

ELDERS CARE - A CENTRAL MONITORING SYSTEM FOR ALL OLD AGE HOMES

BY

**MD. HASAN IBNE KAMAL
191-15-12222**

**SUMAIYA AKTER PRIYA
191-15-12061**

**EKRAMUL HOQUE
191-15-12283**

This Report Presented in Partial Fulfillment of the Requirements for the Degree of
Bachelor of Science in Computer Science and Engineering

Supervised By

Mr. Narayan Ranjan Chakraborty
Associate Professor
Department of CSE
Daffodil International University

Co-Supervised By

Ms. Afsara Tasneem Misha
Lecturer
Department of CSE
Daffodil International University



DAFFODIL INTERNATIONAL UNIVERSITY

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APPROVAL

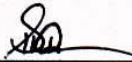
This Project is titled “Elders Care – A Central Monitoring System For All Old Age Homes”, submitted by Md. Hasan Ibne Kamal, Sumaiya Akter Priya and Ekramul Hoque to the Department of Computer Science and Engineering, Daffodil International University, has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of B.Sc. in Computer Science and Engineering and approved as to its style and contents. The presentation has been held on 26 January, 2023.

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Professor and Head
Department of Computer Science and Engineering
Faculty of Science & Information Technology
Daffodil International University

Internal Examiner



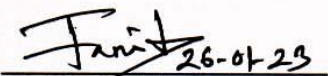
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Department of Computer Science and Engineering
Faculty of Science & Information Technology
Daffodil International University

Internal Examiner



Mohammad Monirul Islam
Assistant Professor
Department of Computer Science and Engineering
Faculty of Science & Information Technology
Daffodil International University

External Examiner



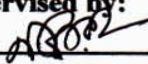
Dr. Dewan Md Farid
Professor
Department of Computer Science and Engineering
United International University

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DECLARATION

We hereby declare that this project has been done by us under the supervision of **Mr. Narayan Ranjan Chakraborty, Associate Professor, Department of CSE** Daffodil International University. We also declare that neither this project nor any part of this project has been submitted elsewhere for the award of any degree or diploma.

Supervised by:

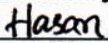


Mr. Narayan Ranjan Chakraborty
Associate Professor
Department of CSE
Daffodil International University


Co-Supervised by:

Ms. Afsara Tasneem Misha
Lecturer
Department of CSE
Daffodil International University


Submitted by:



Md. Hasan Ibne Kamal
ID: 191-15-12222
Department of CSE
Daffodil International University



Sumaiya Akter Priya
ID: 191-15-12061
Department of CSE
Daffodil International University



Ekramul Hoque
ID: 191-15-12283
Department of CSE
Daffodil International University

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ABSTRACT

The population of the world is growing day by day, so is the technology. The people around the world are trying to make life easier through technology. So in developed countries, specific old age homes are established and managed in an organized way, and this is becoming accurate and easy because of the internet. The internet uses servers that store data, and that data becomes easy to access and manage. Though the concept of paid old age homes is not still acceptable in Bangladesh, but in the nearest future, people will send their parents to old age homes due to a lack of time that they cannot spend to take care of them. So as Bangladesh is a developing country, people are implementing technology in their companies or organizations. Nowadays, each and every organization has a website that represents everything. We are trying to build a website for an old age home that will be able to manage and represent every information of the old age home. We are trying to cover the contact information, status update, donation system, health profiles, and also an accounts management section of the organization. If our projects succeed, then this website can be used from both client and server sides. The management authority can monitor and manage everything with this single website, including duty shifting, medicine routines, check-up schedule, and maintenance. So, this single website can be a major breakthrough for old age homes.

TABLE OF CONTENTS

CONTENTS	PAGE
Board of examiners	i
Declaration	ii
Acknowledgements	iii
Abstract	iv
CHAPTER	
CHAPTER 1: INTRODUCTION	1-4
1.1 Introduction	1
1.2 Motivation	3
1.3 Objective	3
1.4 Expected Outcomes	3
1.5 Project Management and Finance	4
1.6 Report Layout	4
CHAPTER 2: BACKGROUND	5-9
2.1 Preliminaries	5
2.2 Related Works	5
2.3 Comparative Analysis	8
2.4 Scope of the Problem	8
2.5 Challenges	8

Chapter 3: REQUIREMENT SPECIFICATION	10-21
3.1 Business Process Modelling	10
3.2 Requirement Collection and Analysis	17
3.3 Use Case Modelling and Description	20
3.4 Logical Data Model	22
3.5 Design Requirement	22
Chapter 4: DESIGN SPECIFICATION	22-28
4.1 Front-End Design	23
4.2 Back-End Design	25
4.3 Interaction Design and User Experience (UX)	27
4.4 Implementation Requirements	28
Chapter 5: IMPLEMENTATION AND TESTING	29-32
5.1 Implementation of Database	29
5.2 Implementation of Front-End Design	29
5.3 Testing Implementation	31
5.4 Test Results and Reports	31
Chapter 6: IMPACT ON SOCIETY, ENVIRONMENT AND SUSTAINABILITY	33-35
6.1 Impact on Society	32
6.2 Impact on Environment	33
6.3 Ethical Aspects	33
6.4 Sustainability Plan	33

