DEVELOPING A SMART COVID-19 TESTING MANAGEMENT BY LEVERAGING THE RELATED DATA ON THE CLOUD ENVIRONMENT

Shreya Bhardwaj

Panjab University, Chandigarh, India

How to cite the article:

Shreya Bhardwaj, Developing a Smart Covid-19 Testing Management by Leveraging the Related Data on the Cloud Environment, IJRMST, July-December 2021, Vol 12, 274-278, DOI: http://doi.org/10.37648/ijrmst.v11i02.024
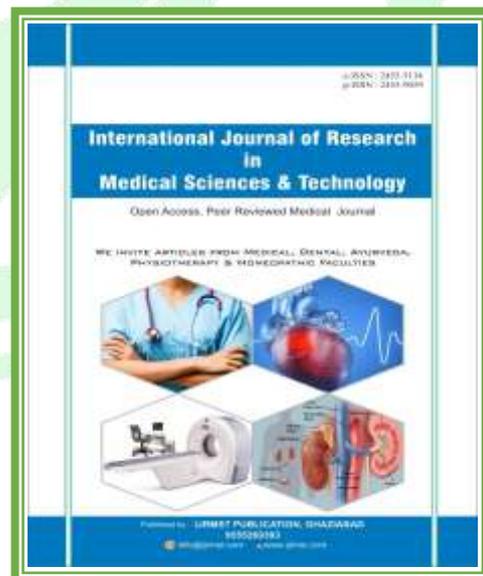
ABSTRACT

One of the most important instruments utilized in testing labs is the COVID-19 Testing Management System. It is, for the most part, used to oversee Coronavirus clinical lab-related exercises. For this project, we attempted to develop a computerized and web-based Cloud COVID-19 Testing management system. This system is designed to overcome all diagnostics management challenges, which were previously handled locally and manually. Our primary goal is to make it possible for this application to be utilized in the majority of COVID-19 retailing labs. Each COVID-19 lab will require a small amount of customization during the implementation period.

The System is an application for managing online COVID-19 labs that displays various online COVID-19 tests. It will oversee all COVID-19 lab-related activities that maximize profit and productivity. We will be able to record all transactions made during the daily tests with the aid of this System; acknowledge each customer, worker, etc. Because all transactions are recorded in the System, there will also be less chance of getting lost.

INTRODUCTION

The cloud-based COVID-19 testing management system is a technology that is based on the internet and displays various online diagnostic works. On the website, patients can sign up and provide personal test information first. After registering with their address and other contact information, patients can now view a variety of lab-conducted tests. A test will be chosen by the patient, and an appointment will be made. After that, a lab boy is sent by the center to a registered address to get a sample from that lab. After a successful sample collection, the patient can monitor their test history using their registered mobile number, order number, and name. A copy of the report can be added by the administrator and displayed to the user so they can download it.

Cloud service providers have a few options for creating such a system:

1) Set up an Amazon EC2 instance, an inbound access security group, and an IAM instance profile in an AWS CDK stack.

2) Create a user data asset to install software packages on the first launch of the EC2 instance.

3) Utilize a script downloaded by the user data to configure the software packages after installation.

4) Utilize user data to deploy the application.

PROPOSED SYSTEM

Additionally, today, we must visit the COVID-19 Test Lab centre and stand in line to take our COVID-19 test. The diagnostic centre's profits and sales are boosted by this easy-to-use software's quick and efficient services. We are also making the transition to a world where everything we desire can be found online as a result of the rapid advancement of technology. As a result, with the assistance of this project, we are incorporating technology into medical diagnosis and providing patients with access to all diagnostic facilities. This project will reduce patients' burdens, and the diagnosis process will be simpler. It also makes it easier for the diagnostic centre to keep track of every patient's information in their test reports.

SYSTEM DESIGN

Design is the first step in the development phase for any techniques and principles for the purpose of defining a device, a process or system in sufficient detail to permit its physical realization. Once the software requirements have been analyzed and specified the software design involves three technical activities - design, coding, implementation and testing that are required to build and verify the software. The design activities are of main importance in this phase, because in this activity, decisions ultimately affecting the success of the software implementation and its ease of maintenance are made. These decisions have the final bearing upon reliability and maintainability of the system. Design is the only way to accurately translate the customer's requirements into finished software or a system.

RELATED WORK

Hospitals, diagnostic labs, mobile testing centers, clinics and healthcare providers around the world are losing hours of productivity that are taking away from patient care due to manually. In response to the COVID-19 pandemic and the need to immediately notify patients of their test. Cloud Based COVID-19 Test Management system that eliminates manual processes

with full regulatory compliance and automated test result notifications. As the spread of COVID-19 continues to reshape our daily lives, COVID-19 laboratory processes with a faster response to COVID-19 Test requirements. COVID-19 management system provides a streamlined approach to patient data, sample management, reporting, and an automated test results notification system.

CONCLUSION

The cloud-based COVID-19 Testing Management System exudes a very lively and elegant quality. After registering with the portal and providing their information, patients can easily schedule appointments online. To obtain the sample, the phlebotomist visits the patient's residence. The patient can access the test report by logging in to the portal after it has been completed and generated. Can put this System into use in clinics and diagnostic labs.

Productivity rises when the entire System is automated.

1) It offers a user-friendly graphical user interface superior to the current System.

2) It grants authorized users the appropriate level of access based on their permissions.

3) It effectively eliminates communication delays.

4) Information updating becomes much simpler.

5) The most striking characteristics are system security, data security, and dependability.

6) If necessary, can modify the System sufficiently in the future.

REFERENCES

[1] Sipior, J.C., 2020. Considerations for development and use of AI in response to COVID-19. *International Journal of Information Management*, 55, p.102170.

[2] Vaira, L.A., Salzano, G., Fois, A.G., Piombino, P., De Riu, G., 2020, June. Potential pathogenesis of ageusia and anosmia in COVID-19 patients. *In International forum of allergy & rhinology* (Vol. 10, No. 9, pp. 1103-1104).

[3] Vaira, Luigi Angelo, et al. (2020), Potential pathogenesis of ageusia and anosmia in COVID-19 patients. *International forum of allergy & rhinology.* Vol. 10. No. 9. 2020.

[4] Syntax, J.S.O.N., (2012), w3schools.com.
URL: https://www.w3schools.com/js/js_json_syntax. asp.

[5] Sivasubramanian, D.M., (2002). Sitepoint.com. Building a Content Rich Web Site.

[6] Welling, L., Thomson, L., (2003). *PHP and MySQL Web development*. Sams Publishing.

[7] Converse, T., Park, J. and Morgan, C., (2004). *PHP5 and MySQL bible* (Vol. 147). John Wiley & Sons.

[8] Kumari, S., Rani, K.S., Yadav, M., (2017) Database Connection Technology. *International Journal of Advanced Research in Computer Science*, 8(5).

[9] White, A.E., (2020). Purpose as a Powerful Resource in the Time of COVID-19. *Journal of Humanistic Psychology*, 60(5), pp.682-689.