Charity Management System

A Project presented to the National University in partial fulfillment of the requirement for the degree of Bachelor of Science (Hon's) in Computer Science & Engineering.

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DECLARATION

We pledge that the project work titled "Charity management system" being submitted in partial fulfillment for the degree of B.Sc. (Hon's) in Computer Science & Engineering is the original work carried out by me. It has not formed the part of any other project work submitted for any degree or diploma, either in this or any other University.

……………………………..

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Session: 2017-18

Approval

The Project "Charity management system" is submitted to the Department of Computer Science & Engineering, DIIT under National University of Bangladesh in absolute fulfillment of the requirements for the degree of Bachelor of Science (Hon's) in Computer Science and Engineering and approved as to its style and content.

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ABSTRACT

Charity is an act of kindness, in which financially stable people provide help to those people who are needy. Finding a sponsor was a difficult task, and it was a big challenge to deal with sponsors. This Charity Management System helps to find sponsors easily. However, with the rising population and development of this country, wastage has risen to new high. There are many people who wish to donate but unaware of how exactly they can execute that. Our application resolves around helping the needy by connecting donor and needy people. Our application aims to bring about transparency, charity and swiftness in the process of donation.

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Chapter 1
Introduction

1.1 Project Introduction

Charity is the act of giving help to those in need of it. It is a humanitarian act. It involves giving money, goods or time and effort to those who need it. It is done without expecting something in return.

As we all know charity giving is the demonstration of giving cash, products or time to the grievous, either straightforwardly or by methods for a magnanimous trust or other admirable motivation. Altruistic giving as a strict demonstration or obligation is alluded to as almsgiving or contributions. The name originates from the clearest articulation of the ideals of noble cause; giving the beneficiaries of it the methods they need to endure. The devastated, especially those bereaved or stranded, and the feeble or harmed, are for the most part viewed as the appropriate beneficiaries of good cause. The individuals who can't uphold themselves and need outside methods for help occasionally become "hobos", straightforwardly requesting help from outsiders experienced openly.

The prevalence of food waste has been a subject of discussion in recent years and researches are being done to find effective ways to curb it. It has been identified as a primary issue in the sustainability of food production and consumption. In our country, 5% of food is wasted in households and an average person wasted about 20-30kg of food in a year. One third of all food produced is lost or wasted. Where one in nine people do not have enough food to eat. If one quarter of the food currently wasted could be saved, it would be enough to feed 870 million hungry people. To end hunger and to ensure basic human rights we are introducing a Charity management system. We want to build a system where a person can donate with their capacity and at the same time the application lets the organization to put their request on their requirements.

1.2 Project Aims

Our aim is to create a Charity management system that acts as an interface between the users who are looking for a channel to give the excess things without wasting it. It enables us to donate the excess by notifying nearby users with the details of the donation that is available. The required users claim the notification. The system allocates the items based on the priority.

- It will be a web-based system that can be accessible from everywhere.
- To provide an easy method so that anyone can easily use.
- To provide security for confidentiality and make the system secured.

1.3 Objectives

- To ensure basic human rights.
- Enable easy interaction between donors and organization.
- Both the donor and the needy will be benefited.
- Make work faster and quicker.
- Man power required is very less.
- Data can be stored for a long period of time.

1.4 Limitations of existing system

Presently people who wish to donate, need to personally visit the organizations and donate foods or other items. Otherwise, they have to search for some websites to donate their surplus. In general, the large manufacturers, wholesalers, and organized community provide food items to food banks or waste tons of foods daily. They have to search for some organization that needs food. This process involves a lot of time to contact the organization to check the requirement. If they do not need the food, then the person has to contact another organization. This makes the donor tired and exhausted.

1.5 Features of Our System

- The main objectives of Charity Management System project are to reduce wastage and ensure basic human needs.
- Even if any food item remains in any function people can send request to charity.
- One can donate their unused clothes and medicine also.
- This project plays a vital role in economy as it reduces wastage as well reducing poverty.

- Admin and volunteer can check all kinds' of reports after the login.
- This project helps charities to increase operational efficiencies and reduce costs by eliminating much manual paperwork. Donors and charity Managements can see donor names, donation amounts and payment date time and transaction details.
- Donors or public visitors can view all the information about charity through online.

1.6 Limitations of Our Project

- Accessing this application always requires an internet connection.
- Wrong information will affect the project.

1.7 SDLC

While all software projects have to be professionally manned and developed, different techniques are appropriate for different types of system For example, games should always be developed using a series of prototypes whereas safety critical control system require a complete and analyzable specification to be developed. You can't, therefore, say that one method is better than another.

One of the basic notions of the software development process in SDLC models which stand for Software Development Life Cycle models. The most used, popular and important SDLC models are:

1. Waterfall model
2. Incremental Model
3. Iterative Model
4. Spiral Model
5. V-Shaped Model
6. Agile Model

For this particular project I've used Agile Method as it is more users friendly and easy to handle.

1.7.1 Necessity of SDLC

Software developers follow some methodology which is step wise process to develop a project involving usage of programming language for a particular solution [3]. It includes

examining, designing, & developing, testing, documenting. Implementing and evaluating the complex subject of software engineering. Developers always try to reduce the risks.

The longer a project runs, the more risk remains for getting bugs. That is why we need to follow some procedures that make our works easier and less risky. It's known as SDLC and that's why it necessary and evaluating the complex subject of software engineering. Developers always try to reduce the risks.

The longer a project runs, the more risk remains for getting bugs. That is why we need to follow some procedures that make our works easier and less risky. It's known as SDLC and that's why it necessary.