Chapter 7: CONCLUSION AND FUTURE SCOPE	36-36
7.1 Discussion and Conclusion	35
7.2 Scope for Further Development	35
REFERENCES	36
PLAGARISM	

LIST OF FIGURES

FIGURES	PAGE NO
Figure 1.1: Welcome page of Elders Care website	2
Figure 2.2: Relevant Pictures of Elders Care website	6
Figure 2.2.2: Relevant Design of Elders Care website	7
Figure 3.1.1: Diagram of Business Process Modelling	11
Figure 3.1.2: Diagram of Data Flow Diagram 0	11
Figure 3.1.2: Diagram of Data Flow Diagram 1	12
Figure 3.1.2: Diagram of Data Flow Diagram 2	12
Figure 3.1.3: Diagram of Incremental Model 1	13
Figure 3.1.3: Diagram of Incremental Model 2	13
Figure 3.1.3: Diagram of Incremental Model 3	14
Figure 3.1.4: Diagram of Activity Diagram for Users	15
Figure 3.1.4: Diagram of Activity Diagram for Administrators	16
Figure 3.1.5: Diagram of Sequence Diagram	17
Figure 3.3: Diagram of Use Case Diagram	21
Figure 4.1: Front-end Design of Elders Care Welcome Page	23
Figure 4.1.1: Front-end Design of Elders Care Website	24
Figure 4.1.2: Front-end Design of Elders Care Website	25
Figure 4.1.3: Front-end Design of Elders Care Website	26
Figure 4.1.4: Front-end Design of Elders Care Website	27
Figure 4.1.5: Front-end Design of Elders Care Website	28
Figure 4.1.6: Front-end Design of Elders Care Website	29
Figure 4.1.7: Front-end Design of Elders Care Website	30
Figure 4.2.1: Login Page Workflow of Elders Care	31
Figure 4.2.2: Visitor Home Page Workflow of Elders Care	32
Figure 4.2.3: User Interface Nav Workflow of Elders Care	32
Figure 4.2.4: Authority Nav Workflow of Elders Care	33
Figure 4.5: Front-end Design of Elders Care Dashboard	34
Figure 4.5.1: Front-end Design of Elders Care Dashboard	35

CHAPTER 1

INTRODUCTION

1.1 Introduction

The population of the world is increasing day by day, because the rate of population growth in the world is huge. As time goes by population growth is increasing and population is aging. In other words, the population aged 60+ is growing rapidly. With social changes, caring for the elderly or taking care of the elderly has become a difficult challenge nowadays. In today's world, a bad side of the young generation has emerged and that is not taking care of the elderly. They don't even care about their own parents, careless about taking care of their parents adequately. There are several reasons for such indifference, not least of which is "stepping into the working life". When boys and girls enter their new careers, they are unable to give their parents such time and become neglectful towards their parents. Apart from this significant reason, there are various other reasons such as lack of money, large family, family pressure, excessive drug use, newly marriage etc. According to a 2019 report, the population aged 40+ was 143 million, rising to 426 million in 2050. That is, the number of old age will increase 3 times. These percentages are much higher for Europe and North America, with an estimated 25% or more of people aged 65+. The percentage is even higher in Spain, with an estimated 31.4% of people aged 65+ [3].

There are a total of 278 nursing homes for the elderly and 101 nursing homes for women in the world. According to a report, India has the highest number of old age homes [1].

Where there are many units or houses with all facilities, only for the elderly, it is old age or nursing home. Here they can enjoy all the facilities like their own homes, can move freely, can do any kind of recreational activities, can spend their free time doing anything. There are different types of rooms like kitchen for cooking, dining room for eating, meeting place for sitting together, place for entertaining events, clinic for medical consultation, designated place for leisure etc. In other words, a nursing home has all kinds of facilities for the elderly to live a beautiful and independent life. Old age or nursing home is also known as care home [1].

Nowadays, technology is also increasing as the population of the world is increasing day by day. The people around the world are trying to make the life easier through the technology. So, in the developed countries specific old age homes are established and manage in an organized way. And this becoming accurate and easy because of the internet. Internet uses servers that stores data and

that data becomes easy to access and manage. Though the concept of paid old age homes is not still acceptable in Bangladesh but in the nearest future people will send their parents to the old age home in lack of time that they cannot spend to take care of them. So as Bangladesh is a developing country people are implementing technology in their company or organization. And nowadays each and every organization has a website that represents everything.

