



CS6106 – DATABASE MANAGEMENT SYSTEM

Feb - May 2021



CoviProtec

- Covid Vaccination Drive

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Abstract

The World Health Organization (WHO) declared COVID-19 outbreak as a pandemic back in March 2020. Since then, the virus has been spreading at an unprecedented rate and has already claimed more than 2.5 million lives globally. Although governments around the world have been forced to implement harsh restrictions on human activity to curb the spread of the virus but in order to bring an end to this pandemic, vaccination is our hope. In a scenario without access to vaccines, strict behavioural measures may have had to remain for the foreseeable future, which might not be possible looking at the economic downturn in our country.

Different strains of vaccines have been developed by different countries. In India two vaccines have been approved by the government - Covaxin and Covishield. The vaccines are administered in two doses and it is necessary to take them both. In order to systemize the process of vaccine administration, we bring **CoviProtec** - a website aimed at facilitating vaccine registration for the people depending on the availability. Information regarding the availability of vaccines is provided by the hospitals or vaccination centres. Hospitals can also view the people who have registered for vaccine at their place. Scheduling appointment online helps to streamline the vaccination process and a lot of people can have access to vaccines. Thereby, the vaccination process can be carried out without any confusion.

Introduction

The purpose of our project is to provide a convenient way to book vaccines online and also enable hospitals to become vaccinating centre.

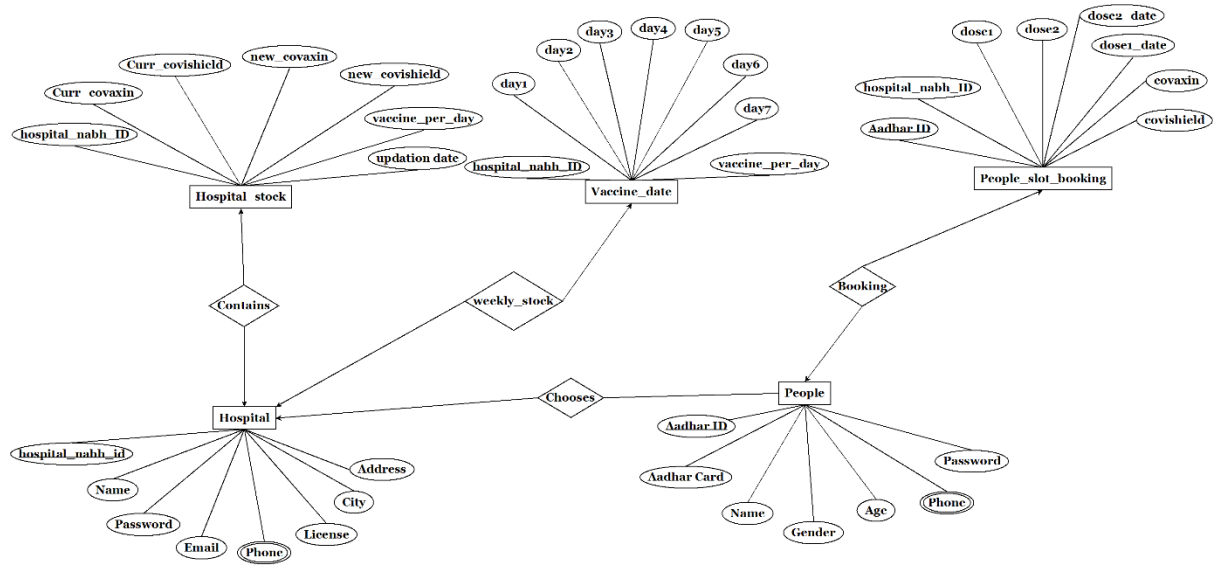
The features on the people side are:

We allow them to register for a vaccine. We also provide a choice of registering for an additional member. They can individually schedule an appointment or they can opt for 'Combined Booking'. People can select the hospitals/vaccination centre of their convenience depending on the vaccine (covaxin and covishield) and its availability. People are advised to take both the doses through our site. Initially for registered people, bookings will be open only for dose 1. 30 days after dose 1, bookings for dose 2 will be enabled. People will not be able to directly book for dose 2. People can also cancel their appointment until a day before their scheduled appointment. They can also view the FAQs related to covid.

The features on the hospital side are:

They can register to become legally entitled to provide vaccinations to the patients. They can also update stock available each time a new stock arrives. They can view the total number of covaxin and covishield available. They can also set the number of vaccinations possible per day according to their convenience. They can view the people who have scheduled an appointment for vaccine at their place on a given date.

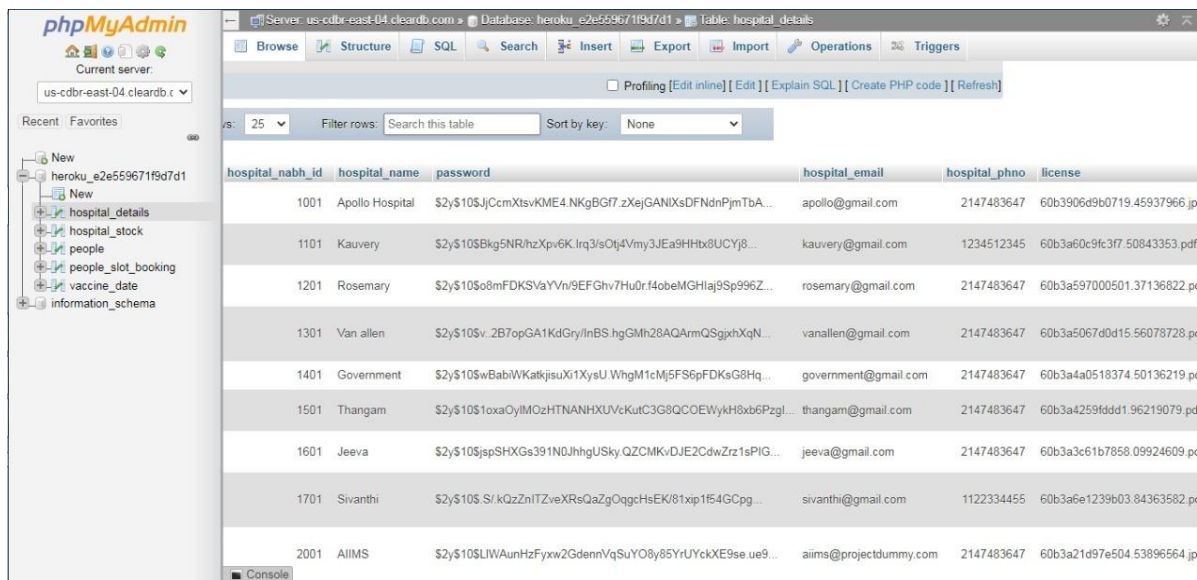
ER DIAGRAM



Implementation And Snapshots

Relations in the Database

Hospital_details:

