**INTRODUCTION**

**1.1. Project Overview**

There is no other redeeming act than to save a human life. People may feel afraid or selfish when it comes to donating blood. But if everybody thinks that way, then doctors may be unable to save so many human lives. People who have never donated blood may themselves require blood at some point of their life. But think what will happen if everybody feels unwilling to donate blood. There will be no blood available in the blood banks. So many precious lives will be wasted. It may happen to anyone, even you. So don't be afraid or selfish about donating blood. Blood is the fuel of life. In Our country, blood is required in every 2 seconds. More awareness should be created about blood donation so that more and more people come forward to donate blood. If human lives are wasted because of the dearth of blood in the blood banks it will be a shame to the human society. So donate blood and encourage other people as well. So whether you want to donate blood or need resources of blood for blood transfusion, search through the website.

**1.2. Project Description**

The problem of the definition is automated as per to develop a online-web-based search portal for blood groups and the contact details of the person interested to donate the blood which really act as a boon at the time of emergency.

The person can simply type in the blood group to be searched, and all necessary details are provided to the request holder.

The whole the objective of the project is an online edge for bringing mutually giving blood donors and patients (blood requesters) that needs blood. The primary objective of the project is to create an interactive Blood donors, Blood requesters and Blood bank clinics. Whole project will based on Linux server, storage process that we will be using in this project is MySQL. To give the dynamic functionality I have used PHP as core programming language for the backend and for the User-interface Html, CSS, JavaScript and bootstrap technology is used.

This web application is to be conceived in its current form as a dynamic site-requiring constant updates both from the blood donors as well as the blood requesters and is to enable blood donors (Volunteer) to place their profile and blood requesters (patients) to publish their requests.  
   
The web application to be developed is to have functionalities enabling patients to post their requests, search for donors contact numbers and view personal profiles and also have an option to search blood bank addresses.  Though the administrator can change the general look and feel of the application/site, once blood donors and blood banks becomes a registered user of the site the donors have to just view their profile and update contact numbers and addresses. Admin is the main authority who can do addition, deletion, and modification if required.

**Problem Definition**

**2.1 Existing System**

* Cannot Upload and Download the latest updates.
* No use of Web Services and remote management.
* Risk of mismanagement and of data when the project is under development.
* Less Security.
* No proper coordination between different Applications and Users.
* Fewer Users – Friendly

**Disadvantages**

1. User friendliness is provided in the application with various controls.
2. The system makes the overall project management much easier and flexible.
3. Readily upload the latest updates, allows user to download the alerts by clicking the URL.
4. There is no risk of data mismanagement at any level while the project development is under process.
5. It provides high level of security with different level of authentication.

**2.2. Proposed System**

To debug the existing system, remove procedures those cause data redundancy, make navigational sequence proper. To provide information about audits on different level and also to reflect the current work status depending on organization/auditor or date. To build strong password mechanism.

**Advantages:**

* User friendliness I provided in the application with various controls.
* The system makes the overall project management much easier and flexible.
* Readily upload the latest updates
* Allows user to search the blood instantly.
* It provides high level of security with two level of authentication.

**Feasibility Study**

Preliminary investigation examine project feasibility, the likelihood the system will be useful to the organization. The main objective of the feasibility study is to test the Technical, Operational and Economical feasibility for adding new modules and debugging old running system. All system is feasible if they are unlimited resources and infinite time. There are aspects in the feasibility study portion of the preliminary investigation:

* Technical Feasibility
* Operation Feasibility
* Economic Feasibility

**3.1. Technical Feasibility**

The technical issue usually raised during the feasibility stage of the investigation includes the following:

* Does the necessary technology exist to do what is suggested?
* Do the proposed equipment have the technical capacity to hold the data required to use the new system?
* Will the proposed system provide adequate response to inquiries, regardless of the number or location of users?
* Can the system be upgraded if developed?
* Are there technical guarantees of accuracy, reliability, ease of access and data security?

The current system developed is technically feasible. It is a web based user interface for blood donors to sign up and make an account by having just an email address in the simplest way and then post the blood group information for the public. Blood requester will search for the blood group. If the required blood group found then requester will contact the blood donor be the cell phone no. provided in the website. Thus it provides an easy access to the users.

