PLASMA DONOR APPLICATION

LITERATURE SURVEY

Paper 1: A FRAMEWORK FOR SMART SOCIALBLOOD DONATION SYSTEM BASEDON MOBILE CLOUD COMPUTING

- **Publication year:** November 2014
- **Author:** Almetwally M.Mostafa, Ahmed E. Youssef, GamalAlshorbagy.
- **Journal Name:** Health Informatics-An International Journal(HIIJ)
- **Summary:** Blood Donation and Blood Transfusion Services (BTS) are crucial for saving people's lives. Recently, worldwide efforts have been undertaken to utilize social media and smart phone applications to make the blood donation process more convenient, offer additional services, and create communities around blood donation centres. Stakeholders will be able to use the BDS as an application installed on their smart phones to help them complete the blood donation process with minimal effort and time. This application helps people receive notifications on urgent blood donation calls, know their eligibility to give blood, search for the nearest blood centre, and reserve a convenient appointment using temporal and/or spatial information.

Paper 2: SMART BLOOD BANK AS A SERVICE ON CLOUD

- **Publication Year:** March-April 2016
- **Author:** Bharathwaj Muralidaran, Akshay Raut, Yogesh Salve, Shivshankar Dange, Likhesh Kolhe.
- **Journal Name:** IOSR Journal of Computer Engineering (IOSR-JCE)
- **Summary:** The project mainly deals with the multi-tenant environment by providing the both the software and database through cloud. Provide user with plenty of data about the blood which are available in nearer blood bank. Designing the multi-tenant website and database for blood bank. Storage and management Routine blood storage is 42 days or 6 weeks for stored packed red blood cells, by far the most commonly transfused blood product, and involves refrigeration but usually not freezing. Linking of individual database of all blood bank to the search page.

Paper 3: DEVELOPING A PLASMA DONOR APPLICATION USING FUNCTION-AS-A-SERVICE IN AWS

- **Publication Year:** 2020
- **Author:** Aishwarya R Gowri
- **Journal Name:** International Journal of Interdisciplinary Innovative Research &Development (IJIIRD) vol-5
- **Summary:** A plasma is a liquid portion of the blood, over 55% of human blood is plasma. Plasma is used to treat various infectious diseases and it is one of the oldest methods known as plasma therapy. The services used are AWS Lambda, API gateway, DynamoDB, AWS Elastic Compute Cloud with the help of these AWS services, it eliminates the need of configuring the servers and reduces the infrastructural costs associated with it and helps to achieve serverless computing. For instance, during COVID 19 crisis the requirement for plasma increased drastically as there were no vaccination found in order to treat the infected patients, with plasma therapy the recovery rates where high but the donor count was very low and in such situations it was very important to get the information about the plasma donors. Saving the donor information and notifying about the current donors would be a helping hand as it can save time and help the users to track down the necessary information about the donors.

Paper 4: BLOODR : BLOOD DONOR AND REQUESTER MOBILE APPLICATION

- **Publication Year:** September 2017
- **Author:** Vamsi Krishna Tatikonda and Hosam El-Ocla
- **Journal Name:** MHealth
- **Summary:** Several software technologies including languages and framework are used to develop our blood-donor web application known as BLOODR application. These technologies comprise Ruby programming language (simply known as Ruby) along with JavaScript and PostgreSQL for database are used. Ruby on Rails (simply known as Rails) is an open source Web framework that makes it possible to quickly and easily create data-based web applications. Donor may track his/her donation history details using “Donation History” to avoid such risky intensive donations before that the body can make up its lost red blood cells. Donors can invite friends to register to the application using “Invite Friends” to increase number of donors.

Paper 5: A SECURE CLOUD COMPUTING BASED FRAMEWORK FOR THE BLOOD BANK.