1.7.2 Software Development Life Cycle for Our Project

There are a number of SDLC methods renowned for regular development. As project can't be completed in one phase rather, we need to develop it primarily and then it'll gradually learn we'll keep developing it for making it better, we're going to use Agile Method.

1.8 Agile Method

Agile software development describes a set of principles for software development under which requirements and solutions evolve through the collaborative effort of self- organizing cross-functional teams. It advocates adaptive planning, evolutionary development, early delivery, and continuous improvement, and it encourages rapid and flexible response to change. These principles support the definition and continuing evolution of many software development methods.[1]

If we relate with the term 'agile' we can easily understand where it should be used. It can be implemented in all types of projects but its essence can only be extracted if we use it on bigger and complex projects. We can use agile when we can actually implement it for the success of the project or the nature of the project requires it Agile should not be used just as a run away from waterfall.

We can use agile where the collaboration is highly important for the success of the project, where we have long term goals and no bound on the requirements, and agile can be well utilized where we have great power of either utilizing time as much as we want or resource as much as we want.

Fig 1.8: Agile Method Software Model

1.8.1 Advantages of Agile Method

The Agile methodology was firstly developed for the software industry. The task was to optimize and improve the development process and to try to identify and quickly correct problems and defect. This methodology allows providing a better output, more quickly, through short and interactive sessions/sprints.[2]

In the era of digital transformation, where many organizations are migrating to a digital workplace, the agile methodology suits perfectly in companies that are looking to transform the way in which projects are managed and the way they operate as a whole.

1.8.2 Disadvantages of Agile Method

The disadvantages of Agile methodology make clear that it's not for everyone Mitigating the disadvantages of agile methodology requires taking more of a Lean approach by emphasizing. Delivering value through a quality end product rather than simply delivering a working product managing a clear process for delivering that product, not an uncertain route determined along the way. Needs special skills for the team and documentation is done at later   stages.[2]

1.8.3 When to Use Agile Method

Agile development model is also a type of Incremental model. Software is developed in incremental, rapid cycles. This results in small incremental releases with each release building on previous functionality. Each release is thoroughly tested to ensure software quality is maintained. It is used for time critical applications. Extreme Programming is currently one of the most well-known agile development life cycle models.[2]

Chapter 2
Background Study

2.1 Background of this Project

Wastage has become a big concern in Bangladesh due to the country's rapidly growing population and changing food habits. According to a previous study, total household food waste in Bangladesh is approximately 10.62 million tons each year, which could be a great problem if the FW was not managed properly.

According to a recent study, FW reduction in many countries is hampered by surplus food for guests, friends, and family due to hospitality. Bangladesh is undoubtedly considered a hospitable country. The offering of abundant meals for visitors is frequently viewed as a symbol of social standing. Thus, food is regularly discarded in large quantities, especially at family reunions and other festivities.

Apart from that, Bangladesh is one of the densely populated countries in the world; a home for more than 160 million people. Poverty in Bangladesh is one of the major issues that affects the citizens. In Bangladesh 40% of the country falls under three categories: hunger, starvation and chronic hunger. Besides, 20.5% of the population lived below the national poverty line. They can't fulfil their basic needs like food, cloth, medicine etc. On the other side many people waste huge clothes or they have unused medicine etc.

So, the main aspect of this project is to make a system to collect food or cloth or medicine or money from donor and donate this to needy, so that we can ensure basic human needs of needy people.

2.2 Methodology

Methodology is a set of rules, method and principles that make a guideline to the developers to develop in a systematic way. In software development, there are methodology. Every methodology is different by steps and systematic way. There are some methodologies
They are given in the below:

a) Agile Software Development
b) Incremental Model

c) Systems Development Model (DSDM)

d) V Shape Model

e) Feature Driven Development (FDD)

f) Rapid Application Development (RAD)

g) Rational Unified Process (RUP)

h) System Development Life Cycle (SDLC)

i) Waterfall Model

Though there are many methodologies in system development, we Methodologies for our flexibility and applies a level of pragmatism.

2.3 Why have We Chosen Agile?

The agile method anticipates change and allows for much more flexibility than traditional methods. Clients can make small objective changes without huge amendments to the budget or schedule. This Method saves money and time because the tests and approves the product at each step of development.

2.4 Feasibility Study

Feasibility study refers the viability of project in different terms. This stage ensures if the proposed project is viable in technical and business perspective. Usually, feasibility study is an analysis step that determines if the proposed project is feasible in different aspects. This analysis stage helps to define the project feasibility if it is technically, operationally, socially, economically and ethically feasible.

2.4.1 Technical Feasibility Study

Technical feasibility refers if the identified project can be made efficiently with required functionality. It evaluates the whole process how information will deliver on this project. Also evaluate if the organization is available to make this project. Following matter will follow on feasibility,

a)   No error is occurred on different functionality when occurred.

b)   As the project is platform independent, so it should run on a different platform and on a different device.

So, it can be said, our project is technically feasible.

2.4.2 Operational Feasibility Study

This term evaluates if the project is solving all the functionality effectively. How well it performs the functionality to avoid error and how efficiently it easily replaced the paper-based system.

My system can easily utilize, support and perform all the functionality efficiently. Administrator can easily store the products and user can easily perform their required take a service.

2.4.3 Economically Feasibility

This stage is undertaken to understand if the project is within budget and can make business benefits. I think the proposed project is economically feasible. The reasons are given below,

- Donor will be interested in it because it ensures donation at no cost.
- In the initial state, it is really cost efficient but for the farther enhancement, some investment is necessary.

