International Research Journal of Engineering and Technology (IRJET) e-ISSN: 2395-0056
Volume: 07 Issue: 12 | Dec 2020 www.irjet.net p-ISSN: 2395-0072

Med India-Web Hospitalized System Dealing with Covid-19

K.Thirupathi Rao[1], Hanumanthu Gowtham[2], Dammalapati Priyanka[3], Gadde Akhila[4], Polavarapu Srineha[5]

[1-5]*Department of Computer Science and Engineering, Koneru Lakshmaiah Education Foundation, Vaddeswaram, Guntur 522502, AP, India.*

Abstract - *As per the present Covid-19 situation, which is getting worse day after day. In public places, there are higher risks of getting contaminated by physical touch. While the government takes preventive care for all living conditions and supports the infected people. There are occasions that certain patients who are in serious condition are unable to be treated due to plasma donors being delayed or unavailable. And patients recovering from Covid-19 were afraid to send their plasma to online third-party websites or strangers searching for plasma. The amount of coronavirus antibodies in a willing donor is normally tested before starting the process for people who are willing to donate plasma. And then doctors ask donors for a good COVID study. These two steps help to know if COVID was present in the person. Then it takes about three hours for a few medical tests, donation. This is a time-consuming and comprehensive process.*

Keywords— Web, Management, AWS, Plasma Donation, Plasma Seeking, COVID-19.

1. Introduction

The main functionality of our Web Hospitalized management system is to gain trust and bring awareness among the Covid-19 recovered people to donate plasma. This website is different from the usual services where the donor must go to the hospital and spend 4 to 5 hours. The usual process in the hospital includes verification of the donor's Covid-19 recovered report, Blood Group Verification, Identity Verification, physical Diagnosis, and diagnosis of other health issues. This is a Lengthy and time-consuming process. The recovered patient feels unsafe to stay in the hospital for that much time. And usually, if there is a Covid-19 suffering person, and if he is getting his treatment from home, it is difficult for him to seek plasma. So, to deal with this real-time problem, we made a complete web hospitalized system where Plasma Donor and Plasma Seeker are the main service pages. These Service pages reduce the time being spent in the hospital by 70%. In these Service pages, most of the processes taken are web-managed, so there by the time being spent in the hospital is reduced. Apart from the main service pages, there are other service pages like Current Covid-19 stats which have all the current statistics where the data gathered from trusted websites, contact page where anonymous users can send their suggestions to improve our site and reviews to the Admin of the Website. This is a catchy website where the user will be amazed by the building design of the website.

2. Methodology

2.1. User Perspective and Implementation Methodology

The user's first interaction with the system is with an HTML page named 'Index.html', which redirects to the home page. On the Home page he was able to see the site's main Service pages on the navbar along with the Home, about us, Contact, and a login button.

The user will be provided with all the images and descriptions of the website, styled more attractively on the Home page. On logging in, the user can either fill the plasma donor form or seeker form based on his intention the request will be sent to the admin.

2.2. Admin Perspective and Implementation Methodology

The admin can be able to control and manage the Web Page. Admin was solely responsible for website development and the backend. On logging in from the home page admin will be redirected to the admin HTML page. There the admin can view the reports and approve or reject the user's request. The admin can also view anonymous user reviews and suggestions.

3. Theoritcal analysis

Java:

Java is a language for programming and a forum. Java is a high-level, robust programming language that is object-oriented and stable. In 1995, Java was developed by Sun Microsystems (which is now Oracle's subsidiary). James Gosling is known as Java's dad. Its name, before Java, was Oak. Since Oak was already a registered company, the naming Oak was changed to Java with James Gosling and his team.

SQL:

The basic and most used programming language for relational databases is Structured Query Language (SQL). In all kinds of structures in which different data relationships occur, it is used to handle and organize data. With good job opportunities, SQL is a valuable programming language.