We are trying to build a website for all old age home that will be able to manage and represent every information of all old age home. We are trying to cover the contact information, status update, donation system, health profiles and also an accounts management section of the organization. If our projects succeed then this website can be used from Client and server both sides. The management authority can monitor and manage everything with this single website including duty shifting, medicine routines, check-up schedule and maintenance. So, this single website can be a major breakthrough for all old age homes. Here the picture of Welcome page of Elders Care website of figure 1.1 has been added.

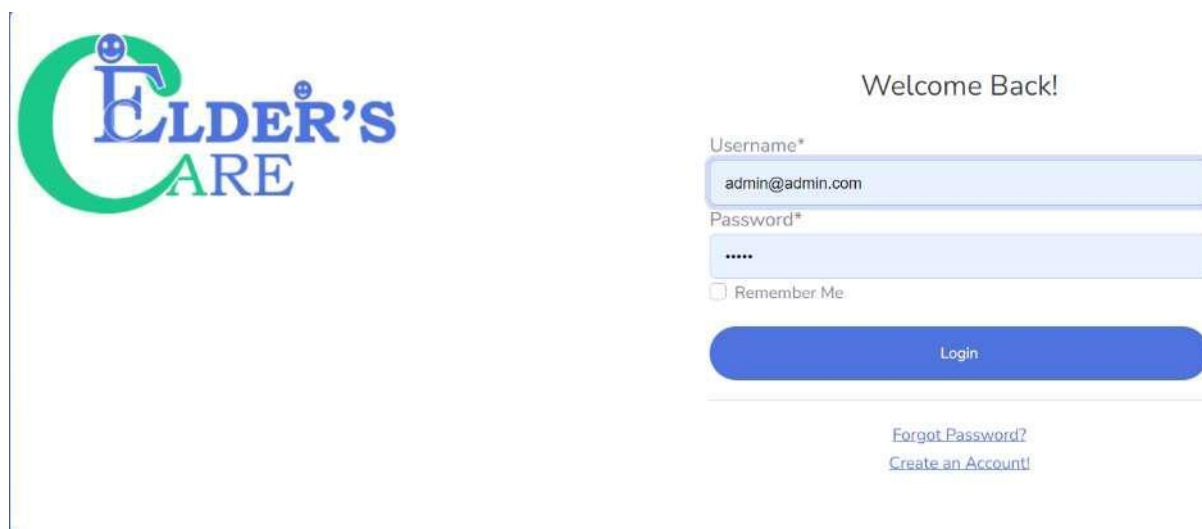


Figure 1.1: Welcome page of Elders Care website

This is the user interface of the login page of our website. All activities in the institution are managed by logging in as visitor, general user, donor, accounts section, patient, admin, management on the website. In addition, visitors and general users can donate if they want, admin and management can control the organization and move forward.

1.2 Motivation

In our country there is a common fact, which is old aged home care. As a developing country there is not enough old aged home care. Some have but they are not also well organized to provide better services. That's why we have created an online based website, where all the old age homes of the country will be connected here like an organization. Here 4 supports will be given to the old age homes from the organization or website. Namely, the organization will be centrally managed through software, any person or any organization can donate to any old age home as per their wish, all the support received from the government will be given to all the old age homes through the organization and the old age homes will be given to the organization. It will be arranged for unnecessary volunteers. For that purpose, we are going to create a website which is able to manage and represent information for each nursing home. We have tried to cover all contact information, all types of status updates, donation system, health profile of each nursing home and an accounts management section of the organization on the website. Also, the management authority can monitor and manage everything including duty shifting, medication routine, check-up schedule and maintenance of the nursing home through this single website. After our creation this project can be used from both client and server side. That is, those who are interested in donating can use this website at home and send donations according to their ability to the old age home according to their choice. We can create a digital system to maintain all the facilities and care of the elderly in the old age home.

1.3 Objectives

The objective of our project is to provide proper guidance and knowledge to those people who are looking for a good and suitable old age home for their elderly. All the maintenance of the nursing home office is the responsibility of authorized person and employee to do proper documentation and record all the details online. So that all the records of the nursing home can be found on the website. Protecting all data online, even with offline hard copies, so that everyone can see the data from the comfort of their own home. Online audits are made easy and accessible to senior officials. Handling the donation process of various individuals and organizations in a simple and completely seamless manner.

1.4 Expected outcomes

Near future If this system is properly implemented, every old age home will run in a systematic way. That means people in the society who want to send their family members to old age homes will find suitable and well-organized old age homes. Communication can be easily built up in old age homes, so if any person or organization is interested in donating, they can donate easily. All maintenance responsibilities of nursing home office are to do proper documentation of authorized persons and staff and to record the organization details online, so that all the records are on the website of this digital system.