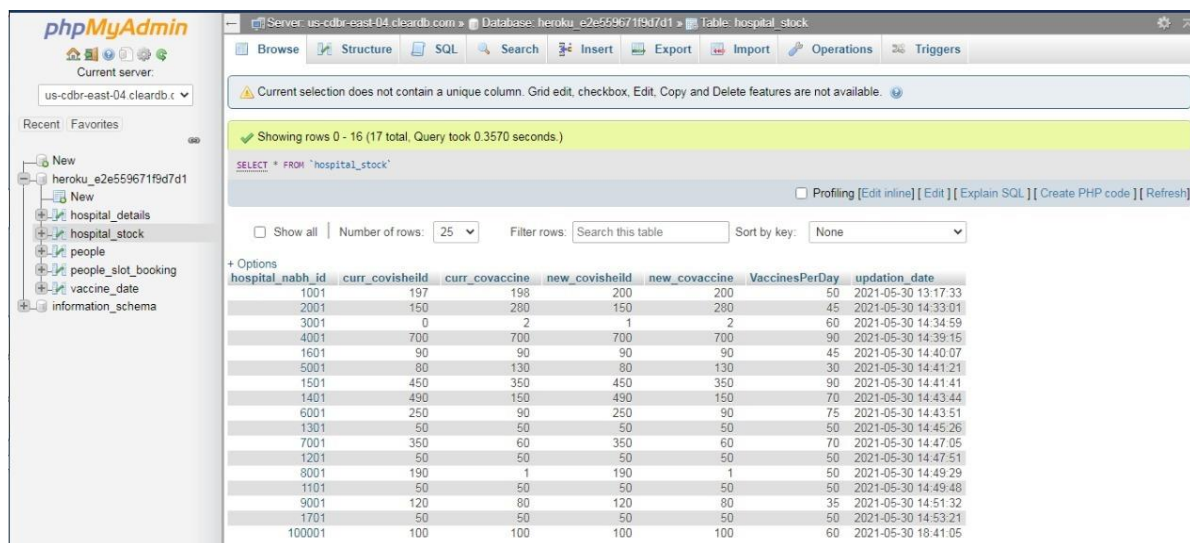


The screenshot shows the phpMyAdmin interface for a database named 'heroku_e2e559671f9d7d1'. The 'hospital_details' table is selected, showing its structure and data. The table has columns: hospital_nabh_id, hospital_name, password, hospital_email, hospital_phno, and license. The data includes entries for Apollo Hospital, Kauvery, Rosemary, Van allen, Government, Thangam, Jeeva, Sivanthi, and AIIMS.

hospital_nabh_id	hospital_name	password	hospital_email	hospital_phno	license
1001	Apollo Hospital	\$2y\$10\$JjCcmXtsvKME4.NKgBGf7.zXeJGANIXsDFNdnPymTbA...	apollo@gmail.com	2147483647	60b3906d9b0719.45937966.jp
1101	Kauvery	\$2y\$10\$Bkg5NR/hzXpv6K.lrq3/sOtj4Vmy3JEa9Hhbx8UCYj8...	kauvery@gmail.com	1234512345	60b3a60c9fc3f7.50843353.pdf
1201	Rosemary	\$2y\$10\$08mFDKsVaYVn/SEFGhv7Hu0r.f4obeMGHla9Sp996Z...	rosemary@gmail.com	2147483647	60b3a597000501.37136822.px
1301	Van allen	\$2y\$10\$5v.2B7opGA1KdGry/InBS.hgGMh28AQArmQSgghXqN...	vanallen@gmail.com	2147483647	60b3a5067d0d15.56078728.px
1401	Government	\$2y\$10\$wBabiWkKtjisuX1XysU.WhgM1cMj5FS6pFDKsG8Hq...	government@gmail.com	2147483647	60b3a4a0518374.50136219.px
1501	Thangam	\$2y\$10\$1oxaOyIMozHTNANHXUvKutC3G8QCOEWyKH8xb6Pzgl...	thangam@gmail.com	2147483647	60b3a4259fddd1.96219079.pd
1601	Jeeva	\$2y\$10\$jspSHXGs391N0JhhgUSky.QZCMKvDJE2CdwZrz1sPIG...	jeeva@gmail.com	2147483647	60b3a3c61b7858.09924609.px
1701	Sivanthi	\$2y\$10\$.S/kQzZnITZveXRQsQaZgOqgcHsEK/81xip1f54GCpg...	sivanthi@gmail.com	1122334455	60b3a6e1239b03.84363582.px
2001	AIIMS	\$2y\$10\$LIWAunHzFyxw2GdennVqSuYO8y85YrUYckXE9se.ue9...	aiims@projectdummy.com	2147483647	60b3a21d97e504.53896564.jp

Fig 1. table contains details of all the registered hospitals

Hospital_stock:

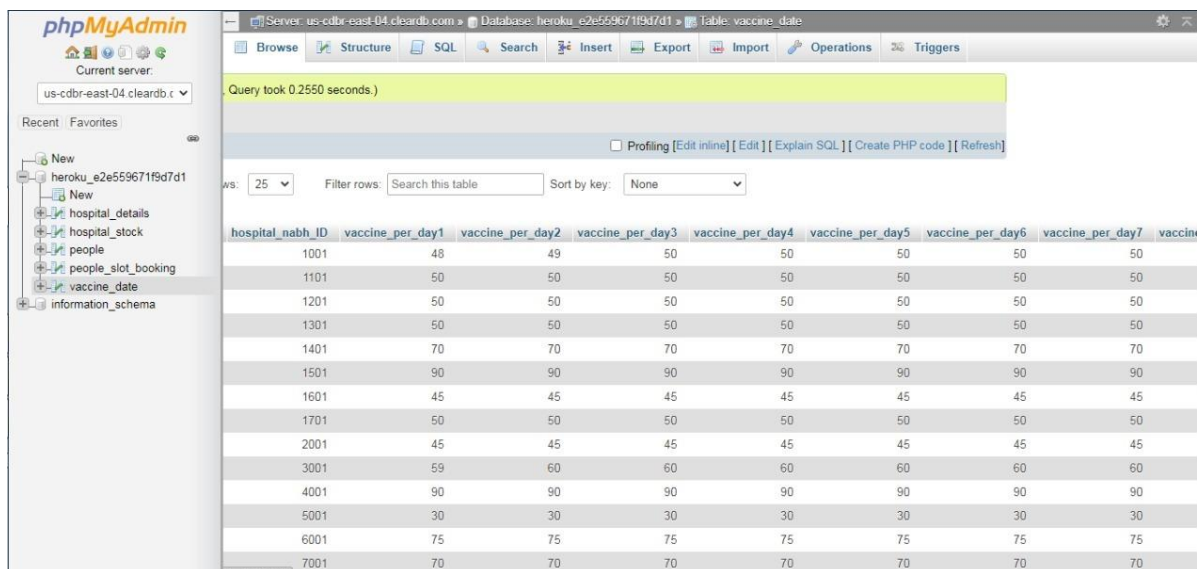


The screenshot shows the phpMyAdmin interface for a database named 'heroku_e2e559671f9d7d1'. The 'hospital_stock' table is selected, showing its structure and data. The table has columns: hospital_nabh_id, curr_covishield, curr_covaccine, new_covishield, new_covaccine, VaccinesPerDay, and updation_date. The data includes entries for various hospitals, showing their current and new vaccine stock levels and the date of the last update.

hospital_nabh_id	curr_covishield	curr_covaccine	new_covishield	new_covaccine	VaccinesPerDay	updation_date
1001	197	198	200	200	50	2021-05-30 13:17:33
2001	150	280	150	280	45	2021-05-30 14:33:01
3001	0	2	1	2	60	2021-05-30 14:34:59
4001	700	700	700	700	90	2021-05-30 14:39:15
1601	90	90	90	90	45	2021-05-30 14:40:07
5001	80	130	80	130	30	2021-05-30 14:41:21
1501	450	350	450	350	90	2021-05-30 14:41:41
1401	490	150	490	150	70	2021-05-30 14:43:44
6001	250	90	250	90	75	2021-05-30 14:43:51
1301	50	50	50	50	50	2021-05-30 14:45:26
7001	350	60	350	60	70	2021-05-30 14:47:05
1201	50	50	50	50	50	2021-05-30 14:47:51
8001	190	1	190	1	50	2021-05-30 14:49:29
1101	50	50	50	50	50	2021-05-30 14:49:48
9001	120	80	120	80	35	2021-05-30 14:51:32
1701	50	50	50	50	50	2021-05-30 14:53:21
100001	100	100	100	100	60	2021-05-30 18:41:05

Fig 2. This table keeps account of vaccine availability and updated stock for each hospital.