- **Publication Year:** 2018
- **Author:** Shreyas Anil Chaudhari, Shrutika Subhash Walekar, Khushboo Ashok Ruparel
- **Journal Name:** American Journal of Engineering Research (AJER)
- **Summary:** All the detail of the blood donor, hospital is stored in database. Security care is taken; the confidential data can only be access by the administrator. By using this application the user will not have to search for the blood in case of emergency and can directly get the detail of required blood donor by accessing this application. PaaS (Platform-as-a-Service) will be used for Developing our application on cloud platform. Ehcp (Easy Host Control Protocol) will be used for hosting our application. NoSQL is created and maintain database as it provides the mechanism of storage and retrieval of data. GPS (Global Positioning System) is used for tracking the location of nearby blood bank or donor.

Paper 6: A RESEARCH PAPER ON BLOOD DONATION MANAGEMENT SYSTEM

- **Publication Year:** May 2021
- **Author:** Devanjan K. Srivastava, Utkarsh Tanwar, M.G.Krishna Rao, Priya Manohar, Balraj Singh
- **Journal Name:** International Journal of Creative Research Thoughts(IJCRT)
- **Summary:** The respected donor should be aged between 18 and 60 years only. Haemoglobin should not be more than 12.5g/dL. A Donor should weigh more than 45 kg. Before donating blood, the donor's body temperature and blood pressure should be normal. The donor should be free from diseases from the past 3 years. Most importantly the donor should not be addicted to drugs. As the process data of country and state gets fetched, cleaned, and stored to uplift the precise result. Data of the world get updates for every 24 hours which includes columns such as Country, country code, total cases, total deaths, total recovered, date, and states of India updates for every 20 min which includes columns such as Province/State, confirmed total deaths, total recovered, active cases. Django Framework Models.py, Views.py, URLs.py, Tests.py, Apps.py, Admin.py, Settings.py, Manage.py.

Paper 7: CONVALESCENT PLASMA THERAPY: DATA DRIVEN APPROACH FOR FINDING THE BEST PLASMA DONORS

- **Publication Year:** 2021
- **Author:** M N Noorshidha, Dr.G.Aghila
- **Journal Name:** Proceedings of the International Conference on Artificial Intelligence and Smart Systems (ICAIS-2021)
- **Summary:** It implies the possibility of implementing Machine Learning Classification models for predicting the Eligible donors and Regression models to predict the antibody level value of a donor from the person's clinical history before conducting tests for the same. The results from various ML algorithms trained on a synthetic clinical history dataset are examined and assessed as significant to some degree. The system has to be validated against real data to arrive at reasonable conclusions. This paper demonstrates how a data-driven solution is more beneficial than the conventional methods for donor search.

Paper 8: NEAREST BLOOD & PLASMA DONOR FINDING: A MACHINE LEARNING APPROACH

- **Publication Year:** December 2020
- **Author:** Nayan Das, MD. Asif Iqbal
- **Journal Name:** 23rd International Conference of Computer and Information Technology (ICCIT)
- **Summary:** To build a platform between blood donor and receiver. To implement a hybrid approach of K-Means and Agglomerative clustering algorithm. To find the nearest blood donor in a specific region in the shortest possible time. To increase the number of voluntary unpaid blood donations significantly. Our approach is based on clustering, which involves grouping a collection of objects such that objects are grouped in different clusters. Clustering is widely used in many fields in the real world. K-means clustering is the most straightforward clustering algorithm in unsupervised machine learning algorithms. K-means clustering clustered iteratively. A request to every closest donor for donating blood is made by the server to finalize the final donor. This process needs an arbitrary amount of time.

