"COVID-19 Testing Management System"

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ABSTRACT

Nowadays, COVID-19 Testing Management System is one of the most essential tools that are mostly used in Testing Lab; it is mostly used to manage COVID-19 medical lab related activities.

In this project we tried to develop a computerized and web based COVID-19 Testing management system. Our main intention is to allow this application to be used in most retailing COVID-19 lab, where a small point of customization will be required to each COVID-19 lab in the implementation period. This system is designed to overcome all challenges related to the management of diagnostic that were used to be handled locally and manually.

The system is an online COVID-19 lab manager application that brings up various COVID-19 test working online. Using this system, it will help us to records all transaction made at the daily tests; recognize all customers, employees, etc. It will manage all activities around the COVID-19 lab that increases productivity and maximize profit, it will also be minimizing the risk of getting loss because all transactions are recorded to the system.

Keyword: Management System, KNN-Algorithm, Sorting, Searching, Patient, Test.

INTRODUCTION:

DEFINATION

1. COVID-19 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.

2. The COVID-19 pandemic. In December 2019, a novel coronavirus disease (COVID-19) emerged and quickly spread around the world causing a surge in fatalities, especially among people with co-morbidities.1 The World Health Organization (WHO) declared a global COVID-19 pandemic on 11 March 2020. Since then, over 6 million people had an infected globally and over 373,000 had died as of 2 June 2020. 2 The Government of the Kyrgyz Republic announced the first three cases of COVID-19 on 17 March 2020 and declared a state emergency on 24 March 2020. Borders, schools and non-essential businesses were closed, and lockdown and social distancing were imposed. By 2 June 2020, there were 1,845 infected people, of whom 20% were health workers. A model of the global impact of COVID-19 predicts that many more could become infected and require hospital care, with devastating health and socioeconomic impacts.3 The MOH currently anticipates the pandemic to spread quickly before peaking in the second quarter of 2020 but a second or third wave is also possible as the country considers loosening restrictions later in the year and restarting economic activity.

About Project

Today also we have to go to the COVID-19 Test Lab 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. 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.

Statement of Objectives

The main objective of this project is to manage the record of users, Doctor and Status for Report.:-

1. Provide the 24/7 accessible Webpage and Application with user-friendly GUI to manage the all record.

2. Search and View Report.

3. Easy to Handle

4. Time Consuming

5. Reduce Paperwork

6. Information will not be lost

7. Authorize Doctor.

Basic Concepts:

The system allows automate diagnosis system. Report generation will help made it easy to analyze the performance. Easy retrieval or data will be made possible by finding techniques. Validation of data will be ensure only accurate valid and complete data stored in the database. Allows increased sales and profits for diagnostic labs and Easy, user-friendly GUI.

First user adds the details in Covid-19 Test Management System and select which test do and after submitting get a own order id to login and check the report status in after second time. After that submitting information so admin can login with own id and password. Admin will be check details of user and assigning a doctor for various and specialties for user selected test.

After Doctor provide a report status for Admin and Admin can update the details for user account also add the final status and Covid test Report in Pdf or Doc Format. User can put the order-id/Mobile No./Email-id and enter so user can easily get covid test report and downloaded successfully in pdf or doc format.

LITERATURES REVIEW

CONCEPT

A literature survey in a project report is that chapter which appear the various synthesize and research made in the field of your interest and the results already published, taking into account the various parameters of the project and the limit of the project.

Literature survey helps to decide our direction for research. Literature survey helps to set a goal for your analysis – hence it is giving you your problem statement.

When you write a literature survey in respect of your project, you have to write the research made by various analysts those are already published - & their methodology (which is basically their abstract) and the conclusions they have arrived at.