Chapter 3
System Specification

3.1 Hardware Requirements

- Minimum RAM   : 1GB
- Processor   : Intel Pentium
- Internet Connection (high speed)

3.2 Software Requirements

- Operating System:
  - For PC   : Windows, Linux, MacOS
  - For Mobile   : Android, iOS
- Front-end language   : HTML 5, CSS3, JavaScript,
  - Library   : Apex Charts, jQuery
- Back-end Language   : Php
  - Framework   : CodeIgniter
- Database   : MySQL
- IDE   : NetBeans 8.2
- Web Browser   : Google Chrome, Firefox, Safari,
  and other HTML5 supported browser

3.3 Platform

Web based application. Web based application refers to any program that is accessed over a network using HTTP. Web based application often run inside a web browser. We can often say that web-based application is user based as we can download some part of the application to view it on the desktop. But we cannot make any kind of changes to them. To make any changes we have to open that over the web browser. Web based applications are also known as web apps.

3.4 PHP

The term PHP is an acronym for PHP: Hypertext Preprocessor. PHP is a server- side scripting language designed specifically for web development. It is open-

source which means it is free to download and use. It is very simple to learn and use. The files have the extension ".php".

Rasmus Lerdorf inspired the first version of PHP and participated in the later versions. It is an interpreted language and it does not require a compiler.

- PHP code is executed in the server.
- It can be integrated with many databases such as Oracle, Microsoft SQL Server, MySQL, PostgreSQL, Sybase, and Informix.
- It is powerful to hold a content management system like WordPress and can be used to control user access.
- It supports main protocols like HTTP Basic, HTTP Digest, IMAP, FTP, and others.
- Websites like www.facebook.com and www.yahoo.com are also built on PHP.
- One of the main reasons behind this is that PHP can be easily embedded in HTML files and HTML codes can also be written in a PHP file.
- The thing that differentiates PHP from the client-side language like HTML is, that PHP codes are executed on the server whereas HTML codes are directly rendered on the browser. PHP codes are first executed on the server and then the result is returned to the browser.
- The only information that the client or browser knows is the result returned after executing the PHP script on the server and not the actual PHP codes present in the PHP file. Also, PHP files can support other client-side scripting languages like CSS and JavaScript.

3.5 JavaScript

JavaScript is a multi-paradigm, dynamic language with types and operators, standard built-in objects, and methods. Its syntax is based on the Java and C languages - many structures from those languages apply to JavaScript as well. JavaScript supports object-oriented programming with object prototypes, instead of classes. JavaScript also supports functional programming - because they are objects, functions may be stored in variables and passed around like any other object.

It is a lightweight, interpreted, object-oriented language with first-class functions, and is best known as the scripting language for Web pages, but it's used in many nonbrowser environments as well. JavaScript (JS) is a scripting language, primarily used on the Web. It is used to enhance

HTML pages and is commonly found embedded in HTML code. JavaScript is an interpreted language. Thus, it doesn't need to be compiled. JavaScript renders web pages in an interactive and dynamic fashion. This allowing the pages to react to events, exhibit special effects, accept variable text, validate data, create cookies, detect a user's browser, etc.

Today, JavaScript can execute not only in the browser, but also on the server, or actually on any device that has a special program called the JavaScript engine. The browser has an embedded engine sometimes called a "JavaScript virtual machine".[4]

Different engine s has different "codenames". For example:

- V8– in Chrome and Opera.

- Spider Monkey– in Firefox.

- There are other codenames like "Trident" and "Chakra" for different versions of IE, "Chakra Core" for Microsoft Edge, "Nitro" and "Squirrelfish" for Safari, etc.

3.6 CodeIgniter

CodeIgniter is rightfully defined as the open-source software used to rapidly develop the web framework to be put to use in the creation of dynamic web pages and websites in PHP language. CodeIgniter is one of the best open sources and the most rapid development framework software used to build dynamic web apps and websites in PHP language. This framework is based on loosely coupled systems and makes use of the widely popular MVC, i.e., Model View Controller Framework and development pattern. The controller classes are, in fact, a crucial part of the development phase and pattern; the models and the views are an optional

entity. The CodeIgniter can also be used to modify the Hierarchical Model View Controller (HMVC), thereby allowing developers to maintain a modular level of grouping of controllers, views, and models specifically arranged in a subdirectory format. This framework is most of the times noted down for its vibrant speed and quick responsiveness as compared to other PHP frameworks.

CodeIgniter is an extremely powerful PHP framework with a very small footprint, specially built for developers who need to make use of a simple and elegant toolkit in order to create fully featured and functional web applications. This application aims to enable the users to develop the projects a lot faster and quicker than if you would have chosen to write your code from scratch. It is used to do this by providing a rich set of libraries for the commonly needed applications and tasks. Doing this is also possible because of the varied usage of the simple interface and the logical structure which is present to access the set of these libraries.

3.7 HTML

HTML (Hypertext Markup Language) is a computer language devised to allow website creation. Anyone else connected to the Internet can then view these websites. It is relatively easy to learn, with the basics being accessible to most people in one sitting: and quite powerful in what it allows you to create.

As told earlier, HTML is a markup language and makes use of various tags to format the content. These tags are enclosed within angle braces <Tag Name>. Except few tags, most of the tags have their corresponding closing tags. For example, <html> has its closing tag </html> and <body> tag has its closing tag

</body> tag etc.

Using HTML5 helps to eliminate most <div> tags and replace them with semantic elements. Designers can now use cleaner and neater code.

Make a more detailed understanding of the structure of a page with the help of HTML5. Make a more thorough understanding of the structure of a page with the help of HTML5. With its new features standards, HTML5 makes it easier to create

front end application such as drag and drop tools, wikis, discussing boards and other use full elements.

HTML5 provides a smarter solution to specify the files that the browser should cache; the page can be loaded correctly even when offline.