1.5 Project Management and Finance

- Our system is digital web based and highly specialized.
- Any person or organization can send donations to old age homes at home through our system.
- Proper documentation and details of employee and authorized persons in charge of nursing homes will be recorded online, so that all records are available on the website of this digital system.
- All data of old age homes can be observed online at home and online audits will be made easy and accessible to senior officials.
- Online based section includes contact information, status updates, donation system, health profile and organization account management.
- Everything including duty shifts, medication routines, check-up schedules and maintenance can be monitored and managed through the website.

1.6 Report Layout

By creating this system, many nursing homes in the country can be brought under one platform. Python, HTML, CSS, Java Script are used to develop this software. And Django is used as framework. There is total seven sections in this regard. The rest of the paper is divided into six sections: Section 2- background, Section 3- requirement specification, Section 4- design specification, Section 5- implementation and testing and Section 6- impact on society, environment and sustainability. Finally, Section 7 will conclude the paper.

CHAPTER 2

BACKGROUND

2.1 Preliminaries

We have developed a software system for old age homes in Bangladesh where all of Bangladesh can join. If the nursing home is connected under this system or software, it will be possible to benefit from various aspects. Such as institutional or personal donations, making arrangements to receive donations from the government, etc. The main features of our software system are - online institutional or personal donation, taking government donations to old age homes, providing volunteer services, creating a beautiful and organized living environment for the elderly, ensuring medical care, central management software for all old age homes monitoring through etc.

2.2 Related Works

The website covers everything from home facilities to long term care, medical and safety services, recreation and social activities, independent and assisted living and volunteer services [5]. Show the figure 2.2 Old Age Home [5].

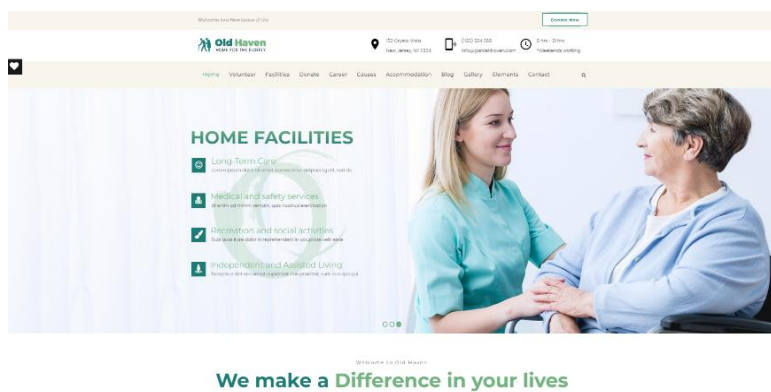


Figure 2.2: Relevant Pictures of Elders Care website

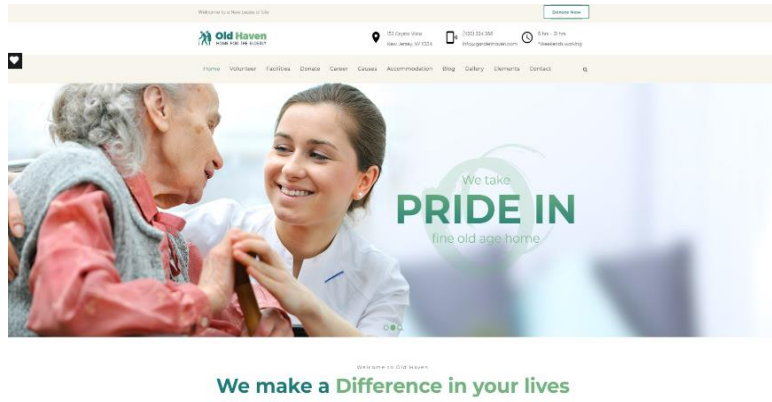


Figure 2.2: Relevant Pictures of Elders Care website

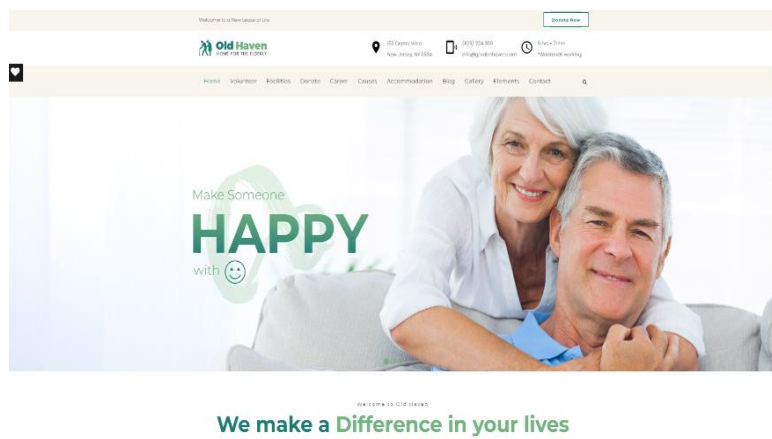


Figure 2.2: Relevant Pictures of Elders Care website

Our website is also mainly related to this, like the website has visitor, general user, donor, accounts department, patient, administrator, management section, this website also has many sections like volunteer, facility, donate, care, accommodation of old age home.

