

INDIRA COLLEGE OF ENGINEERING AND MANAGEMENT

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STQA Mini Project

SUBMITTED

BY:

Aniket Uttekar (24130)

Mayur Kharmate (24131)

Yash Kudale (24132)

B.E

IN

COMPUTER ENGINEERING

COVID-19 TESTING MANAGEMENT SYSTEM

Aim:

Creating the Dynamic website of covid-19 information using HTML, CSS, JAVASCRIPT And PHP, MySQL database to store user account, comment, and registration form details. Regular Expression testcases for testing purpose

Hardware Requirements:

Processor: Intel core i5 or above

Hard Disk: 500GB HDD or more

RAM: 4GB or more

Network Connection: WIFI/Ethernet

Software Requirements:

Designing Languages: CSS

Designing Framework: BOOTSTRAP

Back-end tool: MYSQL

Server-Side Language: PHP 5.5

Code Editors: Sublime text

Server software: XAMPP

Database: MYSQL 5.X

Browser Scripting Languages: JavaScript

Introduction:

COVID19 Testing Management System is web-based technology which brings up various diagnosis works online. Here patients are first allowed to register on the website and provide personal, test information. Once registered with their address and contact details, the patients may now see a variety of tests conducted by the lab. The patient will select the required test and book appointment after that lab center send a lab boy at registered address to collect a sample. After successful sample collection patient can track their test history using the name, order and registered mobile number. The system allows admin to attach a copy of the report into the system and automatically shown on user side so user can download report. In COVID19 Testing Management System we use PHP and MySQL database.

What is Regular Expression?

A regular expression (sometimes called a rational expression) is a sequence of characters that define a search pattern, mainly for use in pattern matching with strings, or string matching, i.e. “find and replace”-like operations.

Regular expressions are a generalized way to match patterns with sequences of characters. It is used in every programming language like C++, Java and Python

Following table shows Regex operations:

Character	Meaning	Example
*	Match zero, one or more of the previous	Ah* matches "Ahhhhh" or "A"
?	Match zero or one of the previous	Ah? matches "A" or "Ah"
+	Match one or more of the previous	Ah+ matches "Ah" or "Ahhh" but not "A"
\	Used to escape a special character	Hungry\? matches "Hungry?"
.	Wildcard character, matches any character	do.* matches "dog", "door", "dot", etc.
()	Group characters	See example for
[]	Matches a range of characters	[cbf]ar matches "car", "bar", or "far" [0-9]+ matches any positive integer [a-zA-Z] matches ascii letters a-z (uppercase and lower case) [^0-9] matches any character not 0-9.
 	Matche previous OR next character/group	(Mon) (Tues)day matches "Monday" or "Tuesday"
{ }	Matches a specified number of occurrences of the previous	[0-9]{3} matches "315" but not "31" [0-9]{2,4} matches "12", "123", and "1234" [0-9]{2,} matches "1234567..."
^	Beginning of a string. Or within a character range [] negation.	^http matches strings that begin with http, such as a url. [^0-9] matches any character not 0-9.
\$	End of a string.	ing\$ matches "exciting" but not "ingenious"

Purpose:

The main purpose of COVID-19 Testing Management System to provide a platform where patient can book the test online and get their COVID-19 test done at home. With the help of this project we are bringing the use of technology in the field of medical diagnosis where patients can avail all the diagnosis facilities at their door steps. Another purpose for developing this application is to generate the report automatically at the end of the session or in the between of the session

Scope:

Today also we have to go to the COVID19 Test Lab centre, wait in the queue to get our COVID19 test done. As Technology is growing rapidly, we are also moving to a technical world where everything we want to be online. So, with the help of this project we are bringing the use of technology in the field of medical diagnosis where patients can avail all the diagnosis facilities at their door steps. This project makes the diagnosis process easy and reduces the burden of patients. At a same time, its help the diagnostic center to track all their patients details with their test reports. This access friendly software provides quick and effective services which helps the diagnostic center to increase their sales and profit.