Methodology

1) Arranging Phase

Considering that specific people will be ineligible for COVID-19 inoculation because old enough, immunocompromise, and other prior ailments, an antibody refusal rate more noteworthy than 10% could fundamentally block fulfillment of this objective. Ongoing studies, that included 493 and 2200 people, recommend just 3 out of 4 individuals would get immunization assuming a COVID-19 antibody were accessible, and simply 30% would need to get the immunization not long after it becomes

available.3,4 Confidence in antibodies lies along a range, and people who have wavering about routine youth immunizations have communicated different concerns.5 In their report on antibody aversion, Edwards and Hackell5 recognized 3 general classes of guardians' interests in regards to youth immunizations: (1) the need of immunizations, (2) immunization wellbeing, and (3) opportunity of choice.5 This Viewpoint portrays these classifications of worries with respect to a future COVID-19 immunization and presents ideas to improve the probability of fast, far reaching antibody take-up in the United States.

2) Analysis Phase

This is the first phase of waterfall model which includes a meeting with the customer to understand his requirements. The software definition must be detailed and accurate with no ambiguities. It is very important to understand the customer requirements and expectations so that the end product meets his specifications. Requirement gathering and Analysis phase the basic requirements of the system must be understood by software engineer, who is also called ANALYST. All these requirements are then well documented and discussed further with the customer for reviewing.

3) Design Phase

The customer requirements are broken down into logical modules for the ease of implementation. Hardware and software requirements for every module are Identified and designed accordingly. Algorithms and diagrams defining the scope and objective of each logical model are developed. In short, this phase lays a fundamental for actual programming and implementation. It is an intermediate step between requirements analysis and coding. The requirements are translated in some easy to represent form using which coding can be done effectively and efficiently. The design needs to be documented for further use.

4) Development Phase

Before any testing in people, another antibody will go through cautious examination in the research facility, trailed by preliminaries in creatures. The potential immunization will be checked to guarantee any refinement has not changed its personality, and that it invigorates the fitting resistant reaction. The impacts of adding any adjuvant framework will likewise be assessed. Creature preliminaries adhere to severe rules set somewhere around the administrative

5) Testing Phase

In this stage, both individual components and the integrated whole are methodically verified to ensure that they are error-free and fully meet the requirements outlined in the first step. In this phase testing whole software into two parts,
1) HARDWARE
2) SOFTWARE.
Type of testing is
1) White box testing.
2) Black box testing

6) Implementation Phase

India's National COVID Vaccination Program is based on logical and epidemiological proof, WHO rules and worldwide accepted procedures. Moored in deliberate start to finish arranging, it is carried out through viable and proficient investment of States/UTs and individuals at large. Administration of India's obligation to the inoculation program has been unfaltering and proactive all along, from reinforcing Research and Development limit, to empowering and empowering assembling and immunizing every single grown-up Indian securely, as quick as could be expected. For the COVID immunization
program, Government of India started early and proactive strides as far back as April 2020

7) Maintenance Phase

This is the final phase of the waterfall model, in which the completed software product is handed over to the client after alpha, beta testing. After the software has been deployed on the client site, it is the duty of the software development team to undertake routine maintenance activities by visiting the client site. If the customer suggests changes or enhancements the software process has to be followed all over again right from the first phase i.e. requirement analysis.

Mathematical Model

KNN algorithm

Step 1 – "Search http://localhost/cvovid19-tms" on any browser**.**

Step 2 – Register your Covid-19 Test and Own details.

Step 3 – Select Which Covid Test to get.

Step 4 – Get a Order id.

Step 5 - Login again Order id or Mobile number.

Step 6 - Get a status your Report.