2.2.1 Elders Care Development

Currently, old age homes are increasing in number. But none of the old age homes have the kind of advanced facilities or amenities required for elderly people to move about. Therefore, it is becoming very difficult for old age homes to stay in such nursing homes. Based on such problems, we have developed a software system, so that there are many nursing homes under one system or organization. Due to which, any outside organizations or individuals can send donations to the old age homes under the organization and any kind of facilities from the government sector will be provided to the old age homes. Such an organization or system like ours has never been created in

Bangladesh but many such organizations or systems can be seen in the outside world. To develop such a software-based system, we need two types of things, software and hardware.

Software: Any framework used to develop the system, database of that framework and an operating system used. Some languages like HTML, CSS, Java Script, Python etc. are used. Any web browser used. Hardware: A high configuration computer is used to develop the system.

2.2.2 Elders Care Design

Below are some front-end designs of old age homes [5]. Here the picture of Relevant Design of Elders Care website of figure 2.2.2 has been added.



Figure 2.2.2: Relevant Design of Elders Care website

Above is the frontend design of the Old Haven website, where the details of the entire frontend of the website are shown, including the functionality such as header section, footer section, body of the website, etc.

2.2.3 Elders Care Users

Users of the system i.e., "Old Haven" are general public, institutions or organizations. Here users can send donations anytime. Also, users can go to the gallery of this organization and see all their photos, read their various blocks, see their organization's facilities, see their volunteering services.

2.3 Comparative Analysis

Day by day with the rapid development of information and communication technology, people's work and life have become increasingly busy and complex. People want to be able to do anything at home in no time. So, we have created a software system so that donors can donate online from home. Besides, arrangements will be made so that all donations from the government reach the old age homes easily. If any volunteers are needed in any old age homes or for any welfare work of the society, they will be provided from this organization. Even if there is no such system in the country, there are such systems in foreign countries and such systems are constantly being created. Countries like the United Kingdom, China, and America have software systems that are more advanced and richer in features.

2.4 Scope of the problem

We have faced various problems in developing this software system. And in the future too there will be problems with this system. For example, it can be seen that some section of the system is not working properly or the system is taking a long time to load due to high number of users. As a result, donations to old age homes will decrease and users may lose their trust in our system or organization. So, we must always be ready to deal with such problems, so that users do not face any kind of problem.

2.5 Challenges

Since our software system is developed on a very wide scale, it was very challenging to develop the system. For example, making the system to send donations online and making arrangements so that common users can also send donations to the organization's fund, handling the account section well i.e., all transactions donating to an old age home or an organization donating to an old age home or donating to a user organization's fund. Making arrangements to do all the transactions, providing volunteers in any old age homes or community development work in the country,

delivering all the donations from this government to the old age homes, making arrangements so that the management committee can centrally handle the entire software.

CHAPTER 3

REQUEREMENT SPECIFICATION

3.1 Business Process Modelling

A business process model may be a model of one or more business processes and characterizes the ways in which operations are carried out to achieve the planning goals of an organization. Such a model remains an abstraction and depends on the planning utilize of the model. The BPM lifecycle could be a framework that gives a standardized approach to planning, implementing, and managing business processes within an organization. The five stages of BPM include design, model, execute, monitor and optimize. Drawing from research within the field of development models, we recommend six core components of BPM: key alignment, administration, methods, information technology, people, and culture. These six components serve as the structure for this BPM Handbook.

3.1.1 Business Process Modelling Notation

Business Process Modelling Notation (BPMN) could be a flow chart strategy that models the steps of an arranged business process from conclusion to conclusion. A key to Business Process Administration, it outwardly delineates a detailed arrangement of business activities and data flows required to complete a process. The BPMN language is based on flowcharts and graphical notations. BPMN diagram symbols are categorized into four primary bunches: flow objects, connecting objects, swim lanes, and artifacts.

Business Process Modelling Notation (BPMN) This flow chart contains flow objects, connecting objects, swim lanes, and artifacts. There are 6 classes like- User, General User, Authority, Donate, OrgAdmin, Organization. And all these classes have different attributes and operations. Here the picture of Business Process Modelling Notation of figure 3.1.1 has been added.