Vaccine_date:



hospital_nabh_ID	vaccine_per_day1	vaccine_per_day2	vaccine_per_day3	vaccine_per_day4	vaccine_per_day5	vaccine_per_day6	vaccine_per_day7	vaccine
1001	48	49	50	50	50	50	50	vaccine
1101	50	50	50	50	50	50	50	vaccine
1201	50	50	50	50	50	50	50	vaccine
1301	50	50	50	50	50	50	50	vaccine
1401	70	70	70	70	70	70	70	vaccine
1501	90	90	90	90	90	90	90	vaccine
1601	45	45	45	45	45	45	45	vaccine
1701	50	50	50	50	50	50	50	vaccine
2001	45	45	45	45	45	45	45	vaccine
3001	59	60	60	60	60	60	60	vaccine
4001	90	90	90	90	90	90	90	vaccine
5001	30	30	30	30	30	30	30	vaccine
6001	75	75	75	75	75	75	75	vaccine
7001	70	70	70	70	70	70	70	vaccine

Fig 3. The purpose of this table is to hold the list of available vaccines per day for the next 7 days so that it does not exceed the limit per day. Vaccine_per_day1, vaccine_per_day2, ..., vaccine_per_day7 will be shifting to the left at the end of every day (done with the help of event scheduler). The vaccine_per_day7 is set the value of vaccine_per_day each time when it shifts.

```

1 <?php
2 include("connection_hosp.php");
3 date_default_timezone_set("Asia/Kolkata");
4 $i=1;
5 $query_update = "CREATE event IF NOT EXISTS newevent ON SCHEDULE EVERY 1 day STARTS CURRENT_TIMESTAMP
6 DO
7     UPDATE vaccine_date SET vaccine_per_day1 = vaccine_per_day2, vaccine_per_day2 = vaccine_per_day3, vaccine_per_day3 = vaccine_per_day4,
8     vaccine_per_day4 = vaccine_per_day5, vaccine_per_day5 = vaccine_per_day6, vaccine_per_day6 = vaccine_per_day7, vaccine_per_day7 =
9     vaccine_per_day;";
10
11 $result_update = mysqli_query($con_hosp, $query_update);
12
13 echo "Event has been created.";
14
15 $qry = "SELECT * FROM vaccine_date;";
16 $result = mysqli_query($con_hosp, $qry);
17
18 while($row = mysqli_fetch_array($result)){
19     echo $row['hospital_nabh_ID'];
20     echo "<br/>";
21     echo $row['vaccine_per_day1'];
22     echo "<br/>";
23 }
24
25 mysqli_close($con_hosp);

```

Fig 4. Creating an event scheduler in order to shift the columns to the left at the end of each day.

People:

phpMyAdmin

Current server:

us-cdr-east-04.cleardb.c

Recent

Favorites

New

heroku_e2e59671f9d7d1

New

hospital_details

hospital_stock

people

people_slot_booking

vaccine_date

information_schema

Server: us-cdr-east-04.cleardb.c » Database: heroku_e2e59671f9d7d1 » Table: people

Browse

Structure

SQL

Search

Insert

Export

Import

Operations

Triggers

Showing rows 0 - 8 (9 total. Query took 0.6740 seconds.)

SELECT * FROM `people`

Profiling

Edit inline

Edit

Explain SQL

Create PHP code

Refresh

Show all

Number of rows: 25

Filter rows: Search this table

Sort by key: None

+ Options

↶

↷

		aadhar	aadhar_ID	name	gender	age	phone	password
<input type="checkbox"/>	<div><div>Edit</div><div>Copy</div><div>Delete</div></div>	60b3c2913b5425.00906407.pdf	100020003000	Firaz	male	19	8106887771	\$2y\$10\$cGzv6UjH.Wtle0WzdSMDiuEMGtyw93v/aPpCleIBI
<input type="checkbox"/>	<div><div>Edit</div><div>Copy</div><div>Delete</div></div>	60b3c2cc5ce4a6.82015692.pdf	200030004000	Anam	female	19	8106887771	
<input type="checkbox"/>	<div><div>Edit</div><div>Copy</div><div>Delete</div></div>	60b3a0368baaf7.49090708.jpg	600050004000	Tinzyy	male	45	7090678990	\$2y\$10\$BT6gObgK0aeVs7cz.CbSOpuqx.PEZSha1ICHx
<input type="checkbox"/>	<div><div>Edit</div><div>Copy</div><div>Delete</div></div>	60b3bd21d18798.31537547.jpg	700010002000	Dhoni	male	40	9823456790	\$2y\$10\$3oBYg31xVp7TROwr.1qLxO461OJSSQ6wKrWR
<input type="checkbox"/>	<div><div>Edit</div><div>Copy</div><div>Delete</div></div>	60b3c0c7d299c.174399058.jpg	700020001000	Sakshi Dhoni	female	37	9823456790	
<input type="checkbox"/>	<div><div>Edit</div><div>Copy</div><div>Delete</div></div>	60b3984880d771.57829733.jpg	700090008000	Lalit Arvind	female	87	7680906990	\$2y\$10\$Dc/DG2ox118h3JlityOES05IIZBdAwHzl7YISZv0Ob
<input type="checkbox"/>	<div><div>Edit</div><div>Copy</div><div>Delete</div></div>	60b39885f139b7.48919082.jpg	800070006000	Megha Akash	male	90	7680906990	
<input type="checkbox"/>	<div><div>Edit</div><div>Copy</div><div>Delete</div></div>	60b38f65e06c2.92189524.jpg	800090008000	Barath	male	20	8967896789	
<input type="checkbox"/>	<div><div>Edit</div><div>Copy</div><div>Delete</div></div>	60b38f65dfd239.90898062.jpg	900910000001	Shashi	male	19	8967896789	\$2y\$10\$nCEU/DnYq5GgAYF/sYrmOCf5UfGwi8Yaiayj8l9l

↶

☐ Check all

With selected:

Edit

Copy

Delete

Export

Show all

Number of rows: 25

Filter rows: Search this table

Sort by key: None

Fig 5. table contains details of all the registered people. The unique ID of identity proof file is stored here whereas the file is stored in a separate folder.

People_slot_booking:

phpMyAdmin

Current server: us-cdr-east-04.cleardb.c

Recent Favorites

New

heroku_e2e59671f9d7d1

New

hospital_details

hospital_stock

people

people_slot_booking

vaccine_date

information_schema

Server: us-cdr-east-04.cleardb.c » Database: heroku_e2e59671f9d7d1 » Table: people_slot_booking

Browse

Structure

SQL

Search

Insert

Export

Import

Operations

Triggers

Showing rows 0 - 6 (7 total. Query took 0.6350 seconds.)