3.8 CSS

CSS stands for cascading Style Sheets. CSS describe hot HTML elements are to be displayed on the screen, paper or in other media CSS saves a lot of work It can control the layout of multiple web pages all at once External style sheets are stored in CSS files.

CSS are utilized to organize the format of web pages CSS helps web engineers make a uniform look over a few pages of a website. Once the style in CSS, it can be utilized by any page that references the CSS record.

CSS can be a language with regard to specifying exactly how documents tend to be presented in order to users - how they are usually styled, organized ete. The document is generally a text data file structured by using a markup vocabulary - HTML page is the mostly typical markup terminology, but you will even come across various other markup different languages such as SVG or XML. Presenting any document to your user indicates converting this into a functional form for the audience. We browsers, like Chrome, Firefox, and Internet Explorer are created to present files visually, like on a monitor, projector or simply printer.

3.9 SQLite

SQLite is an in-process library that implements a self-contained, server-less, zero configuration, transnational SQL database engine. The code for SQLite is in the public domain and is thus free for use for any purpose, commercial or private. SQLite is the most widely deployed database in the world with more applications than we can count, including several high-profile projects.

SQLite is an embedded SQL database engine. Unlike most other SQL databases, SQLite does not have a separate server process. SQLite reads and writes directly to ordinary disk files. A complete SQL database with multiple tables, indices, triggers, and views, is contained in a single disk file. The database file format is cross- platform - you can freely copy a database between 32-bit and 64-bit systems or between big endian and little-endian architectures. These features make SQLite a popular choice as an Application File Format. SQLite database files are a recommended storage format by the US Library of Congress. Think of SQLite not as a replacement for Oracle but as a replacement for fopen ()

SQLite is a compact library. With all features enabled, the library size can be less than 600KiB,

depending on the target platform and compiler optimization settings. (64-bit code is larger. And some compiler optimizations such as aggressive function inlining and loop unrolling can cause the object code to be much larger.) There is a trade-off between memory usage and speed. SQLite generally runs faster the more memory you give it. Nevertheless, performance is usually quite good even in low- memory environments. Depending on how it is used, SQLite can be faster than direct filesystem I/O.

SQLite is very carefully tested prior to every release and has a reputation for being very reliable. Most of the SQLite source code is devoted purely to testing and verification. An automated test suite runs millions and millions of test cases involving hundreds of millions of individual SQL statements and achieves 100% branch test coverage. SQLite responds gracefully to memory allocation failures and disk I/O errors. Transactions are ACID even if interrupted by system crashes or power failures. All of this is verified by the automated tests using special test harnesses which simulate system failures. Of course, even with all this testing, there are still bugs. But unlike some similar projects (especially commercial competitors) SQLite is open and honest about all bugs and provides bugs lists and minute-by- minute chronologies of code changes.

3.10 NetBeans

NetBeans is an open-source integrated development environment (IDE) for developing with Java, PHP, C++, and other programming languages. NetBeans is also referred to as a platform of modular components used for developing Java

esktop applications. NetBeans is coded in Java and runs on most operating systems with a Java Virtual Machine (JVM), including Solaris, Mac OS, and Linux. NetBeans manages the following platform features and components:

- User settings
- Windows (placement, appearance, etc.)
- NetBeans Visual Library
- Storage
- Integrated development tools
- Framework wizard

NetBeans uses components, also known as modules, to enable software development. NetBeans dynamically installs modules and allows users to download updated features and digitally authenticated upgrades. NetBeans IDE modules include NetBeans Profiler, a Graphical User Interface (GUI) design tool, and NetBeans JavaScript Editor. NetBeans framework reusability simplifies Java Swing desktop application development, which provides platform extension capabilities to third-party developers.

3.11 Apex Charts

Apex Charts is a modern charting library that helps developers to create beautiful and interactive visualizations for web pages. Apex Charts scales gracefully in desktops, tablets as well as mobiles. You can set responsive queries and can have different layouts for different screen sizes. Zoom, Pan, scroll through data, toggle data-sets visibility in multiple series, show informative tool-tips when user hovers over datapoints. Each of these options helps to communicate data more effectively. The dynamic nature of Apex Charts allows you to load data on selections and create other charts based on those selections. In other words, these are the features which will make your data truly interactive. In addition to providing a pleasing appearance to charts, Apex Charts gives high performance too. Test it out yourself by rendering large number of data-points. Postman

Postman is a collaboration platform for API development. It is use to design, build, and test APIs.

It is an API (application programming interface) development tool which helps to build, test and modify APIs. Almost any functionality that could be needed by any developer is encapsulated in this tool. It is used by over 5 million developers every month to make their API development easy and simple. It has the ability to make various types of HTTP requests (GET, POST, PUT, PATCH), saving environments for later use, converting the API to code for various languages (like JavaScript, Python).[11]

3.12 API

Application programming interface (API) is a set of subroutine definitions, protocols, and tools for building application software. In general terms, it is a set of clearly defined methods of communication between various software components. A good API makes it easier to develop a computer program by providing all the building blocks, which are then put together by the programmer. An API may be for a web-based system, operating system, database system, and computer hardware or software library. An API specification can take many forms, but often includes specifications for routines, data structures, object classes, variables or remote calls. POSIX, Microsoft Windows API, the C++ Standard Template Library and Java APIs are samples of different forms of APIs. Documentation for the API is usually provided to facilitate usage Just as a graphical user interface makes it easier for people to use programs, application programming interfaces make it easier for developers to use certain technologies in building applications. By abstracting the underlying implementation and only exposing objects or actions the developer

needs, an API simplifies programming. While a graphical interface for an email client might provide a user with a button that performs all the steps for fetching and highlighting new emails, an API for file input/output might give the developer a function that copies a file from one location to another without requiring that the developer understand the file system operations occurring behind the scenes.