3.1.2 Data Flow Diagram

DFD maps the information flow of a system. DFD shows how data flows through a system. DFD has four main components: entity, process, data store, and data flow. There are two types of DFD — logical and physical. Logic diagram is the theoretical process of moving system information. A physical diagram is a practical process of moving system information. There are mainly 3 levels in DFD diagram. 0-level DFD, 1-level DFD, and 2-level DFD.

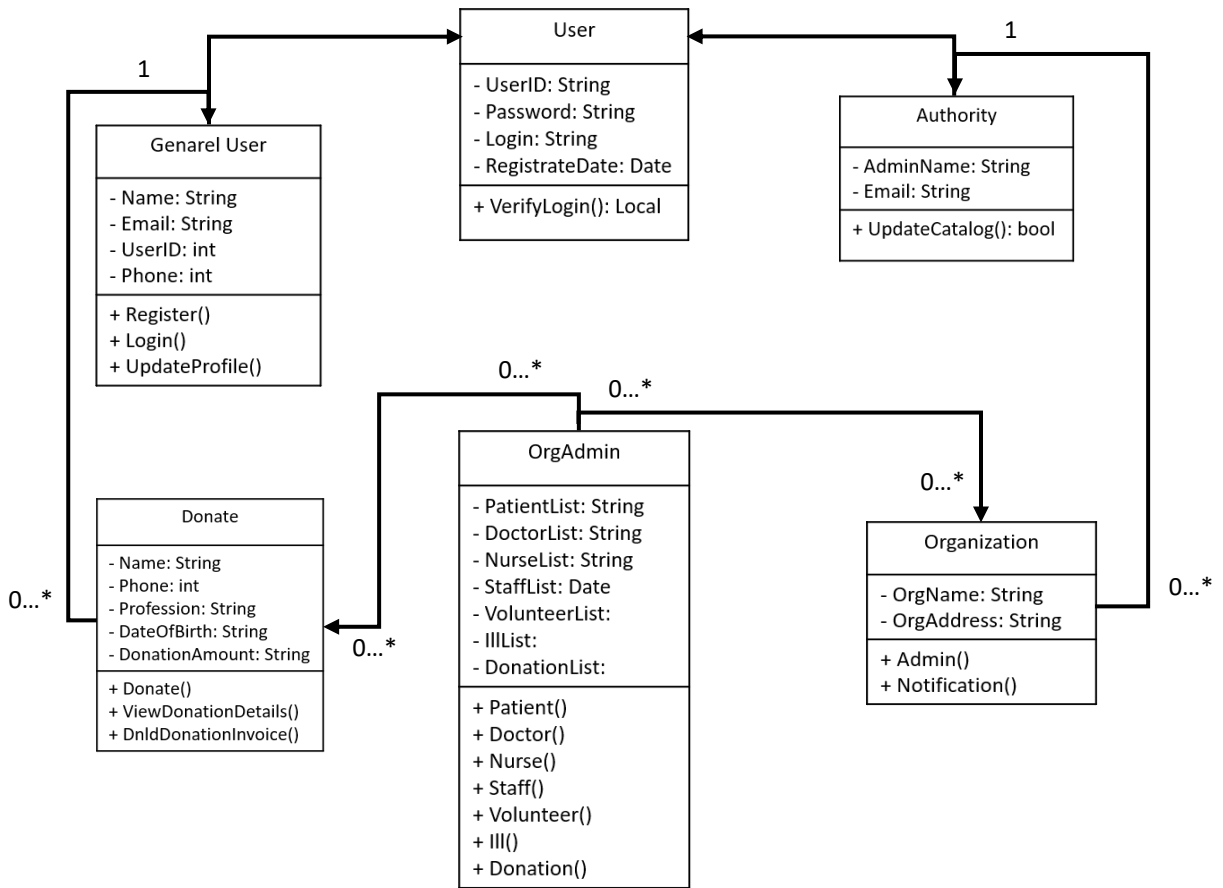


Figure 3.1.1: Diagram of Business Process Modelling Notation

DFD 0:

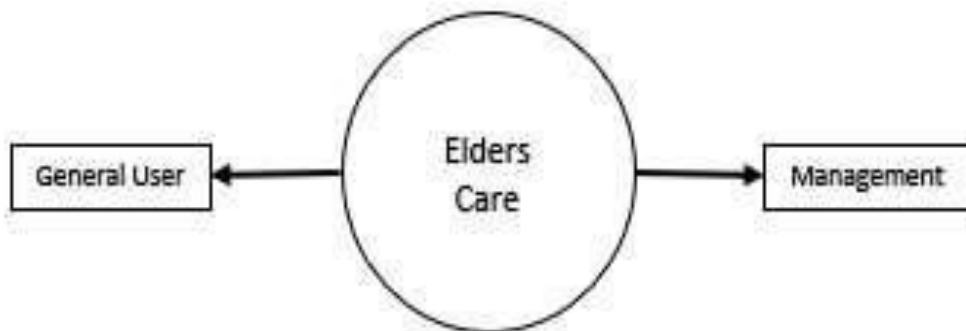


Figure 3.1.2: Diagram of Data Flow Diagram 0

Here the picture of Data Flow Diagram 0 of figure 3.1.2 has been added. 0 level DFD is context diagram. Here is an overview of the entire system. This allows the system to be easily viewed at a glance.