SELECT * FROM `people_slot_booking`

Profiling

Edit inline

Edit

Explain SQL

Create PHP code

Refresh

Show all

Number of rows: 25

Filter rows: Search this table

Sort by key: None

+ Options

↔

	aadhar_ID	hospital_nabh_ID	dose1	dose2	dose1_date	dose2_date	covaxin	covishield
<input type="checkbox"/> Edit Copy Delete	600050004000	1001	1	0	2021-05-31	0000-00-00	0	1
<input type="checkbox"/> Edit Copy Delete	700010002000	3001	1	0	2021-05-31	0000-00-00	0	1
<input type="checkbox"/> Edit Copy Delete	700020001000	1701	0	0	0000-00-00	0000-00-00	0	0
<input type="checkbox"/> Edit Copy Delete	700090008000	1001	1	0	2021-05-31	0000-00-00	0	1
<input type="checkbox"/> Edit Copy Delete	800070006000	1001	1	0	2021-06-01	0000-00-00	0	1
<input type="checkbox"/> Edit Copy Delete	800090008000	1001	1	0	2021-05-15	0000-00-00	1	0
<input type="checkbox"/> Edit Copy Delete	900910000001	1001	1	0	2021-05-01	0000-00-00	1	0

Check all

With selected: Edit Copy Delete Export

Show all

Number of rows: 25

Filter rows: Search this table

Sort by key: None

Query results operations

Print Copy to clipboard Export Display chart Create view

Fig 6. Table contains details regarding the appointments of the registered people. It keeps track of the details about doses of vaccines of each User.

Website:

On the Welcome Page, two options are provided:



Fig 7. Welcome Page

- Covid vaccine registration - to login in as a person who needs vaccine.
- Register Hospital - to login as a hospital.

PEOPLE'S STANDPOINT

When you click on 'Covid vaccine registration', you will be redirected to the 'Login page'.

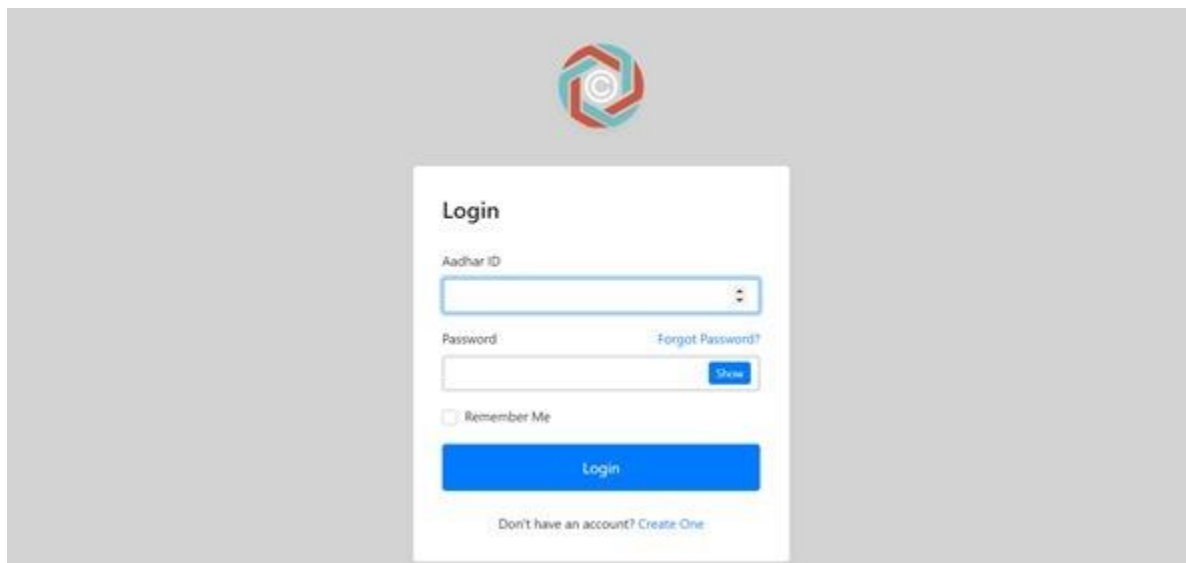


Fig 8. Login Page for people

In case you don't have an account, click on 'Sign Up' and the required details should be filled. All the fields should be filled. The name should contain only contain alphabets and spaces and no numbers or special characters.

The file submitted as an identity proof (like aadhar card) should be of PDF or JPG format. The file size should be less than 500kb.

The password and confirm password should match. The passwords are also hashed and saved for security reasons.

Fig 9. Sign up Page for people

```

30 function emptyInputSignup($aadhar, $aadhar_ID, $name, $gender, $age, $phone, $password, $con_password){
31
32     $result;
33
34     if(empty($aadhar) || empty($aadhar_ID) || empty($name) || empty($age) || empty($phone) || empty($password) || empty($con_password)){
35         $result = true;
36     }
37
38     else{
39         $result = false;
40     }
41
42     return $result;
43 }
44
45
46 function invalidName( $name ){
47
48     $result;
49
50     if( !preg_match("/^[a-zA-Z ]*$/", $name)){
51         $result = true;
52     }
53
54     else{
55         $result = false;
56     }
57
58     return $result;
59 }
60
61 function pwdMatch( $password, $con_password ){
62
63     $result;
64
65     if($password != $con_password){
66         $result = true;
67     }
68
69     else{
70         $result = false;
71     }
72
73     return $result;
74 }

```

Fig 10. Code for checking empty input fields, invalid name and password match

```

1  <?php
2      include("connection.php");
3      include("functions.php");
4      if(isset($_POST['submit'])){
5
6          $file = $_FILES["aadhar"];
7
8          $fileName = $_FILES["aadhar"]["name"];
9          $fileTmpName = $_FILES["aadhar"]["tmp_name"];
10         $fileSize = $_FILES["aadhar"]["size"];
11         $fileError = $_FILES["aadhar"]["error"];
12
13         $fileExt = explode('.', $fileName);
14         $fileActualExt = strtolower(end($fileExt));
15
16         $allowed = array('pdf', 'jpg', 'jpeg');
17
18         if(in_array($fileActualExt, $allowed)){
19
20             if( $fileError === 0 ){
21
22                 if($fileSize < 500000){
23                     $fileNameNew = uniqid('', true)." ".$fileActualExt;
24                     $fileDestination = 'uploads/'.$fileNameNew;
25                     move_uploaded_file($fileTmpName, $fileDestination);
26                 }
27
28                 else{
29                     header("Location: signup.php?error=filetoobig");
30                     exit();
31                     echo "File is too big! File size should be less than 500KB.";
32                 }
33
34             }
35
36             else{
37                 header("Location: signup.php?error=fileuploadererror");
38                 exit();
39                 echo "There was an error uploading your file!";
40             }
41
42         }
43
44         else{
45             header("Location: signup.php?error=fileincorrectformat");
46             exit();
47             echo "Files of type PDF or JPG or JPEG can be uploaded";
48         }

```

Fig 11. Code for checking file format and size. Storing the file in a separate folder.

After logging in using correct details, you will be redirected to the 'Patient Dashboard' where options like add a member, booking appointment, details about booked appointments, FAQs and logout are provided.



