

Web Based Management System for Blood Bank, Jaffna Teaching Hospital

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Abstract - Jaffna teaching hospital is the main hospital in the Jaffna peninsula which is functioning with all the essential services. At present, it consists blood bank facility with manual based system. They are facing many difficulties in handling this service with the manual based system such as keeping the records of blood donors, documentation, retrieving information about blood donors. The “Web based Management System for blood bank, Jaffna” is to provide blood donors to view their blood donating history, get boost ups from the system, take part in the free health guidance forums conducted by a physician. With the help of this online system “Donors” can able to maintain their relationship with blood bank through this online system and they will be able to know about their blood donation history and also blood donation camp details. New donors can register with this system and login with their registered user Name & Password. Also donors can search for their medical history, get to know the needed blood group at the particular time. Blood bank administration can manage their records and make, customize reports. The system is developed according to the Object Oriented Architecture. Unified Modeling Language (UML) is also used in the Analysis & Design stages. The system is fully developed using Open Source Tools. Hypertext Pre-processor (PHP) & MySQL are used to build the system. Hyper Text Markup Language (HTML), Cascading Style Sheet (CSS), JavaScript also used for designing part and validation part.

Keywords - PHP, MYSLQ, Web development, Object oriented architecture

INTRODUCTION

Web based management systems are nowadays very popular than manual based systems and also It is one of the most widely used type of information systems. They found their application in almost all areas of human activities such as commerce, industry, education, banking or entertainment. Effectiveness,

availability and well-designed user interfaces of today’s web based systems are becoming essential for every successful application.

Life is a precious element from all the belongings we have. Blood is an essential asset for survival from different circumstances. Therefore, donation of blood is an essential criteria for the human beings to save their lives. Blood bank is a most needed service provider for each and every hospitals. It played a vital role in Teaching hospital, Jaffna. Nowadays they are using a manual based system to carry out their services. They find blood donors by contacting them through phone. They faced difficulties to contact the blood donors at the needed time and also to maintain their contacts in a proper way. If a person wants blood, he/ she has to contact blood bank through phone, email or directly go to blood bank. This is a major challenge to the hospitals and also the people who need blood.

The management of the blood bank has identified that manual system does not satisfy the organization’s current needs. The organization needs a computerized system to manage their work flow. It helps to increase performance, reduce errors and saves time. On the whole, the proposed system has to facilitate the effectiveness and efficiency of the overall operations of the blood bank.

There are no proper systems available in the literature for a blood bank. Hence this motivated me to develop a system for web based management system for blood bank. The purpose of this project is to provide blood needy details, blood donor details, and available blood banks near users and helps users to request blood and conduct blood donation camps with the help of blood bank managements. Also users can consult with registered doctors. With the help of this online system “blood bank” can able to maintain their relationship with their donors and blood needy, also the web based blood bank system has the facility to manage users and staff & salary management.

Objectives

- i. Manage donor and needy details through online and they can login this system from anywhere using internet.
- ii. Providing high effective intercommunication within system users.
- iii. Providing centralized location for controlling all the areas and resources defined by the system.
- iv. Contact blood needy through messaging and get their details.
- v. Send and Receive SMS reminders for their blood donation days and blood camp details.
- vi. Blood needy can search and find Blood Donors from anywhere.
- vii. Contact blood donors through messaging and get their details.
- viii. Providing a control panel for each user types.
- ix. Providing highly effective and user friendly system for all users including administrator.

Techniques Used in the Design

Waterfall model is used to develop the system where the requirements are stable. It's a linear process model while the previous stage should be completed before the next level starts. The waterfall model is suitable for projects which have clear and stable requirements. The waterfall model is the original SDLC method and its name comes from its structure where it has a cascading effect from one phase to the other as shown in Figure 1 Waterfall Model [1]