DFD 1:

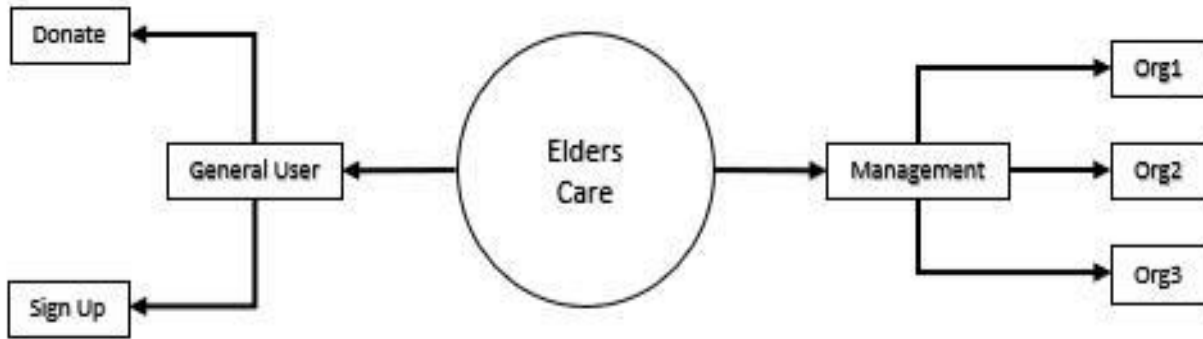


Figure 3.1.2: Diagram of Data Flow Diagram 1

Here the picture of Data Flow Diagram 1 of figure 3.1.2 has been added. A level 1 DFD provides a slightly more detailed breakout of context diagrams. This will break down the high-level process of the diagram and highlight the functions.

DFD 2:

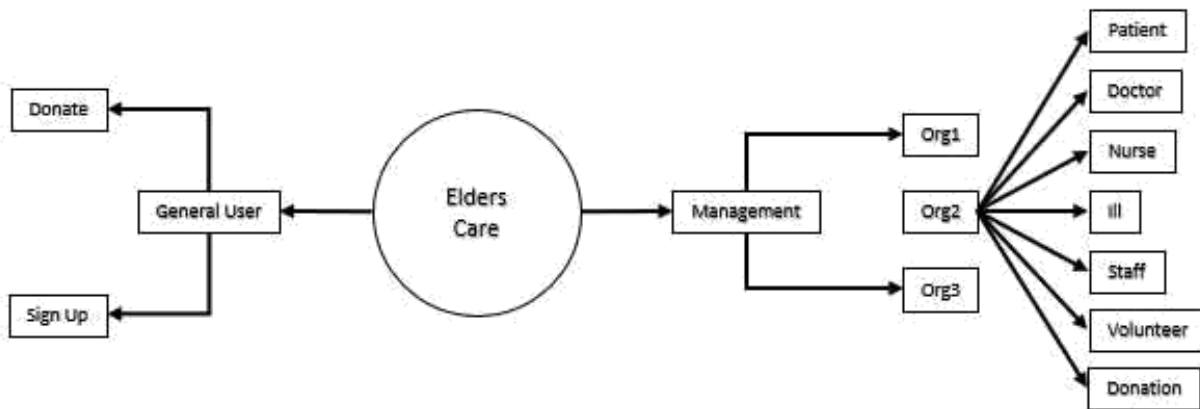


Figure 3.1.2: Diagram of Data Flow Diagram 2

Here the picture of Data Flow Diagram 2 of figure 3.1.2 has been added. Level 2 DFD is one step deeper than level 1 DFD. Here the functioning of the system is given in detail.

3.1.3 Incremental Development Model

Incremental development is a software development process by which the requirements of a software are divided into different parts. In this method a product is sliced into different slices. Each module gradually goes through the features and functions i.e., module requirements, design, implementation and testing phases. Each module goes through the SDLC incremental model.