Fig 12. People Dashboard

Add Member:

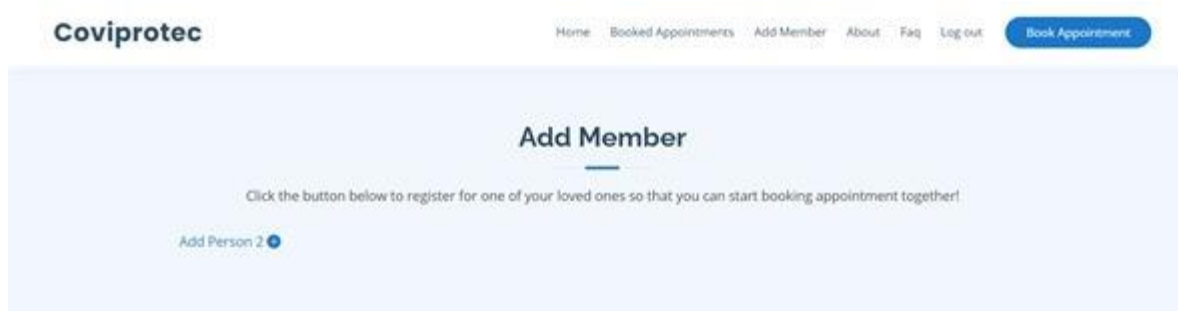


Fig 13. Add member

A member (family or friend) can be added. They share the same phone number. Once added, appointments can be booked individually or even together. However, you can only add one such member.

Moving on to 'Booking Appointment' 3 options are provided (in case you have added a member):

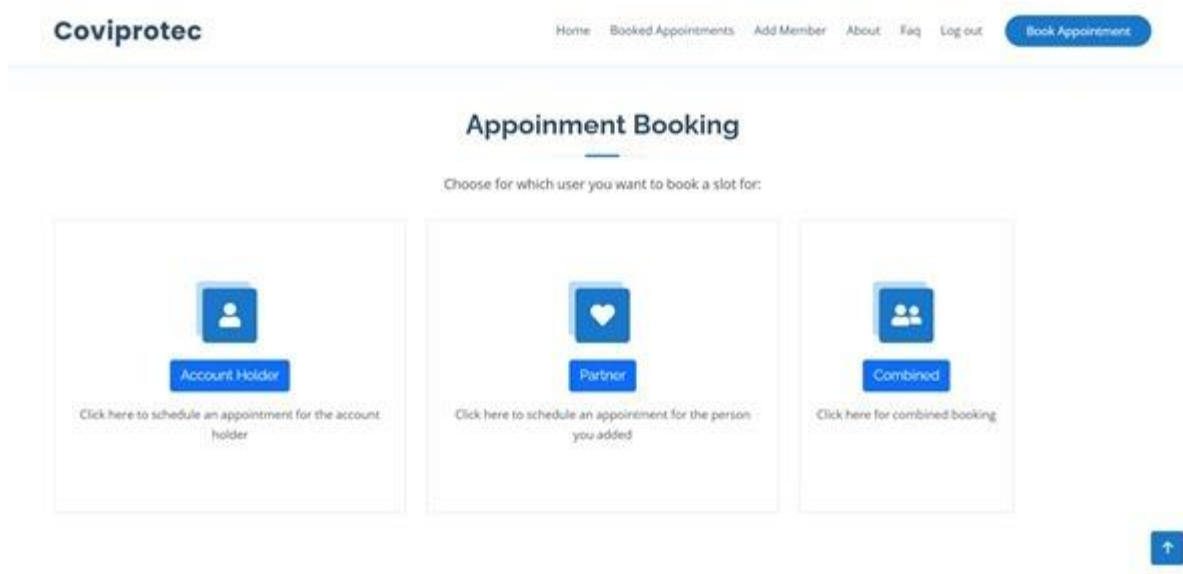


Fig 14. Appointment Booking (when a member is added)

- Account holder – booking individually for the person holding the account.
- Partner - booking individually for the added member.
- Combined - booking for both of them at once.

Note:

Even though the booking is done together the appointments are considered individual so they can be cancelled individually.

Also, when combined booking is chosen, the individual users must satisfy the conditions related to the doses (mentioned below) and should be in the same step of the vaccination process.

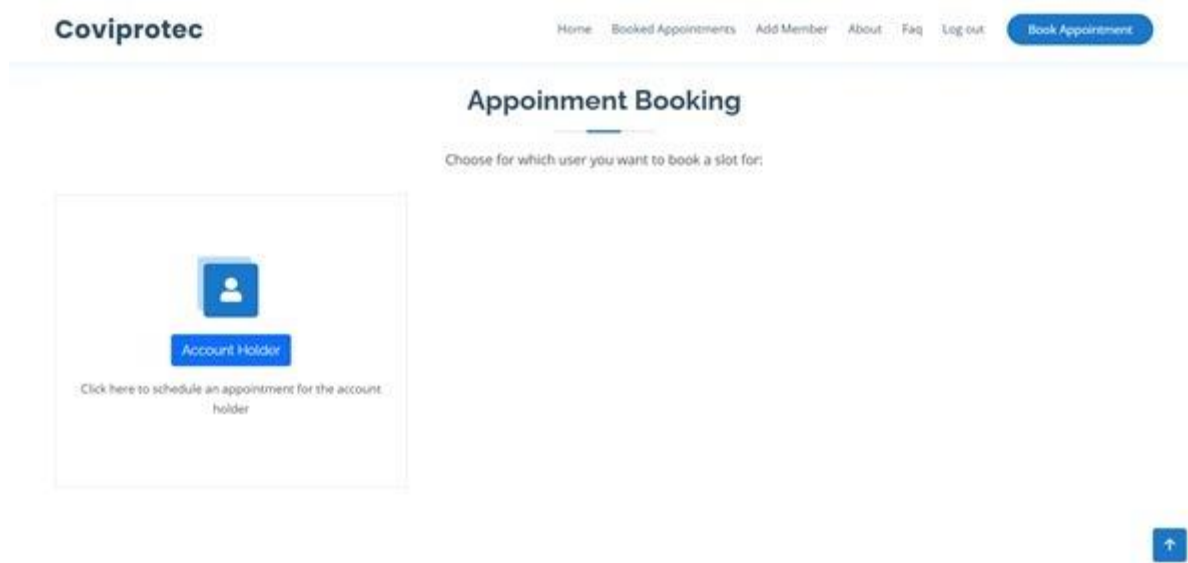


Fig 15. 'Booking Appointment' when no other members are added

Appointment Booking:

After choosing the booking option it is necessary to choose the dose. Only dose 1 is available for people who have not booked dose 1 yet. The dose 2 option is available for the user to choose only 30 days after taking dose 1.