The database’s purpose is to create, establish and maintain a workflow among various entities in order to facilitate all concerned users in their various capacities or roles. Permission to the users would be granted based on the roles specified. Therefore, it provides the technical guarantee of accuracy, reliability and security.

The work for the project is done with the current equipment and existing software technology. Necessary bandwidth exists for providing a fast feedback to the users irrespective of the number of users using the system.

**3.2. Operational Feasibility**

Proposed projects are beneficial only if they can be turned out into information system. That will meet the organization’s operating requirements. Operational feasibility aspects of the project are to be taken as an important part of the project implementation. Some of the important issues raised are to test the operational feasibility of a project includes the following: -

* Is there sufficient support for the management from the users?
* Will the system be used and work properly if it is being developed and implemented?
* Will there be any resistance from the user that will undermine the possible application benefits?

This system is targeted to be in accordance with the above-mentioned issues. Beforehand, the management issues and user requirements have been taken into consideration. So there is no question of resistance from the users that can undermine the possible application benefits.

The well-planned design would ensure the optimal utilization of the computer resources and would help in the improvement of performance status.

**3.3. Economic Feasibility**

A system can be developed technically and that will be used if installed must still be a good investment for the organization. In the economic feasibility, the development cost in creating the system is evaluated against the ultimate benefit derived from the new systems. Financial benefits must equal or exceed the costs.

The system is economically feasible. It does not require any addition hardware or software. Since the interface for this system is developed using the existing resources and technologies available at internet, There is nominal expenditure and economic feasibility for certain.

**SYSTEM ANALYSIS**

**4.1. Software Requirement Specification (SRS)**

The software, Site Explorer is designed for management of web sites from a remote location.

**INTRODUCTION**

**Purpose:** The main purpose for preparing this document is to give a general insight into the analysis and requirements of the existing system or situation and for determining the operating characteristics of the system.

**Scope:** This Document plays a vital role in the development life cycle (SDLC) and it describes the complete requirement of the system. It is meant for use by the developers and will be the basic during testing phase. Any changes made to the requirements in the future will have to go through formal change approval process.

**DEVELOPERS RESPONSIBILITIES OVERVIEW:**

The developer is responsible for:

* Developing the system, which meets the SRS and solving all the requirements of the system?
* Demonstrating the system and installing the system at client's location after the acceptance testing is successful.
* Submitting the required user manual describing the system interfaces to work on it and also the documents of the system.
* Conducting any user training that might be needed for using the system.
* Maintaining the system for a period of one year after installation.

**The modules involved are:**

1. **Administration:**

In this module the Administrator has the privileges to add all the Blood Groups, Blood Type, Country, State, City, and Location. He can search all the info about the Donor.

**User Account:**

* Account ID
* Email
* Username
* Password
* Phone
* Location
* Message

**Functionality**

* + - Associating User account with user role.
    - Association User Account with personal Details.
    - Association User Account with Blood Donation Details.

**Alerts:**

* All fields are mandatory

**Location:**

**Functionality:**

* Associating state with city
* Associating state with Address

**Alerts:**

* Write location

**Message:**

**Functionality:**

* Committed to social excellence.

**Alerts:**

* Write a brief message for blood needy person.

**Blood Group:**

* + BloodGroupID
  + BloodGroup
  + Description
  + Active

**Functionality:**

* Association Blood group with Personal details.

**Alerts:**

* Select BloodGroupID
* Select BloodGroupID

**Personal Details:**

* User AccountID
* First Name
* Last Name
* Email
* Blood Group
* Address
* Mobile No
* Active

**Functionality:**

* Association personal details with preferred location Day-Time Details.

**Alerts:**

* Select Email id
* Choose a password

**Donor:**

Donor is that person who is interested in donating their blood so they can register themselves through this website. If any requirement comes then they will be contacted and they can donate their blood. Along with it they can search for the various organization locations wise and can also make request for blood if needed

**Functionality:**

* Associating donor with blood donation preferences.