HTML:

The code that is used to structure a web page and its content is HTML (Hypertext Markup Language). Content may be arranged, for example, within a series of paragraphs, a list of bullet points, or using images and tables of data.

SCSS:

The SCSS syntax uses the .scss extension for the text. It's a superset of CSS with a few minor exceptions, meaning that virtually all valid CSS is also valid SCSS. It's the easiest syntax to get used to and the most common, due to its similarity to CSS.

JDBC:

JDBC stands for Connectivity of Java Databases. JDBC is a Java API that connects to a database and executes a query. It is a component of JavaSE (Java Standard Edition). To link to a database, the JDBC API uses JDBC drivers. To access tabular data stored in any relational database, we can use the JDBC API. We can save, edit, delete, and fetch data from the database with the support of the JDBC API. It's like Microsoft supplied Open Database Networking (ODBC).

Servlets:

Servlets are Java programs that run on a web server or application server that is Java-enabled. They are used to process the request received from the web server, process the request, generate the answer, and then return the response to the web server. Servlets Properties: Servlets run on the server-side.

4. Literature survey

Covid-19 Case Study:

Most people who become ill with COVID-19 will notice complications that are mild to moderate and without special treatment they will recover.

Breathe out through droplets produced. These droplets are too heavy to stay in the air, landing on floors or surfaces rapidly. If you are close to someone that has COVID-19, you may be infected by breathing in the virus.

Symptoms:

Most prevalent symptoms:

With fever

Yeah, dry cough

Fatigue

A skin rash, or finger or toe discoloration

Prevention:

To prevent COVID-19 from spreading:

Maintain a reasonable distance from any person who is sneezing or coughing. When physical separation is not feasible.

Treatments:

1. Selfcare:

If you feel sick you can relax, drink plenty of fluids, and eat healthy food. Live in a different room from other members of the family and if possible, use a designated bathroom. Clean and disinfect surfaces that are regularly touched.

2. Medical treatments:

Self-isolate and call your care professional or a COVID-19 support line for advice if you have mild symptoms and are otherwise well. If you have a fever, a cough, and breathing problems, seek medical care.

5. Interaction with web management system

5.1. User Perspective and Implementation Methodology:

- The user's first interaction with the system is with an HTML page named 'Index.html', which redirects to the home page. On the Home page he was able to see the site's main Service pages on the navbar along with the Home, about us, Contact, and a login button.
- The user will be provided with all the images and descriptions of the website, styled more attractively on the Home page. On logging in, the user can either fill the plasma donor form or seeker form based on his intention the request will be sent to the admin.
- The User can also view Current COVID-19 stats and In case if the user wants to review the website or give suggestions to us, the user can message us anonymously with the contact tab on the home page. Web Designers' profiles and their social accounts are also provided.

5.2. Admin Perspective and Implementation Methodology:

- The admin can be able to control and manage the Web Page. Admin was solely responsible for website development and the backend.
- On logging in from the home page admin will be redirected to the admin HTML page. There the admin can view the reports and approve or reject

the user's request. The admin can also view anonymous user reviews and suggestions.

6. EXPERIMENTAL DESIGN

6.1. Plasma Donor Module:

This is one of the main service pages of our Hospitalized web management system. This website is different from the usual services where the donor must go to the hospital and spend 4 to 5 hours. The usual process in the hospital includes verification of the donor's Covid-19 recovered report, Blood Group Verification, Identity Verification, physical Diagnosis, and diagnosis of other health issues. This is a Lengthy and time-consuming process. The recovered patient feels unsafe to stay in the hospital for that much time. And usually, if there is a Covid-19 suffering person, and if he is getting his treatment from home, it is difficult for him to seek plasma. So, here we will be reducing 70% of the time by making the diagnosis and report validation completely online, in this page the user will be having all the details, FAQs, eligibility criteria, and plasma donor centres list. On login, the user will be having an empty table stating his name, phone number, status, and blood group. There will be images displaying the eligibility and must have conditions displayed as an image. And down of that, we have provided a form stating all the required fields for the user to fill in for plasma donation. In the form, there will all the required fields along with upload action of Recovered report of COVID-19 report. All these details will be verified by the admin of the website. Post submitting the form, the form on the website will be hidden and the table will be shown with details of the user and initially with his approval request for donating plasma will be pending. If the admin has approved the plasma donation request, there will be an Approval letter displayed on the user's page, stating that his details will be shared with to nearest trusted Hospitals and Donor Centers. So that they will be contacting the user in 3-4 days, thereby scheduling his donation process.