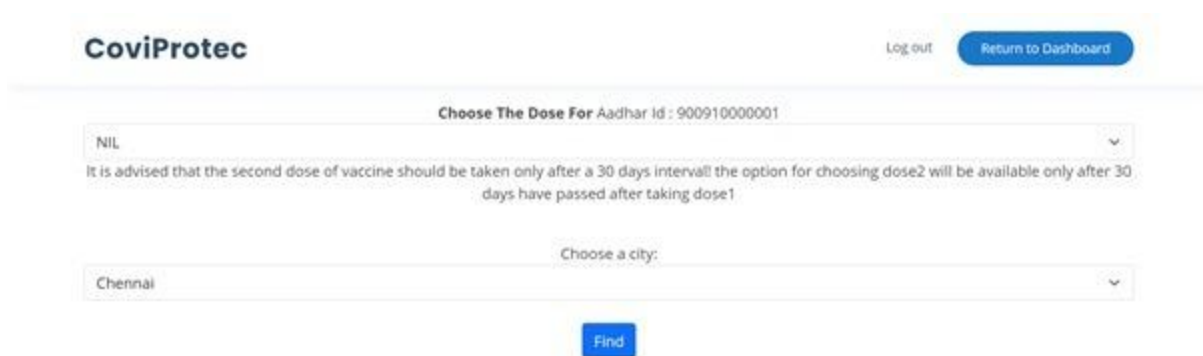


Fig 16. Situation where dose 2 will be enabled only after 30 days

```

168 | else if($resultexist['dose1'] == 1){
169 |
170 |     $now1 = date("Y-m-d");
171 |     $now = date_create($now1);
172 |     $diff = date_diff(date_create($resultexist['dose1_date']),$now);
173 |
174 |     if( $diff->format("%R") == '+' ){
175 |         $numdays = intval($diff->format("%a"));
176 |         if( $numdays >= 30 ){
177 |             echo "<select name='dose' id='dose' class='form-select' required>
178 |                 <option value=''>NIL</option>
179 |                 <option value='dose2'>dose2</option>
180 |             </select>";
181 |         }
182 |     }
183 |     else{
184 |         echo "<select name='dose' id='dose' class='form-select' required>
185 |             <option value=''>NIL</option>
186 |         </select>";
187 |         echo "<p>It is advised that the second dose of vaccine should be taken only after a 30 days interval!
188 |             the option for choosing dose2 will be available only after 30 days have passed after
189 |             taking dose1</p>";
190 |     }
191 | }
192 |
193 | else{
194 |     echo "<select name='dose' id='dose' class='form-select' required>
195 |         <option value=''>NIL</option>
196 |     </select>";
197 |     echo "<p>Your dose 1 is yet to be completed</p>";
198 | }
199 |
200 | }
201 |

```

Fig 17. Code for checking whether 30 days have passed since dose 1 date

It is necessary to book dose 1 and dose 2 through this site since it can't take account for people who got vaccinated directly in the hospital.

After choosing the dose it is necessary to choose the city and click on 'Find button'. The hospitals whose area of operation is that chosen city are displayed. Each hospital contains booking options for covaxin and covishield (depending on the availability of each vaccine in that particular hospital) for the next 7 days starting from the next day.

CoviProtec

Log out

Return to Dashboard

NABH ID:1001

Name:Apollo Hospital

Date	To register for covaxin	To register for covishield	Doses per Day
2021-05-31	covaxin	covishield	50
2021-06-01	covaxin	covishield	50
2021-06-02	covaxin	covishield	50
2021-06-03	covaxin	covishield	50
2021-06-04	covaxin	covishield	50
2021-06-05	covaxin	covishield	50
2021-06-06	covaxin	covishield	50

Fig 18. Vaccine availability for the next seven days

CoviProtec Log out [Return to Dashboard](#)

Choose The Dose For Aadhar ID : 700010002000 And 700020001000

Sorry you guys cant book together since one of you have already taken dose 1, Please proceed to book individually.

Choose a city:

Chennai

[Find](#)

Fig 19. In 'Combined Booking' it checks if an individual has already taken dose 1. In that case he cannot proceed to take dose 2 since the other member has not even taken dose 1. They have to proceed to book individually or the other member should also take dose 1 and wait for another 30 days to proceed in 'Combined Booking'.

CoviProtec

Log out

Return to Dashboard

NABH ID:3001

Name:SIMS

Date	To register for covaxin	To register for covishield	Doses per Day
2021-05-31	covaxin	Only one vaccine is left for that day. So both of you cannot book.	60
2021-06-01	covaxin	Only one vaccine is left for that day. So both of you cannot book.	60
2021-06-02	covaxin	Only one vaccine is left for that day. So both of you cannot book.	60
2021-06-03	covaxin	Only one vaccine is left for that day. So both of you cannot book.	60
2021-06-04	covaxin	Only one vaccine is left for that day. So both of you cannot book.	60
2021-06-05	covaxin	Only one vaccine is left for that day. So both of you cannot book.	60
2021-06-06	covaxin	Only one vaccine is left for that day. So both of you cannot book.	60

Fig 20. In case of 'Combined Booking' if only 1 vaccine (either total stock or stock for that day) is available then booking option will not be displayed.

CoviProtec

Log out

Return to Dashboard

NABH ID: 3001

Name: SIMS

Date	To register for covaxin	To register for covishield	Doses per Day
2021-05-31	covaxin	Covishield Not available! Or the upper limit of total number of vaccines per day of the hospital has crossed!	60
2021-06-01	covaxin	Covishield Not available! Or the upper limit of total number of vaccines per day of the hospital has crossed!	60
2021-06-02	covaxin	Covishield Not available! Or the upper limit of total number of vaccines per day of the hospital has crossed!	60
2021-06-03	covaxin	Covishield Not available! Or the upper limit of total number of vaccines per day of the hospital has crossed!	60
2021-06-04	covaxin	Covishield Not available! Or the upper limit of total number of vaccines per day of the hospital has crossed!	60
2021-06-05	covaxin	Covishield Not available! Or the upper limit of total number of vaccines per day of the hospital has crossed!	60

Fig 21. If the total available stock or the stock assigned for a particular day is over, then also the booking button will not be displayed.

```

457 $j = 1;
458 while($j < 8){
459
460     $d = strtotime("+ $j day");
461     echo "<tr><th>".date("Y-m-d ", $d)."</th>";
462
463     $covaxin = $row['hospital_nabh_id']."covaxin".$j;
464     $covishield = $row['hospital_nabh_id']."covishield".$j;
465     $vaccine_stock_per_day = "vaccine_per_day".$j;
466
467     if($row_vaccine['curr_covaccine'] > 0 && $row_vaccine_per_day[$vaccine_stock_per_day] > 0){
468         if($_SESSION['user_number'] == 3 && ($row_vaccine_per_day[$vaccine_stock_per_day] <= 1 || $row_vaccine['curr_covaccine'] <= 1)){
469             echo "<th>Only one vaccine is left for that day. So both of you cannot book.</th>";
470         }
471         else{
472             echo "<th><input type='submit' class='btn btn-primary' name='".$covaxin.'" value='covaxin'>
473                 </th>";
474         }
475     }
476     else{
477         echo "<th>Covaxin Not available! Or the upper limit of total number of vaccines per day of the hospital has crossed!</th>";
478     }
479
480     if($row_vaccine['curr_covishield'] > 0 && $row_vaccine_per_day[$vaccine_stock_per_day] > 0){
481         if($_SESSION['user_number'] == 3 && ($row_vaccine_per_day[$vaccine_stock_per_day] <= 1 || $row_vaccine['curr_covishield'] <= 1)){
482             echo "<th>Only one vaccine is left for that day. So both of you cannot book.</th>";
483         }
484         else{
485             #echo "<br>Covishield Count: ".$row_vaccine['curr_covishield'];
486             echo "<th><input type='submit' class='btn btn-primary' name='".$covishield.'" value='covishield'></th>";
487         }
488     }
489     else{
490         echo "<th>Covishield Not available! Or the upper limit of total number of vaccines per day of the hospital has crossed!</th>";
491     }
492
493     echo "<td>".$row_vaccine['VaccinesPerDay']. "</td></tr>";
494
495     $j = $j + 1;
496     $_SESSION['date'] = $d;
497 }
498 }
499 }
500 }
501 }
502 }

```

Fig 22. Code checking the total availability of vaccines and also the per day vaccine capacity.

Finally, after the completion of all the processes, you have successfully booked your vaccine. The appointment confirmation and details will be available on dashboard.

Cancellation:

A choice is provided to cancel the appointment, but it can be done only until a day before the vaccination date.