Chapter 4
Design of Proposed System

4.1 Design Overview

First step of building a software is to design it on the basis of a design pattern. Here we use the MVC design pattern to design our software. Model View Controller is the most commonly used design pattern. Developers find it easy to implement this design pattern.

Following is a basic architecture of the Model View Controller –

Fig 4.1: MVC Pattern

Let us now see how the structure works.

Model

It consists of pure application logic, which interacts with the database. It includes all the information to represent data to the end user.

View

View represents the HTML files, which interact with the end user. It represents the model's data to user.

Controller

It acts as an intermediary between view and model. It listens to the events triggered by view and queries model for the same.

4.2 Module Description

We have separated the software into different modules like admin, donor, volunteer these all modules have different tasks in the system.

"Admin" module will handle all the process of registration, login, validation, role checking of the system. This module will interact with the user table of the database.

"Volunteer" module is used to handle the transactions between donor and needy, validation of data. This module will interact with the address table, transaction table of the database.

"Donor" module is for people to donate and verify the process. This module will interact with the donation table and address table of the database.

4.3 Design Issues

The framework navigation can be complex because it introduces new layers of abstraction and requires users to adapt to the decomposition criteria of MVC.

Knowledge on multiple technologies becomes the norm. Developers using MVC need to be skilled in multiple technologies.

4.4 Flowchart

A flowchart is a type of diagram that represents a workflow or process. A flowchart can also be defined as a diagrammatic representation of an algorithm, a step-by- step approach to solving a task. The flowchart shows the steps as boxes of various kinds and their order by connecting the boxes with arrows.
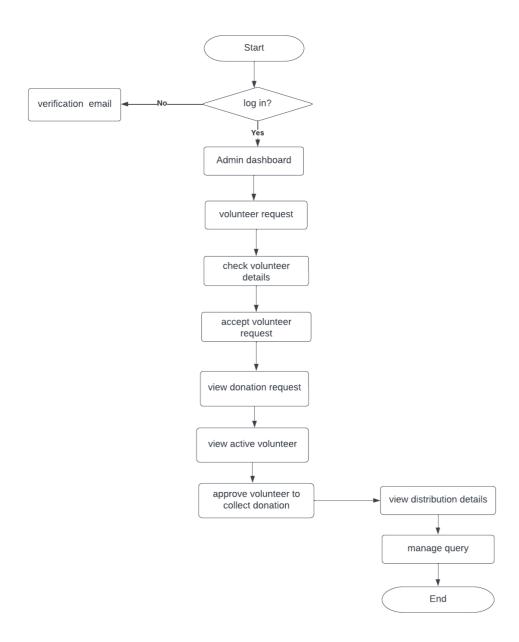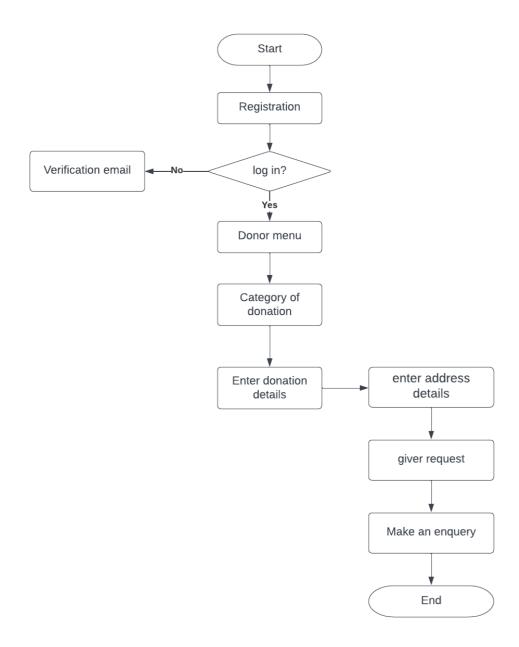
Flowchart for admin:

Figure 4.4.1: Flowchart for admin

Flow Chart for Donor:

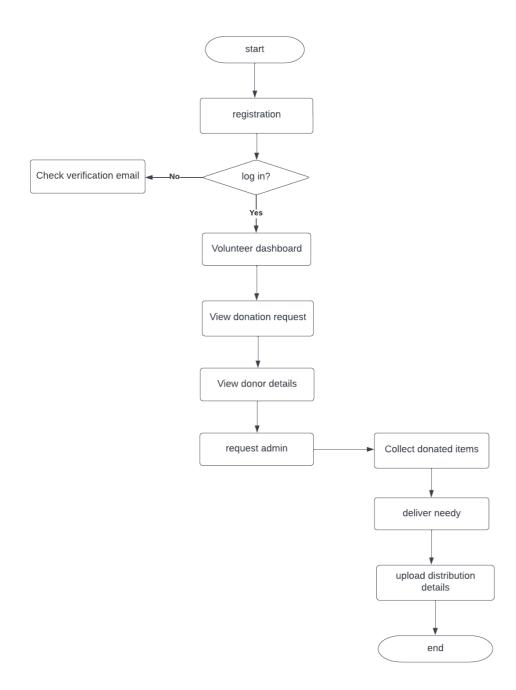Figure 4.4.2: Flowchart for donor

Flow Chart for Volunteer:

Figure 4.4.3: Flowchart for volunteer

4.5 Workflow Diagram

A workflow diagram provides a graphic overview of the business process. Using standardized symbols and shapes, the workflow shows step by step how our work is completed from start to finish. It also shows who is responsible for work at what point in the process.