6.2. Plasma Seeker Module:

This is the second main page of our Hospitalized web management system. Usually, if a person is tested COVID-19 positive, and if he is getting treated from his/her home. The person cannot go to the hospital or Plasma Donor center on their own as he is infected. So, this Plasma Seeker Page acts as a medium between the patient and Hospital or plasma donor centers. Here we will be filling all the details of the user in the form. As soon as the user-submitted the details. The user's COVID-19 positive report and his details like blood group, his location will be sent to the admin. And here initially the status will be pending. All these details will be verified by the admin of the website. Post submitting the form, the form on the website will be hidden and the table will be shown with details of the user and initially with his approval request for Seeking plasma will be pending. If the admin has approved the plasma Seeking request, there will be an Approval letter displayed on the user's page, stating that his details will be shared with to nearest trusted Hospitals and Donor Centers. So that they will be contacting the user in 3-4 days.

6.3. Contact Module:

This is the support page where anonymous users will be sharing their views, reviews, suggestions, and problems faced during their time being on the website.

6.4. Admin Module:

This is the Single sign in user page, where on logging in with the credentials of the admin. the admin will be redirected to the admin page. There is a separate UI for admin. On this page, there will be a total of 3 tables -

1. Donors table. 2. Seekers table. 3. Contact table.

6.5. Maps Module:

Current COVID-19 stats:

Cumulative reported cases of COVID-19:

This is a map for verified cases. Let us assume you decided to show the map above for Africa, how this map works. But on a particular date: March 20, for example. You should change the blue slider at the bottom of the map to do this until you have reached the right date.

Cumulative confirmed deaths from COVID-19:

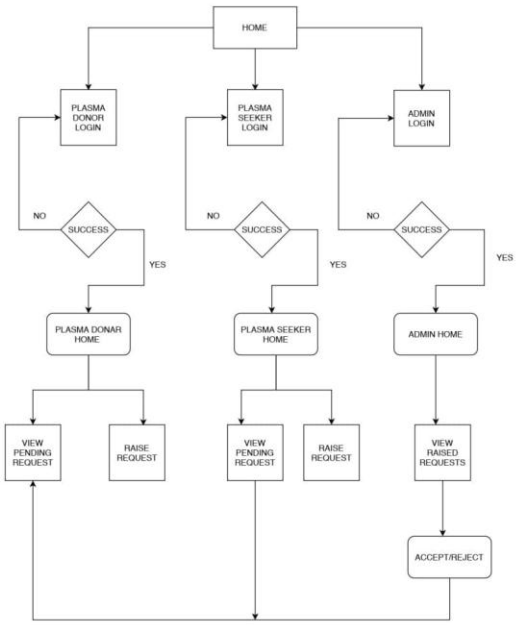
This chart displays the number of COVID-19-related deaths in the world. If you want to include a graph that compares, over time, the reported deaths in Spain, Italy, and the US. Then using the + Add country button, you simply change the countries you want to display. Click it and delete World and add Spain, Italy, and the U.S.

Next is the Map of Trajectory:

In this, countries can be illustrated on trajectory maps. These charts can get busy with too many countries displayed, making it difficult to see individual countries. By using the 'Select countries' button on the top left of the map, you can pick and highlight any list you want.