- aadhar_ID:800070006000
- Name:Megha Akash
- Gender:male
- Age:90
- Phone Number:7680906990
- dose 1
- date of dose:2021-06-01
- vaccine:covishield

Book Uber Ride

Book Ola Ride

cancel appointment

Fig 23. Cancellation button visible for appointment scheduled on June 1

```

379 $userdet = getUser($con, $_SESSION['aadhar_ID_person2']);
380 //looking to see whether user2 has registered for dose1
381 if($exist['dose1'] == 1){
382     echo "<div class='alert alert-success'>
383         <li> aadhar_ID:". $userdet['aadhar_ID']. "</li>
384         <li> Name:". $userdet['name']. "</li>
385         <li>Gender:". $userdet['gender']. "</li>
386         <li>Age:". $userdet['age']. "</li>
387         <li>Phone Number:". $userdet['phone']. "</li>
388         <li>dose 1</li>
389         <li>date of dose:". $exist['dose1_date']. "</li>
390         <li>vaccine:". $vaccine. "</li>";
391         $now1 = date("Y-m-d");
392         $now = date_create($now1);
393         $diff = date_diff($now, date_create($exist['dose1_date']));
394         if( $diff->format("%R") == '+'){
395             $numdays = intval($diff->format("%a"));
396             if( $numdays >= 1 && $numdays <= 7){
397                 echo "<a href='https://m.uber.com/looking' class='btn btn-dark'><i class='fab fa-uber'></i> Book Uber Ride</a>
398                 <a href='https://www.olacabs.com/' class='btn btn-warning'><i class='fas fa-taxi'></i> Book Ola Ride</a>
399                 <button type='submit' name='cancel_user2_dose1' class='btn btn-danger'>cancel appointment</button></div>";
400             }
401         }
402     }
403 //looking to see whether user2 has registered for dose2
404 if($exist['dose2'] == 1){
405     echo "<div class='alert alert-success'>
406         <li> aadhar_ID:". $userdet['aadhar_ID']. "</li>
407         <li> Name:". $userdet['name']. "</li>
408         <li>Gender:". $userdet['gender']. "</li>
409         <li>Age:". $userdet['age']. "</li>
410         <li>Phone Number:". $userdet['phone']. "</li>
411         <li>dose 2</li>
412         <li>date of dose:". $exist['dose2_date']. "</li>
413         <li>vaccine:". $vaccine. "</li>";
414         $now1 = date("Y-m-d");
415         $now = date_create($now1);
416         $diff = date_diff($now, date_create($exist['dose2_date']));
417         if( $diff->format("%R") == '+'){
418             $numdays = intval($diff->format("%a"));
419             if( $numdays >= 1 && $numdays <= 7){
420                 echo "<a href='https://m.uber.com/looking' class='btn btn-dark'><i class='fab fa-uber'></i> Book Uber Ride</a>
421                 <a href='https://www.olacabs.com/' class='btn btn-warning'><i class='fas fa-taxi'></i> Book Ola Ride</a>
422                 <button type='submit' name='cancel_user2_dose2' class='btn btn-danger'>cancel appointment</button></div>";
423             }
424         }
425     }

```

Fig 24. Code to check when to enable the cancel button.

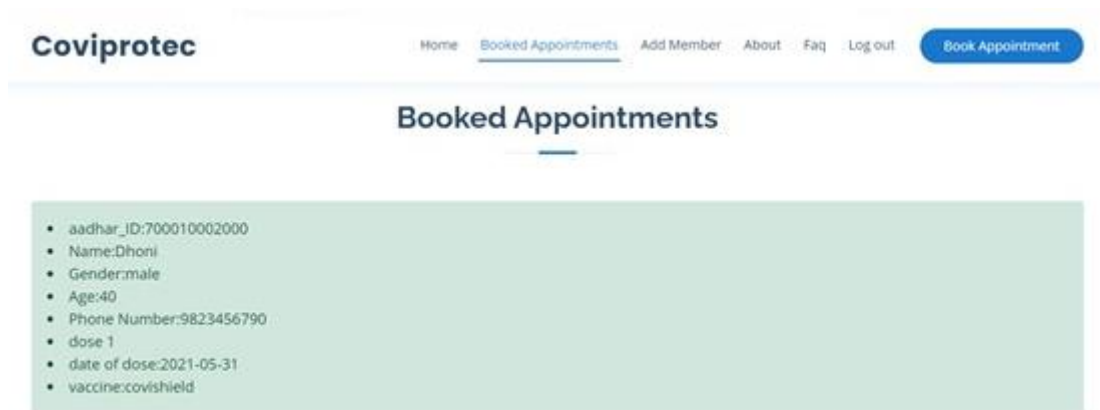


Fig 25. Cancel button not visible for vaccine scheduled on May 31 as it is today's date.

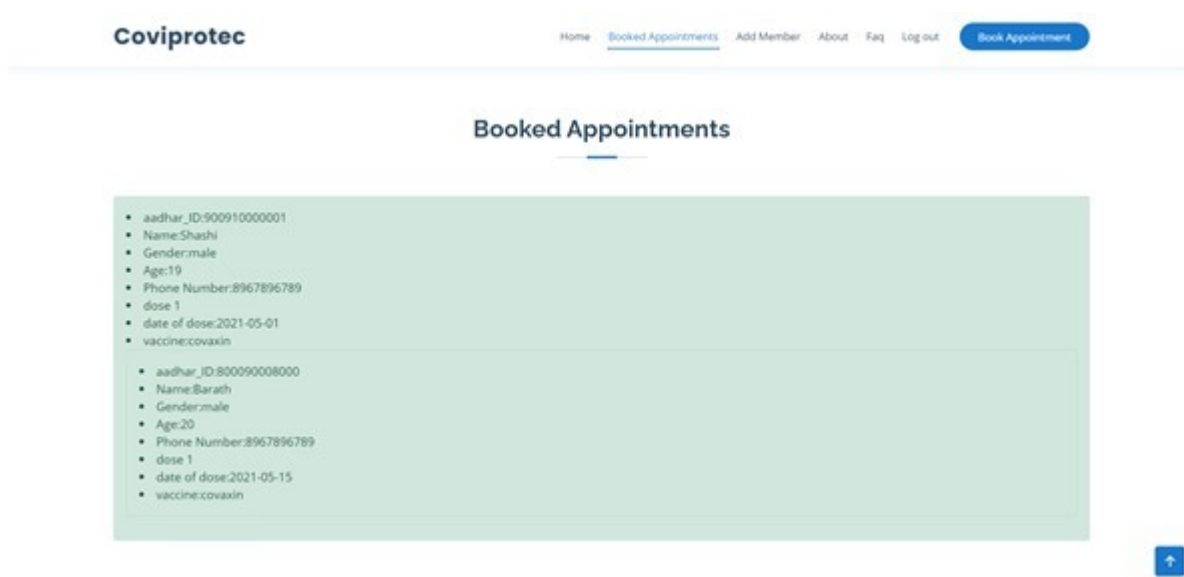


Fig 26. There will be no option to cancel after the stipulated time:

HOSPITAL'S STANDPOINT

When you click on 'Register hospital', you will be redirected to the 'Hospital Login page'.