Design and Analysis:

Today also we have to go to the diagnostic center, wait in the queue to get our COVID-19 test done. As Technology is growing rapidly, we are also moving to a technical world where everything we want to be online. So, with the help of this project we are bringing the use of technology in the field

of medical diagnosis where patients can avail all the diagnosis facilities at their door steps. This project makes the diagnosis process easy and reduces the burden of patients.

Possible Test Cases for our Website:

Sr/no	Test Cases	Yes/No
1	Is the login page visible?	Yes
2	Are we able to Enter the Email and Password?	Yes
3	Does the Password hides after we write it?	Yes
4	Does Login button redirects to proper page after we click on it?	Yes
5	Does Full Name Textbox takes only Character String as input?	Yes
6	Does Mobile Number Takes only 10 Numbers and gives right prompt if we Enter wrong format?	Yes
7	Are we able to Select Date of Birth?	Yes
8	Does Aadhar Card No Takes only 12 Numbers and gives right prompt if we Enter wrong format?	Yes
9	Are we able to fill Address , State ?	Yes
10	Are we able to Select Test type and Time slot?	Yes
11	Is submit Button working Properly and gives us proper Prompt?	Yes
12	Are we able to enter the patient name / Mobile No. to search details?	Yes
13	Are we getting the proper search result after clicking search button?	Yes
14	Are we able to see details after clicking on detail button?	Yes

Implementation of Regular Expression:

- **Regular Expression for Mobile Number:-**

The screenshot shows the 'regular expressions 101' website interface. The 'REGULAR EXPRESSION' field contains the pattern `^[789][0-9]{9}$`. The 'TEST STRING' field contains several phone numbers. The 'MATCHES' section shows 2 matches: `7972945936` and `8972945936`. The 'FLAVOR' section shows 'PCRE2 (PHP >=7.3)' is selected. The 'FUNCTION' section shows 'Match' is selected. The 'TOOLS' section shows 'Code Generator' and 'Regex Debugger' are available.