In the table for testing: We believe data on COVID-19 testing is especially significant. In terms of how much research a country does, data on reported cases and deaths should be viewed. Since a low number of cases can mean that there are currently few instances, but it can also mean that few instances have been identified, because in that country, testing is very limited.

7. Block diagram



8. Future work

There were so many service pages which we were about to design and develop. We will try to use the latest Automation and Machine Learning algorithms and develop future service pages.

9. Conclusion

The conclusion was this Web Hospitalized management System mainly Deals with a user's safety of getting his Treatment from the home by making him Self- quarantined and getting true support from Govt. Hospitals or Private Hospitals or Donor Centres. Thus, reducing the physical contact and spreading of the Disease So far.

10. References

[1] Doaa Hassan, Sherif El-Kassas, Ibrahim Ziedan, Developing a Security Typed Java Servlet, IEEE, 2008.

[2] Fawaz A. Masoud, Dana H. Halabi and Deema H. Halabi, ASP.NET and JSP Frameworks in Model View Controller Implementation, IEEE, 2006.

[3] J. D. Y. Correa and J. A. B. Ricaurate, Web Application Development Technologies Using Google Web Toolkit And Google App Engine-Java, IEEE, 2014.

[4] Jin Yuping, Research and Application of Ajax Technology in Web Development, IEEE, 2014.

[5] Jose Antonio Macias, Enhancing Interaction Desing on the Semantic Web: A Case Study, IEEE, 2012

[6] Mingyi Zhang, Patrick Martin, Wendy Powley, Jianjun Chen, Workload Management in Database Management Systems: A Taxonomy, IEEE, 2017.

[7] Mr. Likhesh Nilkanth Kolhe, Prof. Sachin Bojewar, Development of Private Cloud, IJSRP, December 2013.

[8] Prakash GopalaKrishnan, B. Uma Maheswari, Research On Enterprise Public and Private Cloud Service, IJITEE, April 2019.

[9] R. R. Echeverria, F. Macias, V. M. Pavon, J. M. Conejero, F. S. Figueroa, Legacy Web Application Modernization by Generating a REST Service Layer, IEEE, 2015

[10] S. M. Reza Dibaj, Ali Miri and SeyedAkbar Mostafavi, A Cloud Priority-based dynamic online double auction mechanism (PB-DODAM), Springer, 2020.

[11] Sarada, N., Thirupathi Rao, K, A Neural Network Architecture Using Separable Neural Networks for the Identification of "Pneumonia" in Digital Chest Radiographs,2021.

[12] Vadlamudi, D., Thirupathi Rao, K, Provenance aware audit trail framework for saas providers efficiency assessment in cloud environment, 2020.

[13] Sarada, N., Thirupathi Rao, K, Lung semantic segmentation using convolutional neural networks, 2019.

[14] Vadlamudi, D., Thirupathi Rao, K., Bodempudi, S., Kadulla, L. A framework for data integrity through lineage tracking in cloud, 2018.

[15] Vadlamudi, D., Thirupathi Rao, K., Vidyullatha, P., RajasekharReddy, B. Analysis on digital forensics challenges and anti-forensics techniques in cloud computing, 2018.

[16] Uma Ramya, V., Thirupathi Rao, K. Sentiment analysis of movie review using machine learning techniques, 2018.

[17] Sarada, N., Thirupathi Rao, K., Ramana, K.V. ChestXthon: An algorithm for abnormality detection in chest radiographs, 2018.

[18] Phani Praveen, S., Thirupathi Rao, K. An optimized rendering solution for ranking heterogeneous VM instances, 2018.

[19] Jyothirmai, M., Thirupathi Rao, K. Reduced file hash foot prints for optimized deduplication in cloud platforms, 2016.

[20] Sravanthi, S., Thirupathi Rao, K. Efficient big data analytics with optimized parallel processing, 2016.

[21] Vadlamudi, D., Thirupathi Rao, K. Securing provenance for efficient maintenance and lineage tracking of data in cloud environment: A literature survey, 2016.