**HARDWARE REQUIREMENTS:**

* No special requirement it will work on normal pc with internet connection.

**SOFTWARE REQUIREMENTS:**

* LINUX SERVER
* Linux basic hosting for disk space.
* Xcode text editor.
* PHP framework for deployment
* MySQLi

# DESIGN PHASE

## Data flow diagram:

### Level Zero Diagram:

Database

Blood Needy

Figure 1 data flow diagram: level zero

### 

### Level One Diagram:

Database

Blood Needy

Admin

Figure 2 data flow diagram: level one

#### Customer:

**CUSTOMER**

**SIGNUP**

**VIEW DONORS**

**DONOR INFORMATION**

**LOGIN**

Figure 3 data flow diagram: customer

#### Admin:

#### 

**ADMIN**

**ADD NEW BLOOD**

**VIEW/DELETE USERS**

**ADD INFORMATION**

**LOGIN**

Figure 4 data flow diagram: Admin

## Design model:

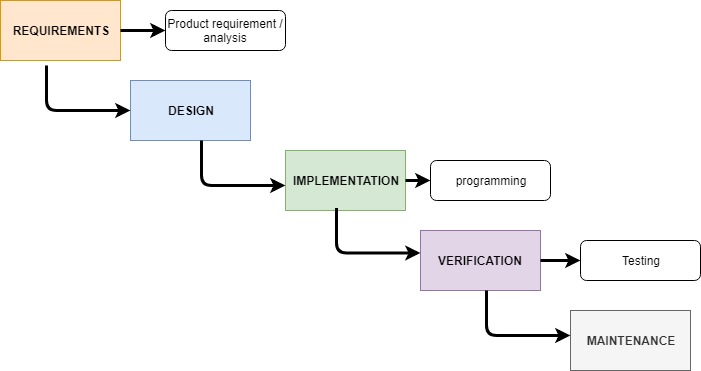
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Figure 5 Design model

## Database Tables:

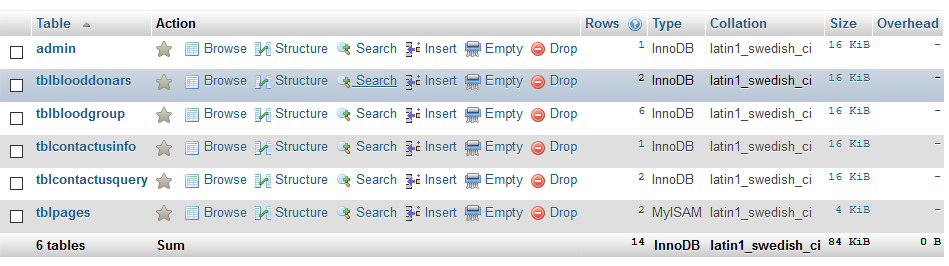


Figure 6 database design

## Admin:

## Figure 7 admin design

## Blood Donors:

## 

## Figure 8 blood donors design

## Blood Group:

## 

## Figure 9 blood group design

## Contact us Information:

## 

## Figure 10 blood contact us info design

## Contact us Query:

## 

## Figure 11 blood contact us query design

## Pages:

## 

## Figure 12 blood page design

**Software Development Environment**

**6.1. Introduction To Php Framework**

The Php Framework is a computing platform that simplifies application development in the highly distributed environment of the Internet. The Php Framework is designed to fulfill the following objectives:

* To provide a consistent object-oriented programming environment whether object code is stored and executed locally, executed locally but Internet-distributed, or executed remotely.
* To provide a code-execution environment that minimizes software deployment and versioning conflicts.
* To provide a code-execution environment that guarantees safe execution of code, including code created by an unknown or semi-trusted third party.
* To provide a code-execution environment that eliminates the performance problems of scripted or interpreted environments.
* To make the developer experience consistent across widely varying types of applications, such as Web-based applications.
* To build all communication on industry standards to ensure that code based on the Php Framework can integrate with any other code.