- **Regular Expression for Email Id:-**

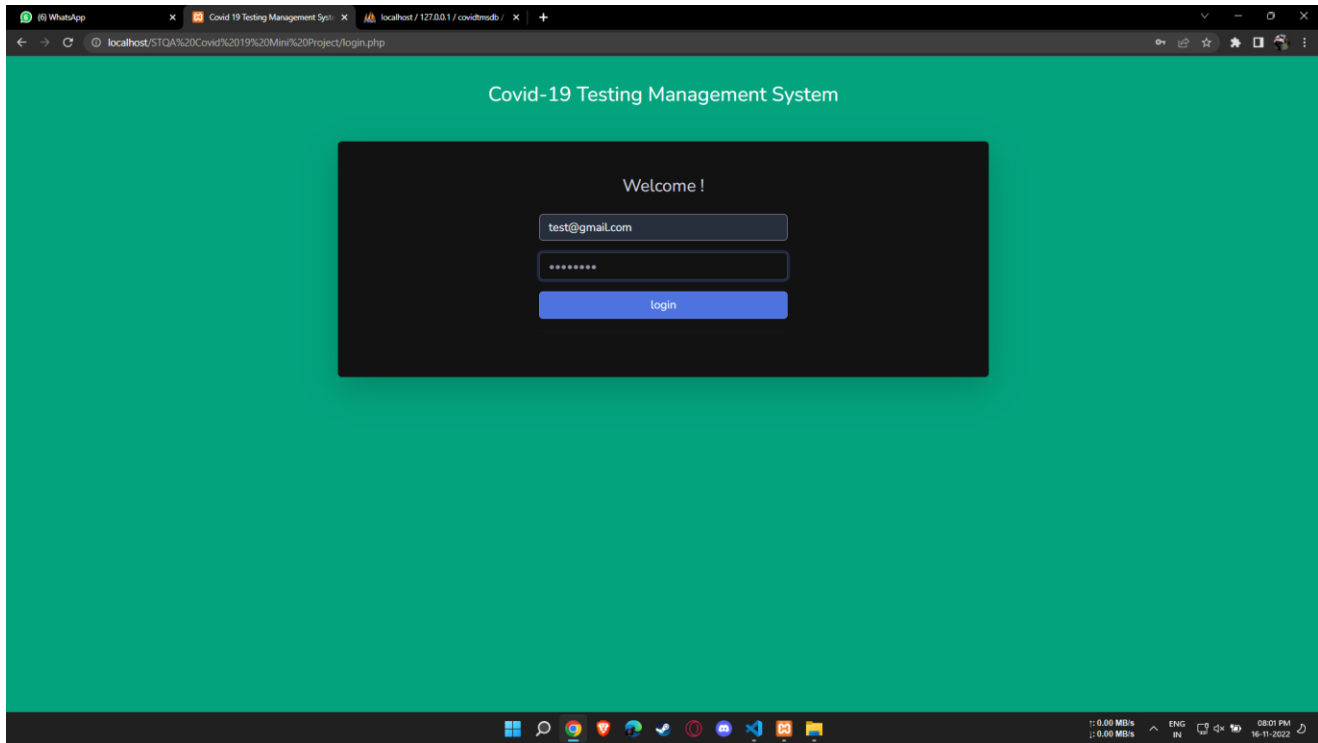
The screenshot shows the 'regular expressions 101' website interface. The 'REGULAR EXPRESSION' field contains the pattern `^[A-Za-z_0-9]{3,}@?[A-Za-z]{3,}[.]{1}[A-Za-z.]{2,6}$`. The 'TEST STRING' field contains several email addresses. The 'MATCHES' section shows 5 matches: `aniketuttekhar19@gmail.com`, `aniketgmail`, `aniket.com`, `aniket_@gmail.com`, and `aniket@pco.in`. The 'FLAVOR' section shows 'PCRE2 (PHP >=7.3)' is selected. The 'FUNCTION' section shows 'Match' is selected. The 'TOOLS' section shows 'Code Generator' and 'Regex Debugger' are available.

- **Regular Expression for Email Id:-**

The screenshot shows the regex101 website interface. The top header is blue with the text "regular expressions 101" and a user profile icon labeled "@regex101". The left sidebar contains navigation icons and a list of "FLAVOR" options: PCRE2 (PHP >=7.3) (checked), PCRE (PHP <7.3), ECMAScript (JavaScript), Python, Golang, Java 8, and .NET (C#). Below the flavors are "FUNCTION" options: Match (checked), Substitution, List, and Unit Tests. At the bottom of the sidebar are "TOOLS" options: Code Generator and Regex Debugger. The main area is titled "REGULAR EXPRESSION" and shows the regex `^[A-Za-z0-9._@#]{8,20}$` with flags `/gm`. A green badge indicates "7 matches (40 steps, 0.2ms)". Below the regex is a "TEST STRING" box containing the following text: `AniketU19`, `Aniket_19`, `Aniket#`, `aniket12`, `aniket@`, `aniket@88`, `12@ww`, `111111111`, `@#@#@#@#`, and `Test@123`. The matches are highlighted in blue.