Workflows are useful to help employees understand their roles and the order in which work is completed and to create more unity.

Figure 4.4.4: Workflow diagram

4.6 Entity Relationship Diagram

Entity relationship diagram is a data model technique that constructed to define entities used in a system. ER Diagram or ER model, is a type of structural diagram for use in database design. An ERD contains different symbols and connectors that visualize two important information: The major entities within the system scope, and the inter-relationship among these entities.

Figure 4.6: Entity-Relationship Diagram

4.7 Use Case Diagram

Use case diagram is a methodology that used as system development. It is used to clarify, identify and organize requirements of a system. Which user performs which role, is the main concern of this diagram. Actor is used to define who is using the system and the use case that means what task they can do. Actor and use case are linked with direct association.

Figure 4.7: Use case diagram

4.8 Activity Diagram

An activity diagram is a behavioral diagram i.e., it depicts the behavior of a system. Activity Diagrams describe how activities are coordinated to provide a service which can be at different levels of abstraction. Typically, an event needs to be achieved by some operations, particularly where the operation is intended to achieve a number of different things that require coordination, or how the events in a single use case relate to one another, in particular, use cases where activities may overlap and require coordination. It is also suitable for modeling how a collection of use cases coordinates to represent business workflows.

Figure 4.8: Activity Diagram

4.9 Sequence Diagram

A sequence diagram is a type of interaction diagram because it describes how—and in what order - a group of objects works together. These diagrams are used by software developers and business professionals to understand requirements for a new system or to document an existing process.
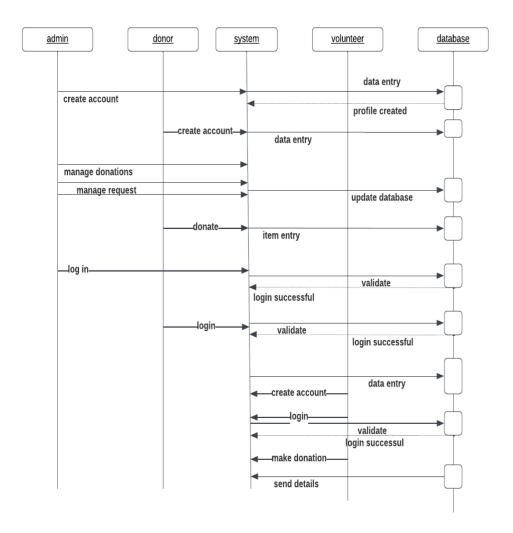

Figure 4.9: Sequence diagram

4.10 Data Flow Diagram (DFD)

A data flow diagram (DFD) is a diagram that describes the flow of data and the process that change data throughout a system It's a structured analysis and design tool that can be used for flow charting in place of or in association with information.

The DFD reviews the current system, prepare input and output specification, specifies the implementation plan etc.

Using any convention's DFD rules or guidelines, the symbols depict the four components of data flow diagrams.

- External Entity: An outside system that sends or receives data, communicating with the system being diagrammed. They are the sources and destinations of information entering or leaving the system. They might be an outside organization or person, a computer system or a business system. They are also known as terminators, sources and sinks or actors. They are typically drawn on the edges of the diagram.

- Process: Any process that changes the data, producing an output. It might perform computations, or sort data based on logic, or direct the data flow based on business rules. A short label is used to describe the process, such as "Submit payment."

- Data Store: Files or repositories that hold information for later use, such as a database table or a membership form. Each data store receives a simple label, such as "Orders".

- Data Flow: The route that data takes between the external entities, processes and data stores. It portrays the interface between the other components and is shown with arrows, typically labeled with a short data name, like "Billing details."

4.10.1 DFD Level 0

A context diagram is a top level (also known as "Level 0") data flow diagram It only contains one process node ("Process 0") that generalizes the function of the entire system in relationship to external entities. Draw data flow diagrams can made in several nested layers.
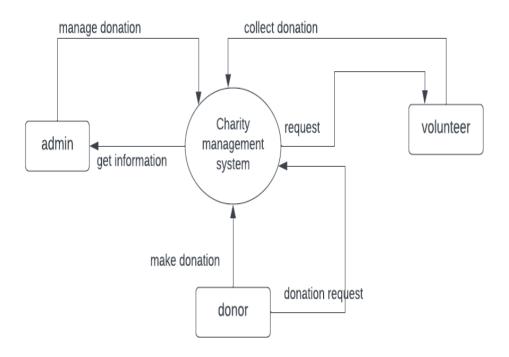

