brand | Batch No. | Due Date | Vaccination Date | Brand | Batch No. |
| Hepatitis B | | 8/5/13 | | | | 2.7 kg / 34 cm / 49 cm. | | | | | | |
| Oral Polio | | 11/5/13 | | | | | | | | | | |
| BCG | | 8/5/13 | | | | | | | | | | |
| **6th Week to 6th Month** | Due Date | Vaccination Date | Brand | Batch No. | Due Date | Vaccination Date | Brand | Batch No. | Due Date | Vaccination Date | Brand | Batch No. |
| Oral Rotavirus ' | | | | | | | | | | | | |
| DTP or Gentle DTP | 2.920 kg | 22/6/13 | | | 3.380 kg | 25/7/13 | | | 4.250 kg | 29/8/13 | | |
| Hib | 35.7 cm | 22/6/13 | | | 37.3 cm | 25/7/13 | | | 38.5 cm | 29/8/13 | | |
| Hepatitis B | 53.5 cm | 22/6/13 | | | 57.5 cm | | | | 62 cm | 29/8/13 | | |
| Oral Polio | | 22/6/13 | | | | 25/7/13 | | | | 29/8/13 | | |
| Injectable Polio | | | | | | | | | | | | |
| Pneumococcal | | | | | | | | | | | | |
| **7th Month to 12th Month** | Due Date | Vaccination Date | Brand | Batch No. | Due Date | Vaccination Date | Brand | Batch No. | Due Date | Vaccination Date | Brand | Batch No. |
| Flu* | | | | | | | | | | | | |
| Measles | | | | | | | | | | | | |
| **Year 2 (13-24 months)** | Due Date | Vaccination Date | Brand | Batch No. | Due Date | Vaccination Date | Brand | Batch No. | Due Date | Vaccination Date | Brand | Batch No. |
| Hepatitis A | | | | | | | | | | | | |
| MMR | | | | | | | | | | | | |
| Chickenpox | | | | | | | | | | | | |
| DTP or Gentle DTP | | | | | | | | | | | | |
| Hib | | | | | | | | | | | | |

## 1.2. PROPOSED SYSTEM:

Our system consists of e-vaccination system by collecting the information of infants, registered under website so that it notifies to take vaccine. Based on the dataset, the system sends the notification to the parents and remind them for taking vaccinations. The database will be updated regularly and this consist history and schedules the upcoming vaccines to be taken. Here we are implementing three services like:

- Vaccination Chart
- Vaccination Schedule
- Remainder

The vaccination chart contains list of all the vaccines that has to be given to the child from birth to the age 14-16 years. This acts as a guide to the people who are unaware of number of vaccines to be taken. This also contains the cost of the vaccination

The vaccination schedule contains all the details like vaccination to be taken, given dates and taken dates of the vaccination. This makes easily to analyze the dates and vaccines that has to be taken by the child.

The remainder will provide an option where you can set the date on which your child has to take vaccination and you will be received a notification on that day. So, you cannot forget to take vaccination. The notification will be sent to the details you provided during registration.

Here we are having the child's profile like mother name, father's name child's date of birth, child's weight, contact, email, etc. We provided contact information of the specific doctors who does vaccinations. There are some of the things to remember during vaccination to follow.

# 2. LITERATURE SURVEY:

## 2.1.RELATED WORK

Traditionally in order to develop any prediction model, the most important thing is data collection. The data is very important in developing predictive models. If the data is not efficient, then the model may not be useful. Hence, first step is to collect the child's information.

We have collected the data from different hospitals and we forecast that information from them. We have referred some IEEE papers to know more about the existing system of this project.

