SOFTWARE REQUIREMENT SPECIFICATION
FOR COVID-19

İntroduction:

This project aims to implement a database application to maintain visitor and staff information at a COVID-19 facility. The motivation behind the development of this project is the need to efficiently manage the footfall at the testing facility.

1.1 Document Purpose

This document aims to delineate the functioning and specifications of the first version of the product to be developed, “COVID-19 Testing Facility Manager”. The specifications of the system described herein were arrived at after careful consideration of the requirements. It details the features, external interfaces and the operational constraints of the system. The document also outlines ideas that may be developed later.

1.2 Product Scope

The product aims to digitize the record maintenance at a COVID-19 testing facility. The software provides users with the option to book tests and view the results of their tests and keep them informed about their quarantine status. It also enables the staff at the center to record information within the application and assign work shifts to them. Patients tested positive are assigned a doctor.

1.3 Intended Audience and Document Overview

This document is intended for both the stakeholders and developers of the software. The rest of this document is divided into 3 sections:
Overall Description,
Specific Requirements &
Non-functional Requirements.

Overall Description:

2.1 Product Overview

The product to be developed is mostly self-contained and requires minimal external components apart from the database management system which maintains all the information. It is a prototype that requires further development in order to be fully deployed. To that extent, the integration of the application with an actual Internet connection is left out, however providing enough modifiability to add this feature later as described in subsection 2.3. Users will nevertheless require a web browser to access the application. In order to validate the registration of users, an external SMS service is used to send OTPs to users.

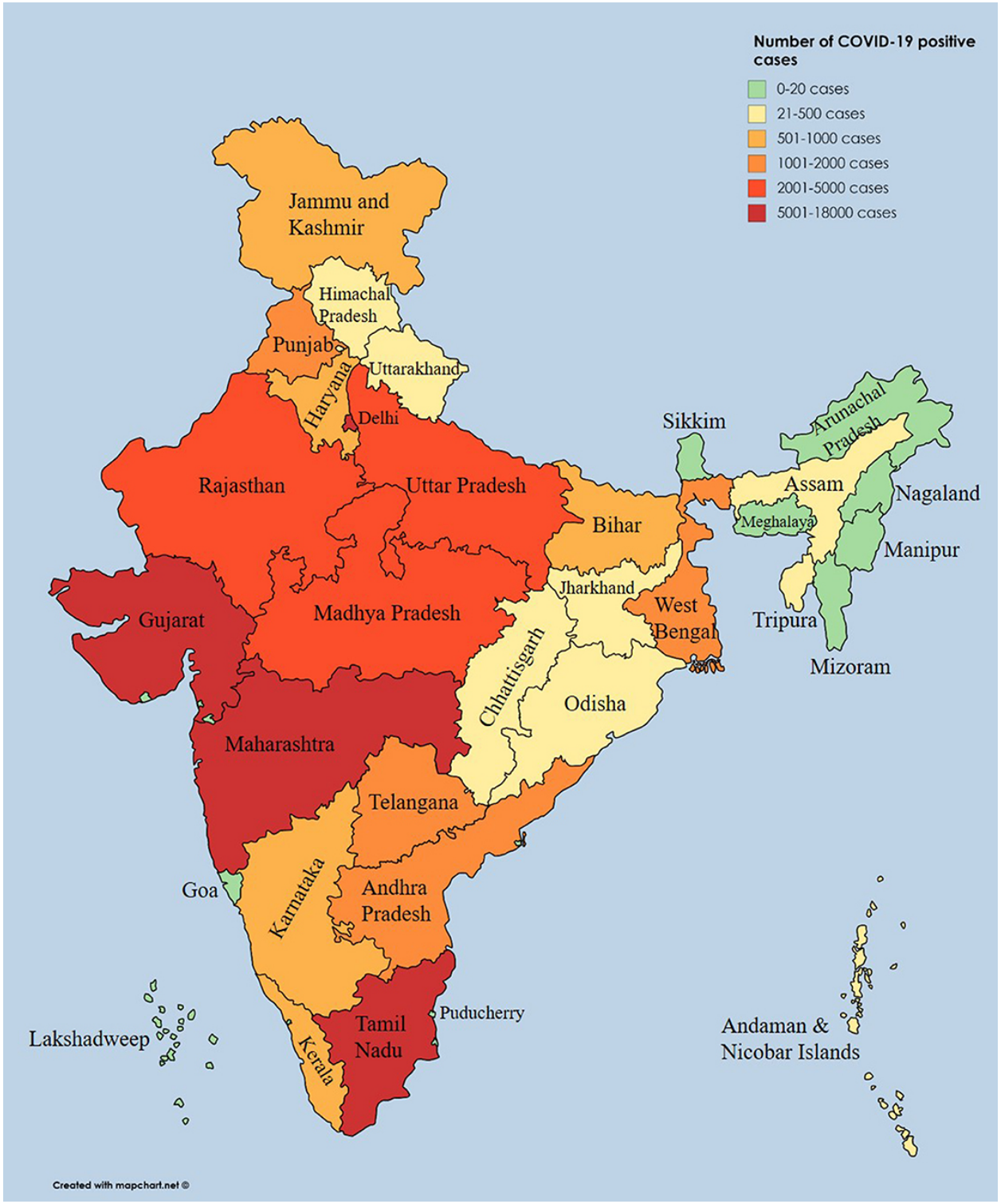
2.2 Product Functionality

1. Visitors and Staff shall be able to register on the application and log into it.
2. Visitors shall be able to book tests
3. The application shall display the test results
4. The application shall display the quarantine status of users
5. The application shall assign a Doctor to Visitors that test positive
6. The application shall assign shifts to Staff
7. Staff shall be able to request PPE
8. Doctors and Nurses shall be able to record test samples taken
9. Technicians shall be able to record the results of processed test samples

2.3 Design and Implementation Constraints

The product to be developed, being a rudimentary version of the envisioned software, the hosting of the application on the Internet is left unimplemented. As such, in the current version, the user accesses the application hosted on the localhost of the user’s machine. In order to practically realize it’s deployment, this functionality must be added to the software in future versions.As We able to find

where cases can peak by data , we ensure to give our service at full where cases are high.