Figure 4.10.1: DFD level 0

4.10.2 DFD Level 1

Level 1 DFD's are still a general overview, but they go into more detail than a context diagram. In a level 1 data flow diagram, the single process node from the context diagram is broken down into sub processes. As these processes are added, the diagram will need additional data flows and data stores to link them together.
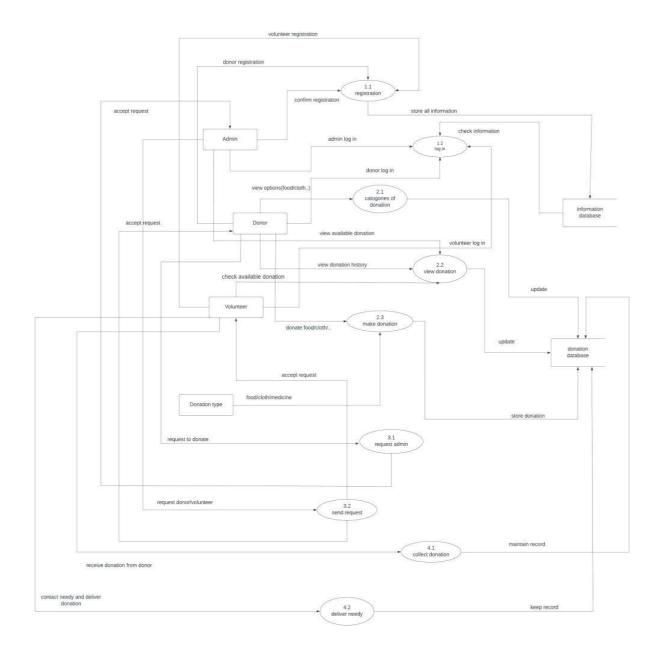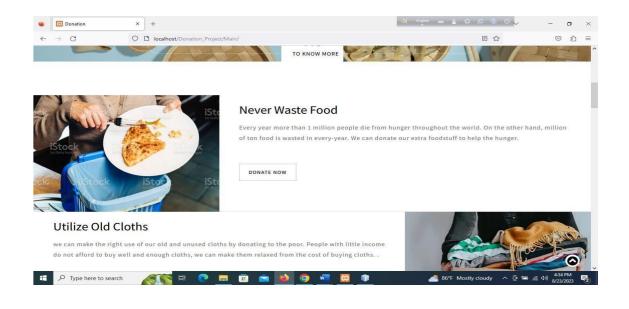
Figure 4.10.1: DFD level 1

Figure 4.10.2: DFD level 2
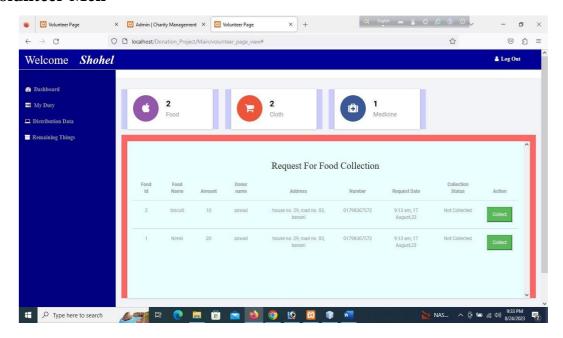
CHAPTER 5
IMPLEMENTATION

5.1 Landing page:

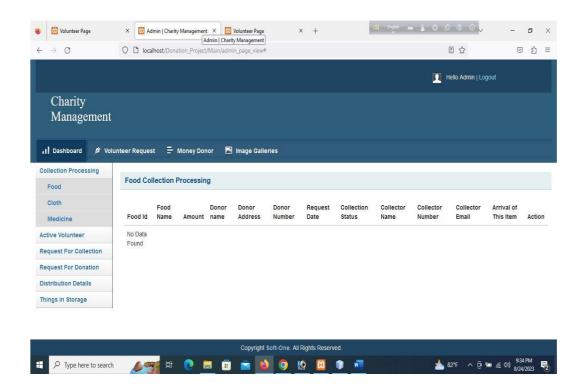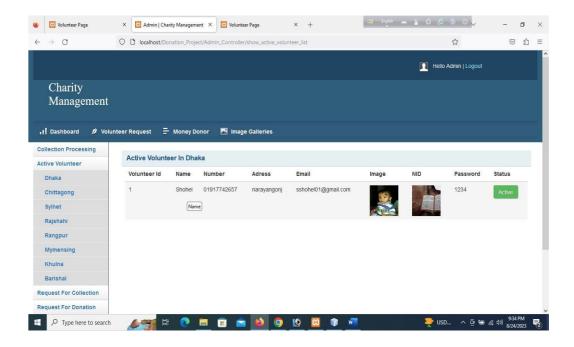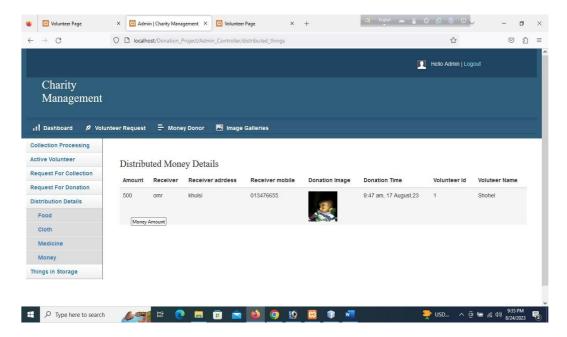## 5.2 Donate option
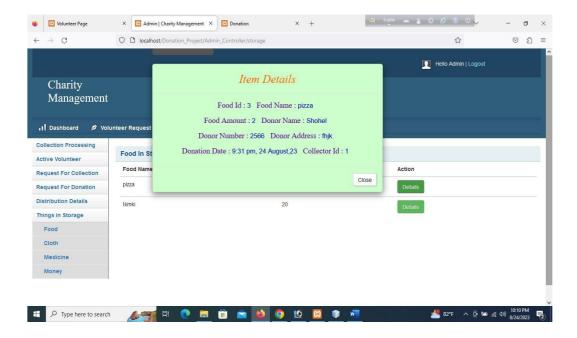
5.3 Volunteer Men

5.4 Admin Menu:

5.5 Active Volunteer:

5.6 Distribution Details:

5.7 Things in storage:

CHAPTER 6
TESTING

6.1 Alpha Testing:

Basically, alpha testing is done among selected internal people of an organization. Here we have initially chosen four employees to test the system. Alpha testing is a type of acceptance testing; performed to identify all possible issues and bugs before releasing the final product to the end users. Alpha testing is carried out by the testers who are internal employees of the organization. The main goal is to identify the tasks that a typical user might perform and test them. To put it as simple as possible, this kind of testing is called alpha only because it is done early on, near the end of the development of the software, and before beta testing. The main focus of alpha testing is to simulate real users by using a black box and white box techniques.
No of users: 4 Test run time: 7 days.