The PHP Framework has two main components: the common language runtime and the Php Framework class library. The common language runtime is the foundation of the Php Framework. You can think of the runtime as an agent that manages code at execution time, providing core services such as memory management, thread management, and Remoting, while also enforcing strict type safety and other forms of code accuracy that ensure security and robustness. In fact, the concept of code management is a fundamental principle of the runtime. Code that targets the runtime is known as managed code, while code that does not target the runtime is known as unmanaged code.

**FEATURES OF THE COMMON LANGUAGE RUNTIME:**

The common language runtime manages memory, thread execution, code execution, code safety verification, compilation, and other system services. These features are intrinsic to the managed code that runs on the common language runtime.

With regards to security, managed components are awarded varying degrees of trust, depending on a number of factors that include their origin (such as the Internet, enterprise network, or local computer). This means that a managed component might or might not be able to perform file-access operations, registry-access operations, or other sensitive functions, even if it is being used in the same active application.

The runtime enforces code access security. For example, users can trust that an executable embedded in a Web page can play an animation on screen or sing a song, but cannot access their personal data, file system, or network. The security features of the runtime thus enable legitimate Internet-deployed software to be exceptionally featuring rich.

The runtime also enforces code robustness by implementing a strict type- and code-verification infrastructure called the common type system (CTS). The CTS ensures that all managed code is self-describing. The various Microsoft and third-party language compilers

Generate managed code that conforms to the CTS. This means that managed code can consume other managed types and instances, while strictly enforcing type fidelity and type safety.

In addition, the managed environment of the runtime eliminates many common software issues. For example, the runtime automatically handles object layout and manages references to objects, releasing them when they are no longer being used. This automatic memory management resolves the two most common application errors, memory leaks and invalid memory references.

The runtime also accelerates developer productivity. For example, programmers can write applications in their development language of choice, yet take full advantage of the runtime, the class library, and components written in other languages by other developers. Any compiler vendor who chooses to target the runtime can do so. Language compilers that target the Php Framework make the features of the Php Framework available to existing code written in that language, greatly easing the migration process for existing applications.

**CLIENT APPLICATION DEVELOPMENT**

Client applications are the closest to a traditional style of application in Linux-based programming. These are the types of applications that display forms on the web, enabling a user to perform a task. Client applications include applications such as word processors and spreadsheets, as well as custom business applications such as data-entry tools, reporting tools, and so on. Client applications usually employ windows, menus, buttons, and other GUI elements, and they likely access local resources such as the file system and peripherals such as printers.

Another kind of client application is deployed over the Internet as a Web page. This application is much like other client applications: it is executed natively, has access to local resources, and includes graphical elements.

In the past, developers created such applications using C/C++ in conjunction with the Microsoft Foundation Classes (MFC) or with a rapid application development (RAD) environment such as Microsoft® Visual Basic®. The Php Framework incorporates aspects of these existing products into a single, consistent development environment that drastically simplifies the development of client applications.

The Php Forms contained in the Php Framework are designed to be used for GUI development. You can easily create command windows, buttons, menus, toolbars, and other screen elements with the flexibility necessary to accommodate shifting business needs.

For example, the Php Framework provides simple properties to adjust visual attributes associated with forms. In some cases the underlying operating system does not support changing these attributes directly, and in these cases the Php Framework automatically recreates the forms. This is one of many ways in which the Framework integrates the developer interface, making coding simpler and more consistent.

**CSS, HTML, JQUERY, JAVASCRIPT**

**Server Application Development**

Server-side applications in the managed world are implemented through runtime hosts. Unmanaged applications host the common language runtime, which allows your custom managed code to control the behavior of the server. This model provides you with all the features of the common language runtime and class library while gaining the performance and scalability of the host server.

The following illustration shows a basic network schema with managed code running in different server environments. Servers such as wamp and xampp Server can perform standard operations while your application logic executes through the managed code.

**Server-Side Managed Code:**

PHP, JS, JQuery is the hosting environment that enables developers to use the Php Framework to target Web-based applications. However, CSS, HTML is more than just a runtime host; it is a complete architecture for developing Web sites and Internet-distributed objects using managed code. Web services use Mysqli and CSS, HTML, PHP as the publishing mechanism for applications, and both have a collection of supporting classes in the Php Framework.