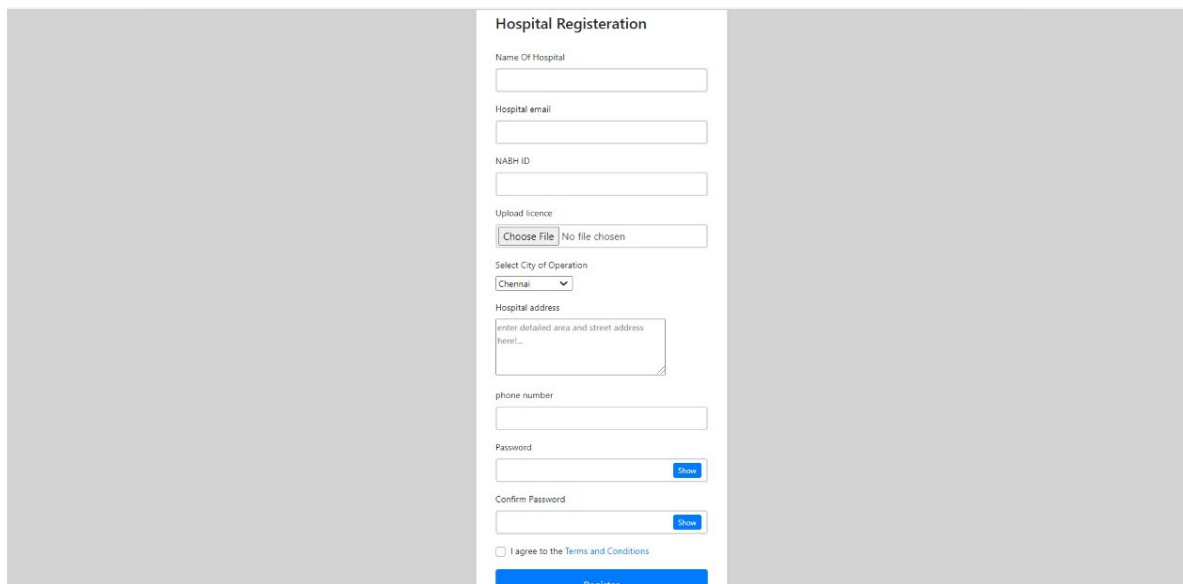


Fig 27. Login Page for hospitals

In case you don't have an account, click on 'Sign Up' and the required details should be filled. All the fields should be filled.

The file submitted as an identity proof (like NABH accreditation certificate) should be of **PDF or JPG** format. The file size should be less than 500kb.

The password and confirm password should match. The passwords are also hashed and saved for security reasons.



Hospital Registration

Name Of Hospital

Hospital email

NABH ID

Upload licence
 No file chosen

Select City of Operation
Chennai

Hospital address

phone number

Password

Confirm Password

☐ I agree to the [Terms and Conditions](#)

Fig 28. Sign Up page for hospitals

After logging in using correct details, you will be redirected to the 'Hospital Dashboard'.



Fig 29. Hospital Dashboard

```

76 <div class="row">
77
78 <div class="col-lg-3 col-md-6">
79 <div class="count-box">
80 <i class="fas fa-user-md"></i>
81 <?php
82 echo '<span data-purecounter-start="0" data-purecounter-end="'. $Currentvaccine_det['curr_covaccine']. '" data-purecounter-duration="1"
      class="purecounter"></span>'
83 ?>
84 <p>Available Covaxin Vaccines</p>
85 </div>
86 </div>
87
88 <div class="col-lg-3 col-md-6 mt-5 mt-md-0">
89 <div class="count-box">
90 <i class="fas fa-hospital"></i>
91 <?php
92 echo '<span data-purecounter-start="0" data-purecounter-end="'. $Currentvaccine_det['curr_covishield']. '" data-purecounter-duration="1"
      class="purecounter"></span>'
93 ?>
94 <p>Available Covishield Vaccines</p>
95 </div>
96 </div>
97 </div>
98
99 <div class="col-lg-3 col-md-6 mt-5 mt-lg-0">
100 <div class="count-box">
101 <i class="fas fa-flask"></i>
102 <?php
103 echo '<span data-purecounter-start="0" data-purecounter-end="'. $Currentvaccine_det['VaccinesPerDay']. '" data-purecounter-duration="1"
      class="purecounter"></span>'
104 ?>
105 <p>Vaccines Per Day</p>
106 </div>
107 </div>
108
109 <div class="col-lg-3 col-md-6 mt-5 mt-lg-0">
110 <div class="count-box">
111 <i class="fas fa-award"></i>
112 <?php
113 echo "<h4 style='font-size:23px;'>". $Currentvaccine_det['updation_date']. "</h4>"
114 ?>
115 <p>last updation date</p>
116 </div>
117 </div>
118
119 </div>

```

Fig 30. Code for displaying the available covaxin and covishield.

Initially, it is necessary to set the availability of vaccines to start the service. In case the available stock is not set, the hospital will not be displayed on the user's booking page. It is also necessary to set the number of people who can be vaccinated in one day (Vaccine per day) considering the staff's ability.

Hospital Stock update

stock of covaxin to add:

stock of covishield to add:

Amount of vaccine to use per day:


Reset

Submit

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Fig 31. Hospital Stock Update Page. Amount of vaccine per day can be filled only for one time.

Note that once the 'Vaccine per day' is set you will not be able change it again. The hospital is also required to update their new stock of vaccines regularly because if the count of current vaccine availability drops to 0, it will not be available for any more bookings.



Hospital Stock update

stock of covaxin to add:

stock of covishield to add:

Reset

Submit

Fig 32. Vaccine per day is not visible from second time onwards



Fig 33. The available stock will be displayed on the 'Hospital Dashboard'.

An important facility provided is that the details of appointments booked on any given day can be checked. If no appointments have been booked on that particular day, then nothing will be displayed.

Covid Drive

Home Vaccine Schedule Log out Update Vaccines

Enter date you want to check appointment for:

aadhar_ID	name	gender	age	phone number
600050004000	Tinzyy	male	45	7090678990
700090008000	Lalit Arvind	female	87	7680906990

Fig 34. Scheduled appointment can be viewed on any given date.

SCOPE

- The identity proof submitted by the users has to be checked to ensure that illegitimate people are not using the site. If the submitted file is not true, we can delete the account. This is applicable for both people as well as hospitals.
- We can make this application real-time by making the hospitals sign up to our site and upload their new stock details regularly.
- We can add upcoming vaccine options like Sputnik.
- We can make the hospital verify whether a person who booked for a vaccine has got vaccinated.
- In the people dashboard, we can expand the number of users up to 4 for use of family members.
- We can expand our site to manage vaccine booking throughout India like CoWin
- We can provide transportation service for users with need.

Tools and Techniques used:

Front End:

- HTML
- CSS
- BOOTSTRAP (Framework)
- JAVASCRIPT

Back End:

- PHP
- MYSQL database

Hosting Service:

- HEROKU

Conclusion:

During these pandemic times, the purpose of our project is to provide vaccination for people and also help hospitals provide service in an efficient manner. We have made **CoviProtec** a user-friendly site which can provide multiple the features. The key feature of our site is we provide registration for both the people and hospital. We provide an interactive user interface with which people can effortlessly register, cancel and reschedule their appointment. We also allow user to add one member of their family or friends for whom they wish to book appointment. Hospitals can also view the appointments they have for a particular day and update their vaccine stock. We have also provided information regarding vaccination and importance of it.

GitHub link for reference code:

<https://github.com/firaz-bug/Coviprotec/tree/master>

Website URL:

<https://coviprotec.herokuapp.com/>

References:

- <https://www.youtube.com/watch?v=gCo6JqGMi30>
 - Reference for Login System In PHP
- <https://www.w3schools.com/>
 - For other concepts