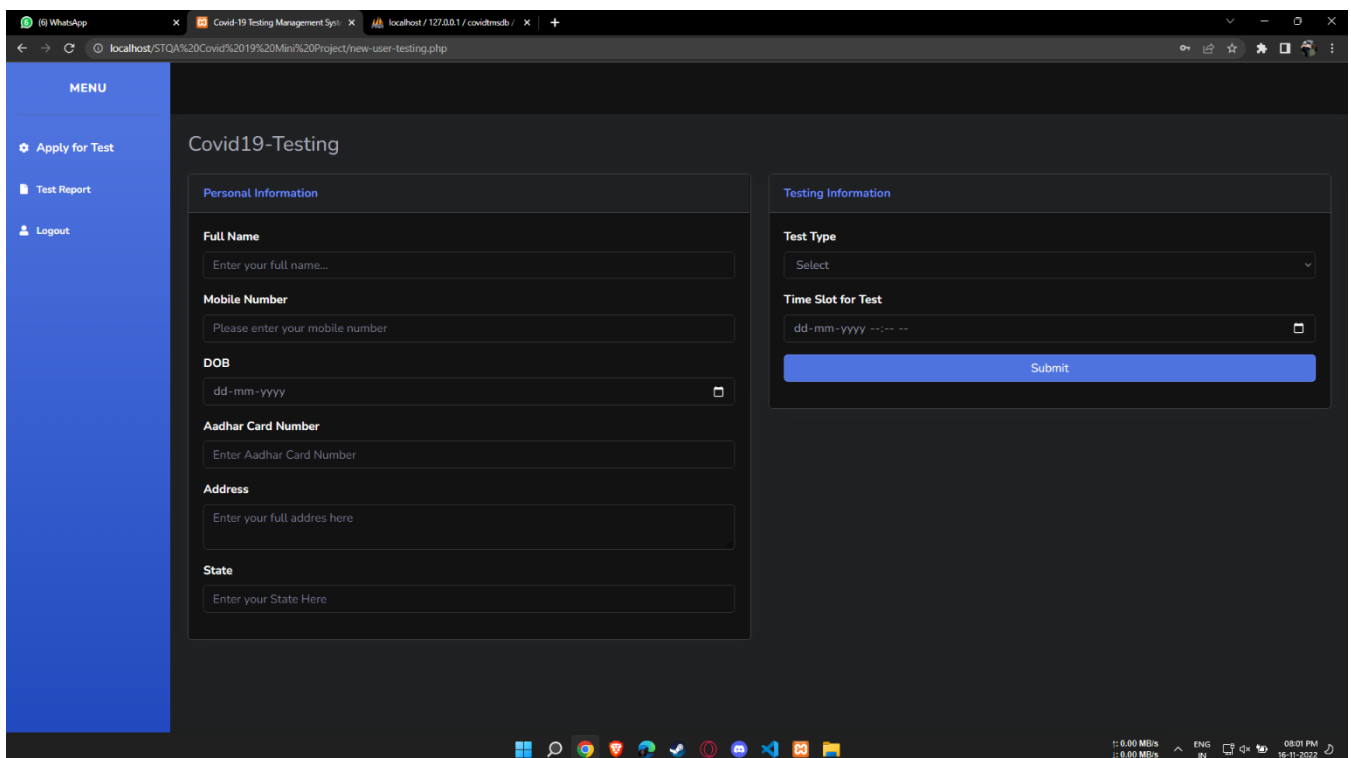
Evaluation: -

1) Login page of Covid-19 Testing Management System:



The screenshot shows a web browser window with the title "Covid-19 Testing Management System". The page has a teal background. In the center, there is a dark gray rectangular box containing a login form. The form includes a "Welcome !" message, a text input field with "test@gmail.com", a password input field with "*****", and a blue "login" button. The browser's address bar shows the URL "localhost/STQA%20Covid%2019%20Mini%20Project/login.php". The Windows taskbar at the bottom shows the time as 08:01 PM on 16-11-2022.

2)Registration Form:



The screenshot shows a web browser window with the title "Covid19-Testing". The page has a dark gray background. On the left, there is a blue sidebar with a "MENU" section containing links for "Apply for Test", "Test Report", and "Logout". The main content area is divided into two columns. The left column is titled "Personal Information" and contains input fields for "Full Name", "Mobile Number", "DOB", "Aadhar Card Number", "Address", and "State". The right column is titled "Testing Information" and contains a "Test Type" dropdown menu, a "Time Slot for Test" input field, and a blue "Submit" button. The browser's address bar shows the URL "localhost/STQA%20Covid%2019%20Mini%20Project/new-user-testing.php". The Windows taskbar at the bottom shows the time as 08:01 PM on 16-11-2022.