If you develop and publish your own Mysqli Web service, the Php Framework provides a set of classes that conform to all the underlying communication standards. Using those classes enables you to focus on the logic of your service, without concerning yourself with the communications infrastructure required by distributed software development.

Finally, like Web Forms pages in the managed environment, your Php Web service will run with the speed of native machine language using the scalable communication of Mysqli.

* **Enhanced Performance.** CSS, HTML, PHP, is compiled common language runtime code running on the server. Unlike its interpreted predecessors, CSS, HTML, PHP can take advantage of early binding, just-in-time compilation, native optimization, and caching services right out of the box. This amounts to dramatically better performance before you ever write a line of code.
* **World-Class Tool Support.** The CSS ,HTML,PHP framework is complemented by a rich toolbox and designer in the integrated development environment
* **Power and Flexibility.** Because CSS, HTML, PHP is based on the common language runtime, the power and flexibility of that entire platform is available to Web application developers. The Php Framework library, Messaging, and Data Access solutions are all seamlessly accessible from the Web. CSS, HTML, PHP is also language-independent, so you can choose the language that best applies to your application or partition your application across many languages. Further, common language runtime interoperability guarantees that you’re existing.
* **Simplicity.** CSS, HTML,PHP makes it easy to perform common tasks, from simple form submission and client authentication to deployment and site configuration. For example, the CSS, HTML, PHP page framework allows you to build user interfaces that cleanly separate application logic from presentation code and to handle events in a simple, Visual Basic - like forms processing model. Additionally, the common language runtime simplifies development, with managed code services such as automatic reference counting and garbage collection.

**Manageability.** CSS, HTML, PHP employs a text-based, hierarchical configuration system, which simplifies applying settings to your server environment and Web applications. Because configuration information is stored as plain text, new settings may be applied without the aid of local administration tools. This "zero local administration" philosophy extends to deploying HTML, PHP

**Scalability and Availability.** CSS, HTML, PHP has been designed with scalability in mind, with features specifically tailored to improve performance in clustered and multiprocessor environments. Further, processes are closely monitored and managed by the CSS ,HTML,PHP runtime, so that if one misbehaves (leaks, deadlocks), a new process can be created in its place, which helps keep your application constantly available to handle requests.

* **Customizability and Extensibility.** CSS, HTML, PHP delivers a well-factored architecture that allows developers to "plug-in" their code at the appropriate level. In fact, it is possible to extend or replace any subcomponent of the CSS, HTML, and PHP runtime with your own custom-written component. Implementing custom authentication or state services has never been easier.
* **Security.** With built in Linux authentication and per-application configuration, you can be assured that your applications are secure.

**Connections:**

Connections are used to 'talk to' databases, and are represented by provider-specific classes such as Mysqli Connection. Commands travel over connections and result sets are returned in the form and pushed into a **Datasets** object.

**Queries:**

Queries contain the information that is submitted to a database, and are represented by provider-specific classes such as. A Query can be a stored procedure call, an UPDATE statement, or a statement that returns results. You can also use input and output parameters, and return values as part of your queries syntax. The example below shows how to issue an INSERT statement against the database.

**SQL Server Tables**

Mysqli Server stores records relating to each other in a table. Different tables are created for the various groups of information. Related tables are grouped together to form a database.

**Primary Key**

Every table has a field or a combination of fields that uniquely identifies each record in the table. The Unique identifier is called the Primary Key, or simply the Key. The primary key provides the means to distinguish one record from all other in a table. It allows the user and the database system to identify, locate and refer to one particular record in the database.

**Relational Database**

Sometimes all the information of interest to a business operation can be stored in one table. Matching an employee to the department in which they work is one example. This is what makes the Server a relational database management system, or RDBMS. It stores data in two or more tables and enables you to define relationships between the table and enables you to define relationships between the tables.

**Foreign Key**

When a field is one table matches the primary key of another field is referred to as a foreign key. A foreign key is a field or a group of fields in one table whose values match those of the primary key of another table.

**Referential Integrity**

Not only does Mysqli Server allow you to link multiple tables, it also maintains consistency between them. Ensuring that the data among related tables is correctly matched is referred to as maintaining referential integrity.