APPLICATION FOR BLOOD BANK MANAGEMENT SYSTEM

Milestone: Project Proposal

Group 2
Jwalit Shah

(732-209-2041)

shah.jwa@northeastern.edu

Percentage of effort contributed by Jwalit Shah - 100%

Signature of Jwalit Shah

Submission Date - 1 October 2022

BACKGROUND INFORMATION

With the advent of Technology, the world is taking rapid strides in the Healthcare sector to provide efficient and cost-effective solutions to the existing problems. Blood donation is a process wherein a donor voluntarily donates his blood, which could be used for future transfusions at hospitals for medical treatments. Donation mainly categorizes into 2 types of viz Whole blood donation (blood is drawn directly from the body) and donation of specific components of the blood such as red blood cells, white blood cells, plasma, and platelets. Blood banks often participate in the process of collecting bloods and other procedures such as managing stocks, approving blood, approving blood requests, and updating donor information. Furthermore, they collaborate with the hospitals and the donors to provide the collected blood to the hospitals as per their requirement. The history of blood banks in India can be traced back to the Second World War when the first blood bank in the country was set up in Kolkata to treat the injured soldiers. Over the period, the blood banks evolved along with the increase in population. The HIV Pandemic was one of the important triggers for Blood safety in India. Nonprofit organizations were setup to create awareness among people regarding Blood donation. With the advancement in the field of Technology and medical Sciences, new instruments were invented which made the entire process simple and less painful.

BUSINESS PROBLEM

The COVID-19 pandemic in a way, gave a harsh reality check to the existing Medicare system in India. The prolonged issues of many patients in backlog due to inadequate number of beds in the hospital got highlighted during the second wave of COVID-19 when numerous people across the country suffered as they could not get the desired blood in time for their respective treatments. Also, the ratio of number of doctors to the number of patients is quite low. Hence, Blood banks maintain an extensive network of blood donors and recipients to fulfill the medical requirement when the need arises. To ensure quick and easy management for the same, it is imperative to design a web-based application which stores, processes, retrieves and analyses the information concerned with administrative and inventory management involved in the entire chain of events. The primary purpose of developing this application is as follows: -

- ➢ To ensure easy accessibility of information.
- ➢ To simplify and automate the process of searching for blood.
- ➢ To improve the old system and increase the efficiency of database.
- ➢ Minimize the cost and time of the labor invested in accessing and storing the vast information.
- ➢ Gives an opportunity to public to get more information about the donor and vice versa.

REQUIREMENTS

- Every region with a zip code has at least one blood bank available.
- Every region with a zip code has at least one hospital available.
- A donor can donate blood only once in a span of 3 months.
- If a donor is suffering from a chronic disease, which can make blood incompatible for others, then the donor is not allowed to donate blood.
- A donor is deemed ineligible to donate blood if he/she has smoked or consumed alcohol in the last 2 weeks.
- The Universal Donor (O group) can donate red blood cells to any other blood group.
- The Universal recipient (AB group) can receive red blood cells from any other blood group.
- Excluding the Universal donors and Universal recipients' category, recipients from all other blood categories need the donors to be of the same blood group (with sign) as themselves.