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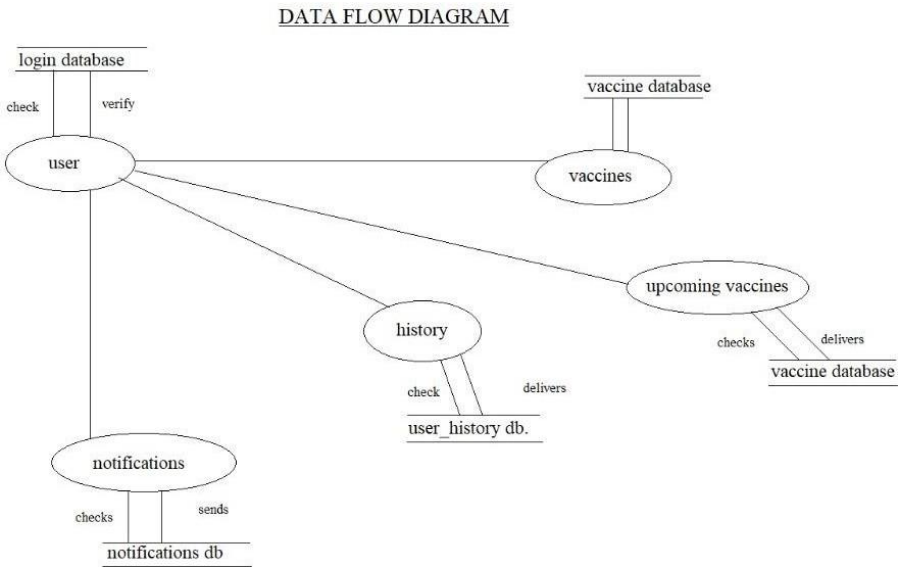
## 2.2.SYSTEM STUDY:

Predicting the vaccination book for children which include child information about their birth time, weight, parent details, dose etc. this contains vaccination details about when to take vaccine by that dates are provided. As every parent can't be aware of their vaccination schedule, it's a hard task to be remember by them. This may lead to forget to take vaccine for the children.so to avoid this we developed an web based application to take vaccination in time by getting notification before a day.

# 3. DESIGN:

## 3.1. Data Flow Diagram:



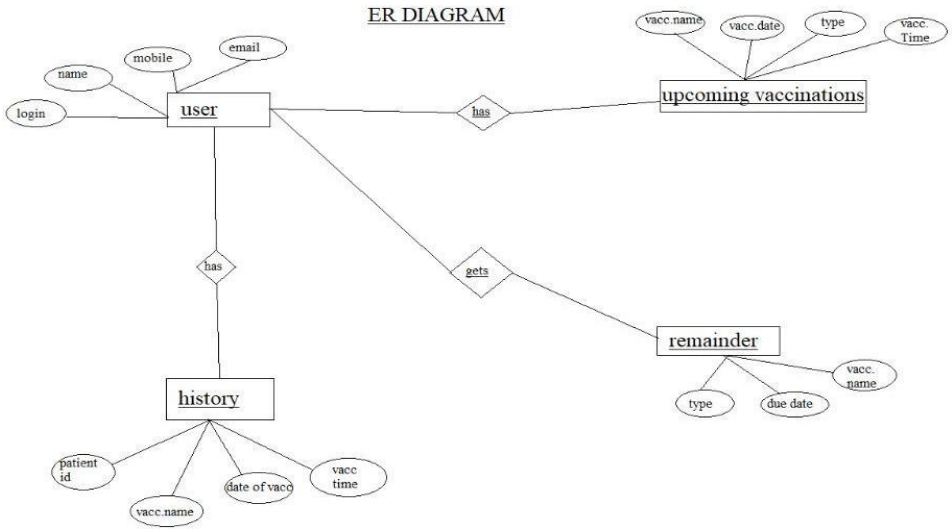

**Zero-level Data Flow Diagram**

### 3.2. REQUIREMENT SPECIFICATION (S/W):

Software requirements:

1. Internet Browser
2. ZAMP
3. Sublime Text editor

### 3.4.E-R DIAGRAM:




## 4. IMPLEMENTATION:

### 4.1. OVERVIEW TECHNOLOGY:

1. HTML
2. CSS
3. Java Script
4. PHP

## HTML:

Hypertext Markup Language (HTML) is the standard markup language for documents designed to be displayed in a web browser. It can be assisted by technologies such as Cascading Style Sheets (CSS) and scripting languages such as JavaScript.