Step 7 – Download the Covid Report in Pdf Format.
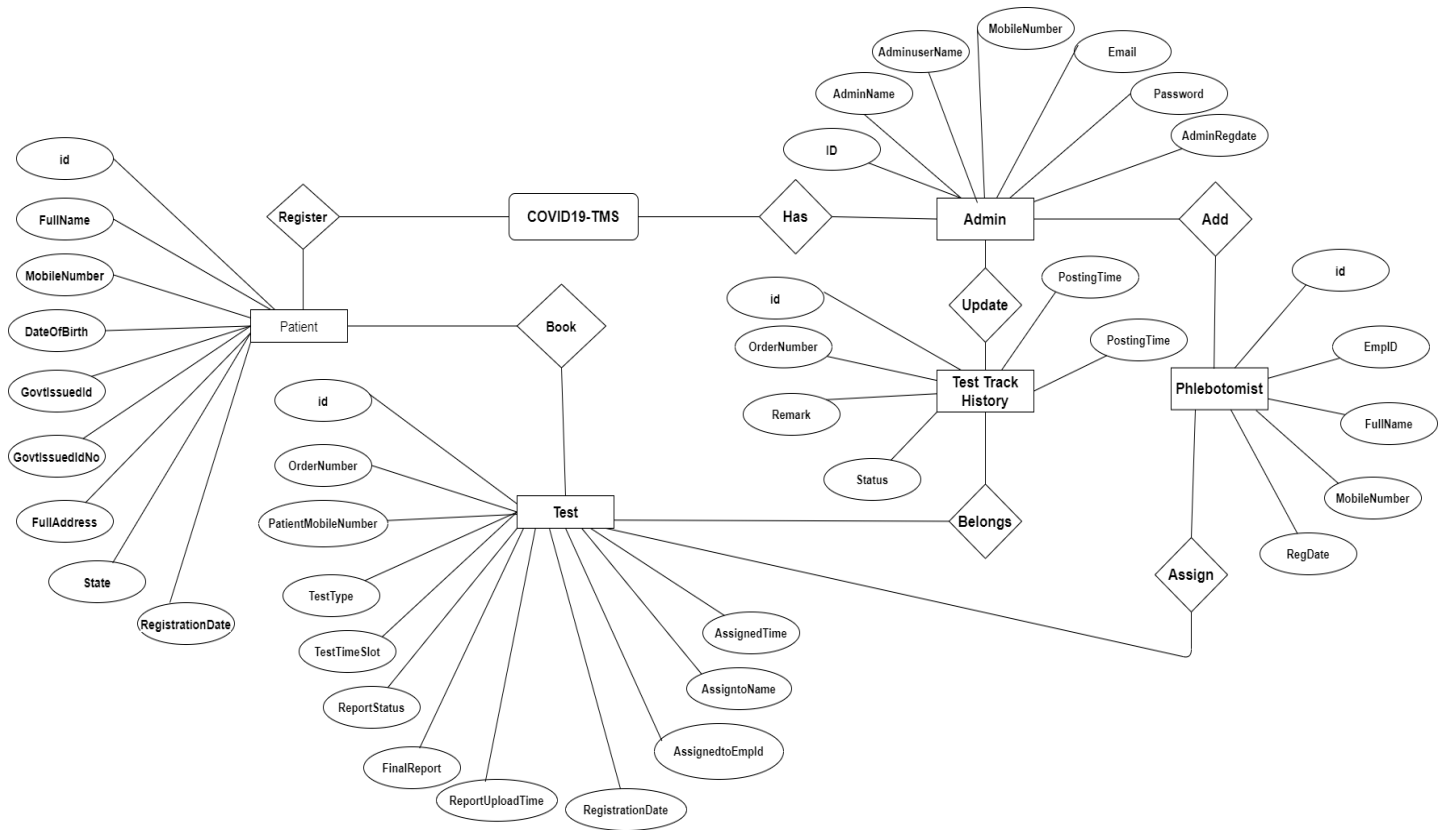
Step 8 - Logout your account**.**

Algorithm

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Research Methodology:

- Easy retrieval or data will be made possible by finding techniques
- Help of this project we are bringing the use of technology in the field of medical diagnosis where patients can available all the diagnosis facilities at their doorsteps.
- This project makes the diagnosis process easy and reduces the burden of patients.
- At a same time, its help the diagnostic canter to track all their patients details with their test reports.
- This access friendly software provides quick and effective services which helps the diagnostic canter to increase their sales and profit.

SAMPLE IMAGE

Fig. – E – R DIAGRAM

CONCLUSION.

COVID-19 Testing Management System is very much graceful and lively. Patients have to 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.

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