Paper 9: COVID-19 PLASMA MONITORING BASED ON CLUSTERING A LARGE SET OF RECOVERED PATIENT DATA

- **Publication Year:** 2020
- **Author:** Al-Rammahi Ali. A., Sari Farah, Al-Jelaihawi. Fahad. G.
- **Journal Name:** International Multi-Conference on Industrial Engineering and Modern Technologies (FarEastCon).
- **Summary:** The Fuzzy c-means and hierarchical clustering. It gives the best result for an overlapping dataset. A data point is assigned to belong to each cluster center, so that a data point can belong to more than one cluster center. The drawback is as the value of β decreases, we achieve a larger number of iterations, where 'β' is the criterion for completing the clustering operation between [0, 1]. The measurements depend on the Euclidean distance and can be inaccurate under any circumstances. Plasma can be used from the donor blood of patients who have been treated, which contains antibodies to COVID-19.

Paper 10: BLOCKCHAIN - BASED MANAGEMENT OF BLOOD DONATION

- **Publication Year:** December 2021
- **Author:** DIANA HAWASHIN, DUNIA AMIN J. MAHBOOBEH, KHALED SALAH, RAJA JAYARAMAN, IBRAR YAQOOB, MAZIN DEBE AND SAMER ELLAHHAM.
- **Journal Name:** IEEE Access
- **Summary:** Blockchain, private Ethereum, blood donation management, blood bank, traceability, security. The private Ethereum blockchain platform is used to develop the proposed blood donation management and traceability system. It enables the development and implementation of smart contracts and Distributed Applications (Apps) with no downtime, manipulation, regulation, or third-party interference. More specifically, it allows developers to develop and publish distributed applications as it can be both a framework and a programming language that runs on a blockchain. Our proposed blockchain-based solution demonstrates how the blockchain technology can be leveraged to trace the donated blood units during the delivery and distribution phase. Integrity, Accountability, Authorization, Availability. Oyente is a powerful tool which was designed to protect Ethereum smart contracts from any attacks. It establishes trust in the deployed smart contract robustness by making the code free of risks. Oyente runs on Linux and deeply analyzes the solidity code to check if it is susceptible to any exploitation and Cyber attacks.

Paper 11: KNOWLEDGE, ATTITUDE AND PRACTICES REGARDING VOLUNTARY BLOOD DONATION AMONGST UNDERGRADUATE MEDICAL STUDENTS AT A TEACHING HOSPITAL IN NORTH INDIA

- **Publication Year:** July 2020
- **Author:** Dr Vartika Tripathi, Dr Priya Sharma, Dr Pankaj Singh, Dr Uma Gupta.
- **Journal Name:** INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH
- **Summary:** Data was analyzed using Statistical Package for Social Sciences version 21.0.Chi square test was used to compare the data. The confidence level of the study was kept at 95% and a 'p' value less than 0.05 was considered as statistically significant. Voluntary blood donations are imperative for safe and adequate supply of blood. Assess the knowledge, attitude and practices (KAP) regarding voluntary blood donation amongst undergraduate medical students in a teaching hospital in North India and evaluate the factors hindering voluntary blood donations. There was high level of knowledge (86.75%) and favourable attitudes (91.39%) of the respondents towards voluntary blood donation, the practices involving the same were found to be inadequate (38.41%).The fear of weakness, injection followed by lack of opportunity were discovered to be the main factors hindering blood donation.

Paper 12: BLOOD DONATION AND LIFE SAVER-BLOOD DONATION APP

- **Publication Year:** December 2016
- **Author:** Anish Hamlin M R, Albert Mayan J.
- **Journal Name:** International Conference on Control, Instrumentation, Communication and Computational Technologies (ICCICCT).
- **Summary:** At the emergency time of blood needed we can check for blood donor nearby by using GPS. Once the app user enter the blood group which he/she needed it will automatically show the donor nearby and send an alert message to the donor. In case if the first donor is not available it will automatically search the next donor which is present in queue. If the donor accepts the request then a one time password (OTP) will be send to the donor to verify. Blood donation app provider list of donor in your city/area. To create an android application in which the blood donor are available easily at required time. The donor who are all register in this application are show while searching for blood donation. The donor who are all nearby location are tracked by the GPS.