[22] VijayaChandra, J., NarasimhamChalla, SaiKiranPasupuleti, Thirupathi Rao, K., Krishna Reddy, V. Numerical formulation and simulation of social networks using graph theory on social cloud platform, 2015.

[23] Jameela, S., Thirupathi Rao, K., Krishna Reddy, V., Saikiran, P., Thirumala Rao, B. Efficient framework for testing cross-cloud application, 2014.

[24] Gunasekhar, T., Thirupathi Rao, K., Krishna Reddy, V., Saikiran, P., Thirumala Rao, B. EBCM: Single encryption, multiple decryptions, 2014.

[25] Radha, K., Thirumala Rao, B., Babu, S.M., Thirupathi Rao, K., Krishna Reddy, V., Saikiran, P. Allocation of resources and scheduling in cloud computing with cloud migration, 2014.

[26] Ravi Teja Kanakala, V., Krishna Reddy, V., Sai Kiran, P., Thirumala Rao, B., Thirupathi Rao, K. Issues in adopting cloud for IT services, 2014.

[27] Vadlamudi, D., Rao, K.T. Performance audit trail integrated approach for optimal outcomes based on provenance to assess saas providers services in cloud environment, 2020.

[28] Vadlamudi, D., Rao, K.T. Provenance aware audit trail framework with summative assessment on QOS in cloud environment, 2020.

[29] Nithinsai Kumar, U., Gopi Chand, V., Rao, K.T. Preventing insider collusion attacks secure data sharing in clouds, 2019.

[30] Deshmukh, S., Rao, K.T., Rao, B.T., Pawar, V. An effective straggler tolerant scheme in big data processing systems using machine learning, 2019.

[31] Praveen, S.P., Rao, K.T. An effective multi-faceted cost model for auto-scaling of servers in cloud, 2019.

[32] Praveen, S.P., Rao, K.T., Janakiramaiah, B. Effective Allocation of Resources and Task Scheduling in Cloud Environment using Social Group Optimization, 2018.

[33] Rao, K.T., Guna Sekhar, T., Sarada, N., Lakshmi Tulasi, B., Sao Abhinav, B.V.R., Adish Kumar, K. Implementation of traffic controlling algorithms using cloud specialist, 2017.

[34] Sai, V.S.V., Gowthami, K., Shyam, N.M.V.R., Rao, K.T., Gunasekhar, T., Sarada, N. A systematic survey on dynamic schedulers in Hadoop, 2017.

[35] Rao, K.T., Saidhbi, S. Data security mechanism in private cloud – A case study, 2017.

[36] Rao, K.T., Saidhbi, S. Impact of steganography in secure data transaction under private cloud- an analytical survey, 2017.

[37] Saidhbi, S., Rao, K.T. A modern approach in cloud computing storage by using compression and crypto mechanism, 2017.

[38] Reddy, V.K., Sushmitha, Y., Rao, K.T. Distributed authentication for federated clouds in secure cloud data storage, 2016.

[39] Gunasekhar, T., Rao, K.T., Reddy, V.K., Sai Kiran, P., Thirumala Rao, B., Mitigation of insider attacks through multi-cloud, 2015.

[40] Radha, K., Rao, B.T., Babu, S.M., Rao, K.T., Reddy, V.K., Saikiran, P., Service level agreements in cloud computing and big data, 2015.

[41] Gunasekhar, T., Rao, K.T., Basu, M.T., Understanding insider attack problem and scope in cloud, 2015.

[42] Sheik, S., Komati, T.R., Data security in cloud environment using efficient security block based encryption algorithm, 2019.

[43] Sheik, S., Komati, T.R., A way to secure the data in cloud data storage by using cloud data compression mechanism, 2018.

[44] Vivek Reddy, S., Thirupathi Rao, K., Optimized micro service based IOT sophisticated model over distributed environment, 2019.