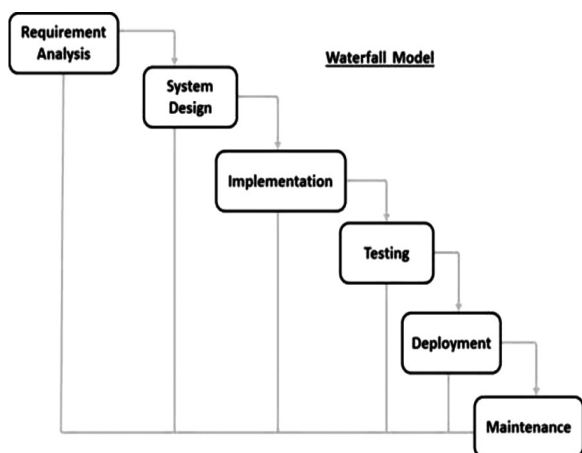


Figure 1 Waterfall Model

ALTERNATE SOLUTIONS

In software development all the system is basically divided into three categories they are standalone, network based and web based system.

The standalone system most suitable for run with in small area using personal computers and work stations, so the standalone application run only a specific environment. You will test complete application broadly in categories like GUI, functionality, load and backend (database).

The network based application usually developed for Local Area Network (LAN). In network based, application is loaded on server machine while the application exe on every client machine. You will test broadly in categories like, GUI on both sides, functionality, load, client-server interaction and backend (database). This environment is mostly used in Intranet networks. In network based application in connected mode, menu driven and has limited number of users can access.

The web application is accessed over a network connection using HTTP. Application is loaded on the server whose location may or may not be known and no exe is installed on the client machine, you have to test it on different web browser. An application in which all or some parts of the software are downloaded from the web each time it is run in user's web browser. The web based application is Uniform Resource Locator (URL) driven; disconnected mode and unlimited number of users can access the application from any various places.

USE CASE DIAGRAM

Use case diagram is a simplest diagram that illustrates the users' interaction with the system. It portrays the different type of users in the system and various ways that they interact with the system. Use case diagram for "Web Based Management System for blood bank" as follows. In our System Use case actors are blood bank management, blood donor, blood needy, Un-Registered Users, doctors. The use-case diagram shown as following Figure 2 Use-case Diagram[3]

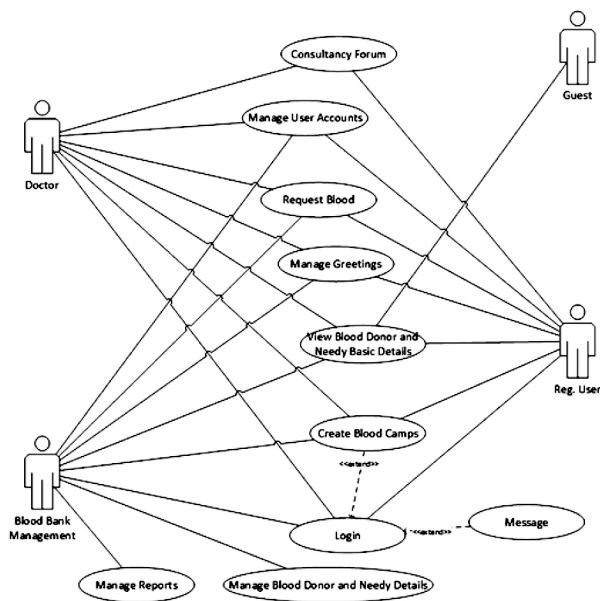


Figure 2 Use-case Diagram

CONCLUSION

The system that I have created Helpful to perform paperless work and manage all data Provides easy, Accurate, unambiguous and faster data access. According to the above descriptive feasibility analysis report and the feasibility matrix, the most feasible solution from the candidate solutions seems to be the web system. I have analyzed the feasibility of that option as well. However, that

does not seem to be that much a feasible solution. So, expectation of this study is to implement the web based system which optimally meets the client expectations. The users will be able to access the system through internet, which is already available to them. The system will be available to the users at any time at any place, where they have access to the internet.

The system has been developed with much care that it is free of errors and at the same time it is efficient and less time consuming. The important thing is that the system is robust and all events happened on real-time. Avoid malfunction from outsiders. It goes through all phases of software development cycle. So product is accurate. Also provision is provided for future developments in the system

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