Test Result:

1) All the features worked smoothly.

2) No server error was detected.

3) Responsiveness on small devices worked fine.

6.2 Beta Testing:

Basically, alpha testing is done among end users who are not typically employees. The test is done using following parameters. Beta Testing is performed by "real users" of the software application in "real environment" and it can be considered as a form of external User Acceptance Testing. It is the final test before shipping a product to the customers. Direct feedback from customers is a major advantage of Beta Testing. This testing helps to test products in customer's environment. Beta version of the software is released to a limited number of end-users of the product to obtain feedback on the product quality. Beta testing reduces product failure risks and provides increased quality of the product through customer validation

No of users: 30 Test Run time: 15 days

Test Result:

1) The Website is tested on live environment.

2) The request and response were working fine.

No CSRF, No SQL injection, DOS attack affected the system. to obtain feedback on the product quality. Beta testing reduces product failure risks and provides increased quality of the product through customer validation.
No of users: 30 The Website is tested on live Test run time: 15 days.

Test Result:

environment.

3) The request and response were working fine.

No CSRF, No SQL injection, DOS attack affected the system.

CHAPTER 7
Conclusion

7.1 Business Prospect:

People can help each other with just one click from their phone using this project. As wastage will reduce environment pollution will also be reduced. Hence our society will be benefited. Moreover, Poverty is one of the major hindrances for our economy. So, this project plays a crucial role in our economic development.

7.2 Summary

The surplus from the rich can be donated easily. The visualization impact of the donation can create a positive impact on the users. Minimizing wastage and donating needy is the main goal of the Charity Management project. The application is targeted in two ways, the user who is donating and the person/organization that is claiming.

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APPENDIX

Source code:

This system using CodeIgniter framework (PHP)

Main.php

```php
<?php session_start ();
if (!isset($_SESSION['id'])) { header("Location:Login.php");
}

?>
```

```html
<html>

<head>

<meta charset="UTF-8">

<meta name="viewport" content="width=device-width, initial-scale=1.0">

<link rel="stylesheet" type="text/css" href="login.css"/>

<script type="text/javascript" src="js/jquery-3.2.1.min.js"></script>

<script src="script.js"></script>

<!--<link                                                          rel="stylesheet"
href="https://www.w3schools.com/w3css/4/w3.css">-->

<script src="js/jquery-2.2.0.min.js"></script>

<link rel="stylesheet" href="js/bootstrap-3.3.6.min.css" />

<script src="js/bootstrap-3.3.7.min.js"></script>

<link                    rel="stylesheet"                    href="js/normalize-5.0.0.min.css">
```

```html
<!--<link rel='stylesheet prefetch' href='bootstrap-3.3.5.min.css'>-->

<link                                                                rel='stylesheet'
href='https://maxcdn.bootstrapcdn.com/bootstrap/3.3.5/css/bootstrap.min.css'/>

<link rel="stylesheet" href="js/style.css">

<link rel="stylesheet" href="Main.css">

<title>Chat List</title>

</head>

<body>

<input type="hidden" id="load_numb" value="5"/>

<input type="hidden" id="load_msg_numb" value="7"/>

<div class="container">

<div >

<nav  class="navbar  navbar-inverse"  style="margin-bottom:0;padding-  bottom:0;position:
fixed;top: 0;width: 85%;z-index: 5">
<div class="container-fluid" >

<div class="navbar-header" >

<button                           type="button"      class="navbar-toggle"      data-
toggle="collapse" data-target=".navbar-collapse">
<span class="icon-bar"></span>

<span class="icon-bar"></span>

<span class="icon-bar"></span>


</button

<a                           class="navbar-brand"      href="self_timeline.php"><span

class="responsive                                                                       a"
```

```
style="width:30px; height:30px;top:-10px; ;border-radius: 20px;background: #ddd;float: left "
id="a">
</span>  <?php echo $_SESSION['name']; ?></a>

</div>

<ul                          class="nav  navbar-nav  navbar-right"  style="padding-
right:100px">

                                    <li class="dropdown">

                                    <a         class="dropdown-toggle  dr"
                                              style="cursor:pointer"
></span> <span class="glyphicon glyphicon-envelope" style="font- size:18px;"></span><span
class="label label-pill label-danger count" style="border-radius:10px;top:-15px;position: relative
"></a>
<ul class="dropdown-menu mgs" style="max-height:300px; overflow-y: auto"></ul>
</li>

<li class="dropdown" >

<a                                            class="dropdown-toggle       dr2"
style="cursor:pointer;"></span>  <span   class="glyphicon   glyphicon-bell"   style="font-
size:18px;"></span><span  class="label  label-pill  label-danger  noti_count"  style="border-
radius:10px;top:-15px;position: relative "><a>
<ul                    class="dropdown-menu           not"            style="max-
height:300px;width:250px;overflow-y: auto"></ul>
</li>

</ul>

<div class="navbar-collapse collapse" >

<ul class="nav navbar-nav">

<li><a href="Main.php">Home</a></li>

<li><a                                      href="/Home/About">Create</a></li>
```

```html
<li><a href="logout.php">LogOut</a></li>

<li class="dropdown"><input type="text" id="search_text" class=" form-control" style="margin:10px 0px 0px 30px" placeholder="search by name or email"/>
<ul class="dropdown-menu search" style="max-height:300px;width:250px;overflow-y: auto"></ul>
</li>



<li><span class="glyphicon glyphicon-search" style="background:whitesmoke;margin:9px 0px 0px 30px;padding:10px;border- radius: 2px"></span></li>
</ul>

</div>

</div>

</nav>

</div>
```