3) Full Name Regular Expression: [A-Za-z]+

The screenshot shows a web browser window with the URL `localhost/STQA%20Covid%2019%20Min%20Project/new-user-testing.php`. The page is titled "Covid19-Testing" and has a blue sidebar menu with options: "Apply for Test", "Test Report", and "Logout". The main form is divided into two sections: "Personal Information" and "Testing Information".

Personal Information:

- Full Name:** Input field contains "23". An error message "Please match the requested format. letters only" is displayed below the field.
- Mobile Number:** Input field with placeholder "Please enter your mobile number".
- DOB:** Input field with placeholder "dd-mm-yyyy" and a calendar icon.
- Aadhar Card Number:** Input field with placeholder "Enter Aadhar Card Number".
- Address:** Input field with placeholder "Enter your full address here".
- State:** Input field with placeholder "Enter your State Here".

Testing Information:

- Test Type:** Dropdown menu with "Select" as the current selection.
- Time Slot for Test:** Input field with placeholder "dd-mm-yyyy --:-- --" and a calendar icon.
- Submit:** A blue button labeled "Submit".

4) Mobile Number Regular Expression: [0-9]{10}

The screenshot shows the same web application, but now the "Mobile Number" field in the "Personal Information" section contains the value "1234567891011". An error message "Please match the requested format. 10 numeric characters only" is displayed below the field. The "Full Name" field now contains "Mayur".

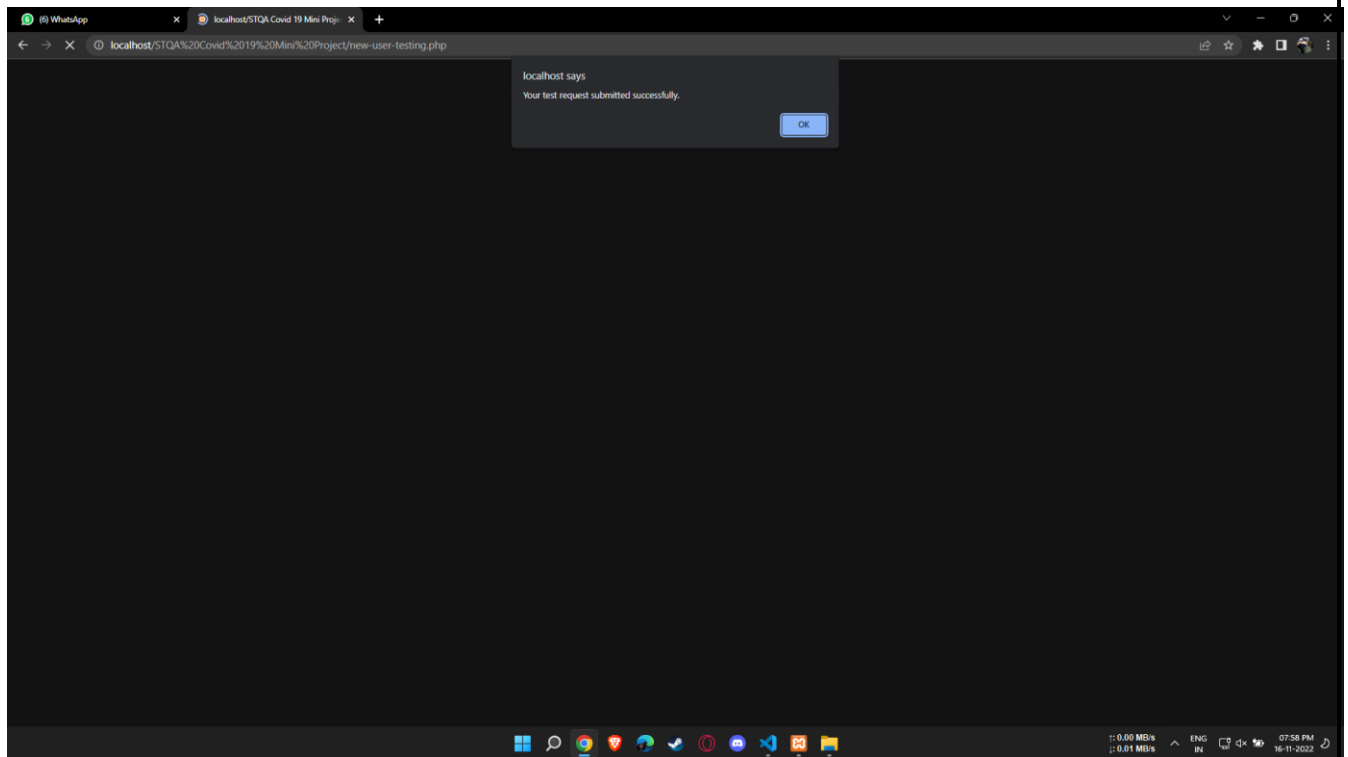
Personal Information:

- Full Name:** Input field contains "Mayur".
- Mobile Number:** Input field contains "1234567891011". An error message "Please match the requested format. 10 numeric characters only" is displayed below the field.
- DOB:** Input field with placeholder "dd-mm-yyyy" and a calendar icon.
- Aadhar Card Number:** Input field with placeholder "Enter Aadhar Card Number".
- Address:** Input field with placeholder "Enter your full address here".
- State:** Input field with placeholder "Enter your State Here".

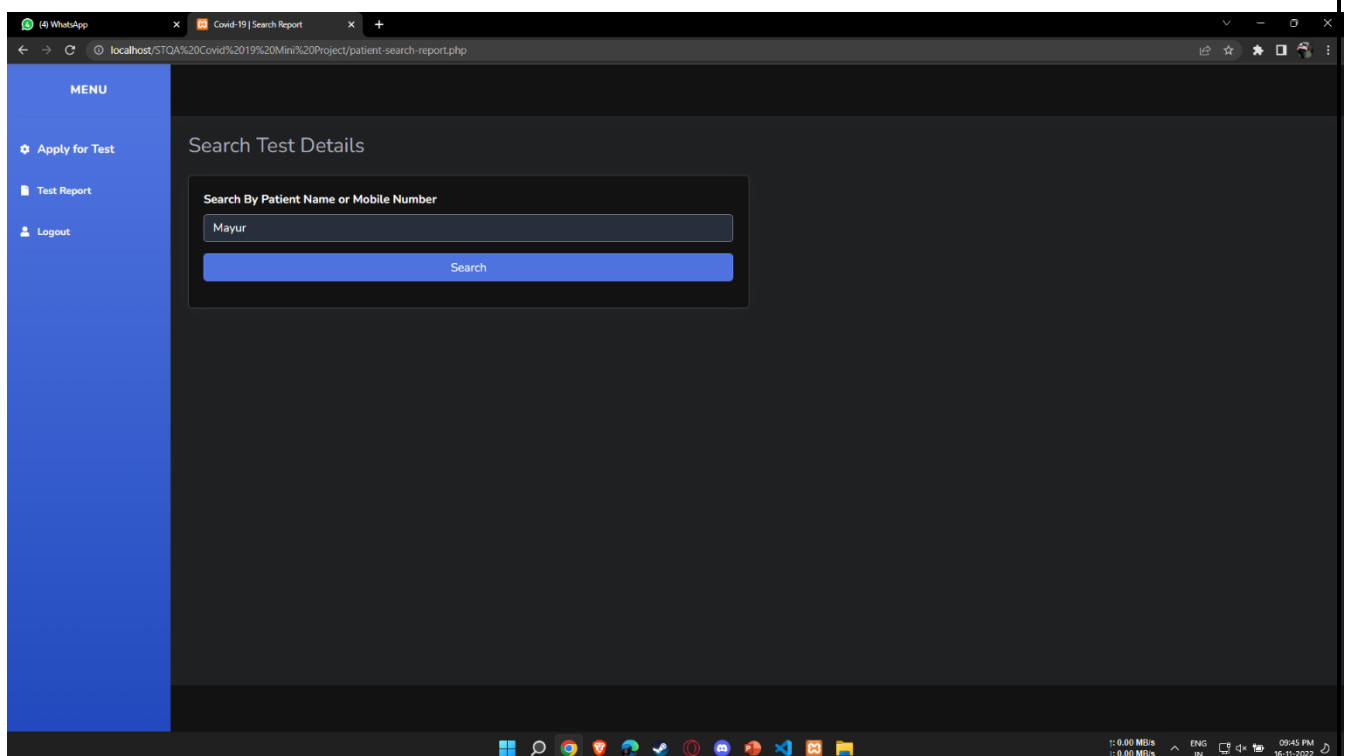
Testing Information:

- Test Type:** Dropdown menu with "Select" as the current selection.
- Time Slot for Test:** Input field with placeholder "dd-mm-yyyy --:-- --" and a calendar icon.
- Submit:** A blue button labeled "Submit".

5) Filling the whole form and submitting it:



6) Searching the details of test:



7) Output of Search:

The screenshot shows a web application interface with a dark theme. On the left is a blue sidebar menu with the title 'MENU' and three items: 'Apply for Test', 'Test Report', and 'Logout'. The main content area is titled 'Search Result Against 'Mayur'' and contains a section 'Search Report Results'. This section includes a 'Show 10 entries' dropdown, a search input field, and a table with the following data:

Sno.	Patient Name	Mobile No.	Test Type	Time Slot	Action
1	Mayur	1212121212	RT-PCR	2022-11-16T14:36	View Details

Below the table, it says 'Showing 1 to 1 of 1 entries' and has 'Previous', '1', and 'Next' pagination links. The browser's address bar shows the URL: localhost/STOA%20Covid%2019%20Mini%20Project/patient-report.php. The Windows taskbar at the bottom shows the time as 07:59 PM on 16-11-2022.

8) Test Detail Search Output:

The screenshot shows the 'Test Details' page in the same web application. The left sidebar menu remains the same. The main content area is titled 'Test Details' and is divided into two columns. The left column is titled 'Personal Information' and contains a table with the following data:

Full Name	Mayur
Mobile Number	1212121212
DOB (Date of Birth)	2001-10-11
Adhar Card No	123412341234
Full Address	Pune
State	Maharashtra

The right column is titled 'Test Information' and contains a table with the following data:

Test Type	RT-PCR
Time Slot	2022-11-16T14:36

Below these tables are two empty input fields. The browser's address bar shows the URL: localhost/STOA%20Covid%2019%20Mini%20Project/patient-report-details.php?id=88&acid=423386368. The Windows taskbar at the bottom shows the time as 08:11 PM on 16-11-2022.

Advantages:

- The system allows automate diagnosis system. Allows for faster service.
- Allows increased sales and profits for diagnostic labs.
- Report generation will help made it easy to analyse the performance.

Disadvantages:

- **NOT USER FRIENDLY:** The present system not user friendly because data is not stored in structure and proper format.
- **MANUAL CONTROL:** All report calculation is done manually so there is a chance of error.
- **LOTS OF PAPER WORK:** Visitors maintain in the register so lots of paper require. storing details.

Conclusion: -

COVID19 Testing Management System is very much graceful and lively. Users must register to the portal by giving their details and then they can take appointment through online with minimal effort. The Phlebotomist comes to patient address to collect the sample. Once test is done and test report is generated patient can download the report by logged in to the portal. This system can be implemented in diagnostic labs and clinics.