Web browsers receive HTML documents from a web server or from local storage and render the documents into multimedia web pages. HTML describes the structure of a web page semantically and originally included cues for the appearance of the document.

## CSS:

CSS stands for Cascading Style Sheets with an emphasis placed on "Style." While HTML is used to structure a web document (defining things like headlines and paragraphs, and allowing you to embed images, video, and other media), CSS comes through and specifies your document's style—page layouts, colors, and fonts are all determined with CSS. Think of HTML as the foundation (every house has one), and CSS as the aesthetic choices (there's a big difference between a Victorian mansion and a mid-century modern home).

## Java Script:

JavaScript is a dynamic computer programming language. It is lightweight and most commonly used as a part of web pages, whose implementations allow client-side script to interact with the user and make dynamic pages. It is an interpreted programming language with object-oriented capabilities.

JavaScript was first known as LiveScript, but Netscape changed its name to JavaScript, possibly because of the excitement being generated by Java. JavaScript made its first appearance in Netscape 2.0 in 1995 with the name LiveScript. The general-purpose core of the language has been embedded in Netscape, Internet Explorer, and other web browsers.

## PHP:

PHP stands for **Hypertext Pre-Processor**. PHP is a scripting language used to develop static and dynamic webpages and web applications. Here are a few important things you must know about PHP:

1. PHP is an Interpreted language; hence it doesn't need a compiler.
2. To run and execute PHP code, we need a Web server on which PHP must be installed.
3. PHP is a server-side scripting language, which means that PHP is executed on the server and the result is sent to the browser in plain HTML.
4. PHP is open source and free.

### 4.2 MODULES:

This web application consists of two modules. They are:

- Admin Module
- User Module

**Admin Module:** This module is used to administrate the application. Here the admin will be able to edit, add and remove the user data from the database. This admin module which consists admin panel acts as the heart for the entire system. Here admin will add and edit the vaccination taking and given dates. So, entire system is operated by the admin. Vaccination reminder notification will be sent to the users based on the dates given by the admin in admin panel. Hence, entire application runs based on admin module.

**User Module:** Here the Users will be able to view their details like their name, contact details, email ID, vaccination taken and given dates. User can also get the data list of vaccination to be taken. All the users date details entered by the admin in the admin panel will be viewed by the user in user page which is the user module.

## 5. TESTING:

### 5.1. TEST CASES:

According to given data vaccination schedule is provided which has vaccination dates to take in time. By that you will get remainder before a day of your vaccination.

### 5.2. TESTRESULTS:

- User can register by providing his/her information.
- User can login by user name and password.
- Here the admin can view user details and can edit and update the details of child.
- We provide vaccination chart about vaccines and number of doses to be taken.
- According to the child birth date predicted date will be given. Then appointment date is allotted.
- By considering the appointment date notification will be sent to their e-mail.

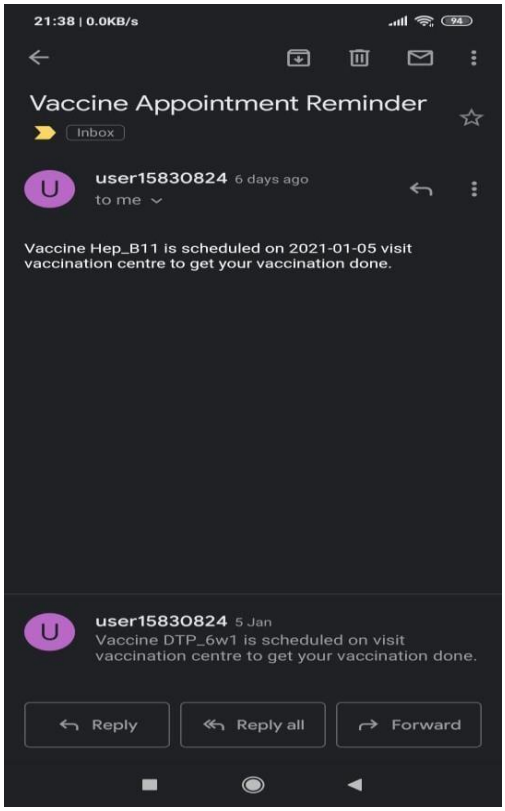
# 6. RESULTS:

Firstly, we have vaccination schedule according to that appointment will be schedule

## Vaccination Schedule

| Age(completed) | Vaccines | Doses | Content Tag | Approx Cost | Predicted Date | Appointment Date | Vaccinated Date |
|---|---|---|---|---|---|---|---|
| Birth | Bacillius Calmette-Guerin (BCG) | 1 | BCG | Rs.91-Rs.1025 | 2021-01-19 | | |
| | Oral polio Vaccine (OPV 0) | 1 | OPV | 25-Rs.230 | 2021-01-24 | | |
| | Hepatitis B (Hep-B1) | 1 | Hep-B | Rs.52.25-Rs.6000 | 2021-02-02 | | |
| 6 weeks | Dipthena Tetanus and Pertussis vaccine(DTwP 1) | 1 | DTP | Rs.225 | 2021-02-23 | | |
| | Inactivated polio vaccine(IPV 1) | 1 | IPV | Rs.440 | 2021-02-27 | | |
| | Hepatitis B (Hep-B2) | 1 | Hep-B | Rs.52.25-Rs.6000 | 2021-03-04 | | |
| | Haemaphilus influenzae type B(Hib 1) | 1 | Hib | Rs.113-Rs.252.5 | 2021-03-09 | | |
| | Rotavirus 1 | 1 | Roravirus | Rs.689-Rs.1499 | 2021-03-13 | | |

According to your appointment date notification will be sent through email.



After the completion of your vaccination, the chart will be updated

**Vaccination Schedule**

| Age(completed) | Vaccines | Doses | Content Tag | Approx Cost | Predicted Date | Appointment Date | Vaccinated Date |
|---|---|---|---|---|---|---|---|
| Birth | Bacillius Calmette-Guerin (BCG) | 1 | BCG | Rs.91-Rs.1025 | 2021-01-18 | 2021-01-12 | 2021-01-12 |
| | Oral polio Vaccine (OPV 0) | 1 | OPV | 25-Rs.230 | 2021-01-23 | | |
| | Hepatitis B (Hep-B1) | 1 | Hep-B | Rs.52.25-Rs.6000 | 2021-02-01 | | |
| 6 weeks | Dipthena Tetanus and Pertussis vaccine(DTwP 1) | 1 | DTP | Rs.225 | 2021-02-22 | | |
| | Inactivated polio vaccine(IPV 1) | 1 | IPV | Rs.440 | 2021-02-26 | | |
| | Hepatitis B (Hep-B2) | 1 | Hep-B | Rs.52.25-Rs.6000 | 2021-03-03 | | |
| | Haemaphilus influenzae type B(Hib 1) | 1 | Hib | Rs.113-Rs.252.5 | 2021-03-08 | | |
| | Rotavirus 1 | 1 | Roravirus | Rs.689-Rs.1499 | 2021-03-12 | | |
| | Pneumococcal conjugate vaccin(PVC 2) | 1 | PCV | Rs.1496-Rs.3801 | 2021-03-18 | | |

## 7. CONCLUSION:

Our mission is to make every child live healthy and happy. We are here to look after the child so that they get all the vaccines on date. We remind the parents to make their take vaccines regularly. We also have high specialist doctors to treat children. Our main aim is to maintain child's vaccine chart and remind child's parent to take vaccines for their children on time.

## 8. FUTURE SCOPE:

In future, using more efficient dataset and more powerful techniques we can increase the accuracy of the model. This model can be used to increase the vaccination system by sending the notification for their mobile and also can develop an android or IOS application for this model to increase user-friendliness.

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