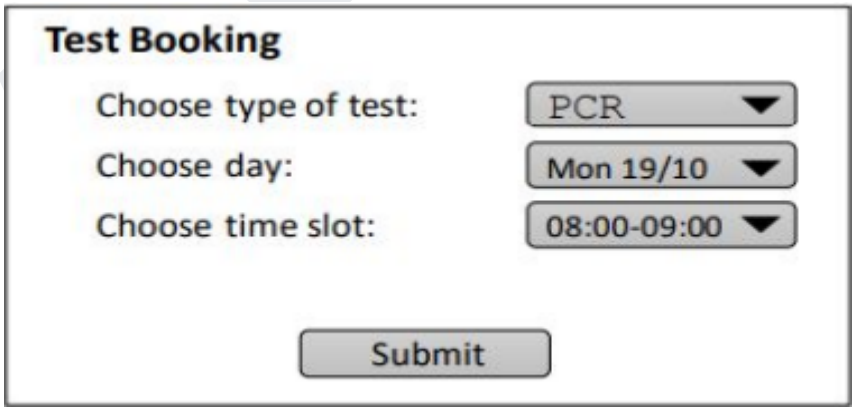
SPECIFIC REQUIREMENTS:

The registration page for a Visitor is shown. The Visitor enters the relevant details and submits to register.

The registration page for a member of the Staff is shown. The Staff member enters the relevant details and submits to register. The employee number provided by the administration to the employee.

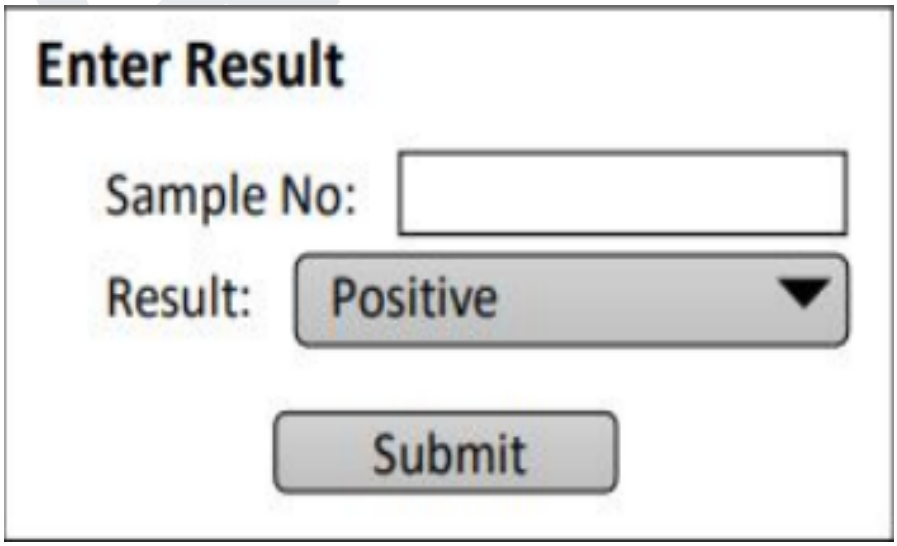
The homepage of a Technician is shown. The employee number is displayed. The upcoming shifts of the Technician is displayed.Buttons for entering results of analyzed samples and to request for new PPE are also available.

The page for booking a test is shown. The type of test, a date, and an available time slot may be selected by a Visitor.



The page to record a collected sample is shown. The unique Visitor number and sample number of the swab used is recorded. This page is accessible by Doctors and Nurses.

The page to enter the results of an analyzed test is shown. The sample number and the result of the test is entered. This page is accessible by Technicians.



OTHER NON-FUNCTIONAL REQUIREMENTS:

4.1 Performance Requirements

The product to be developed does not involve much real time processing nor does it require data heavy transactions to be made. As such, the performance requirements from the application is minimal. Reliability is the most important factor in this application.

4.2 Safety and Security Requirements

The application stores moderately sensitive data about it's users and hence a certain level of security is expected.The product primarily relies on the security of the machine that it runs on. The database files that store the data must be encrypted. A significant portion of the application will be developed in PHP. There are inherent security concerns associated with the use of PHP, mainly code injection vulnerabilities. To mitigate these risks, input received from the user must be sanitized thoroughly before passing to the database.

4.3 Software Quality Attributes

- ➔ Reliability The aim of the product is to facilitate record maintenance and thereby efficiently manage the crowding at the centre, essential for curbing the spread of COVID-19. Consequently, reliability is the primary concern in terms of software quality, ie, the performance expected of the application would be its ability to run throughout the working hours of the testing centre without crashing.
- ➔ Adaptability The application to be developed, due to constraints on the implementation, is most definitely expected to undergo changes in the future. Hence, the design of the application must be adaptable to such changes.

The End

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