Increment 1:

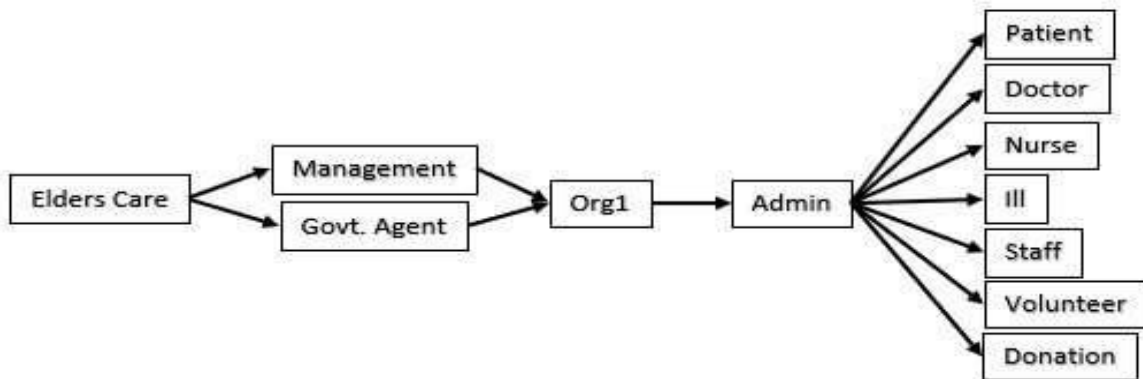


Figure 3.1.3: Diagram of Incremental Model 1

Here the picture of Incremental Model 1 of figure 3.1.3 has been added. After dividing the incremental development model into 3 parts, an organization has been worked here, where only one organization's incremental process has been discussed from all the organizations.

Increment 2:

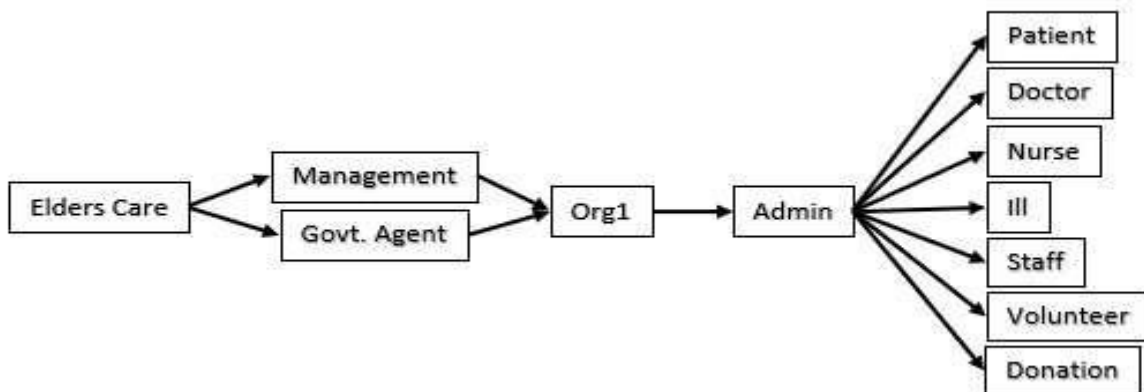


Figure 3.1.3: Diagram of Incremental Model 2

Here the picture of Incremental Model 2 of figure 3.1.3 has been added. Here, the second part of the 3 parts of the incremental development model i.e., the second organization has been worked on, where only the incremental process of the second organization has been discussed from all the organizations.

Increment 3:

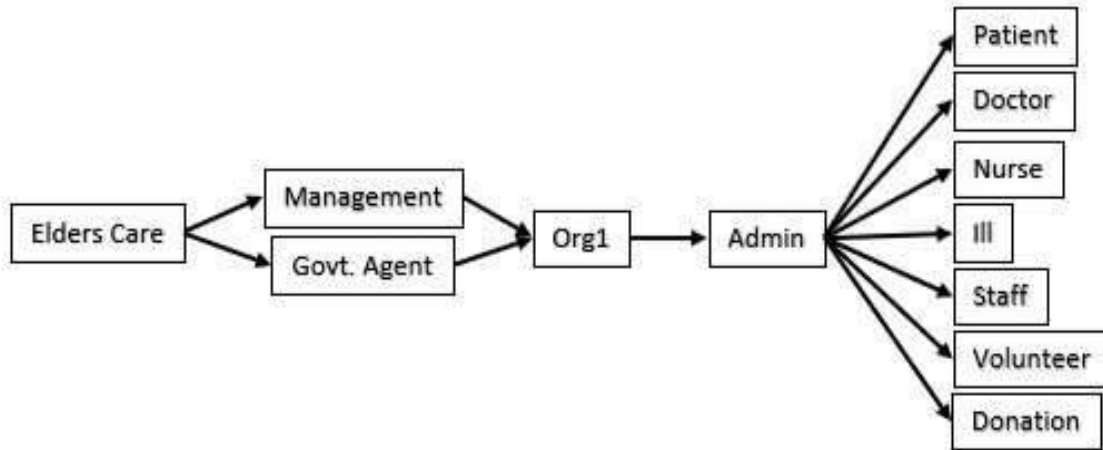


Figure 3.1.3: Diagram of Incremental Model 3

Here the picture of Incremental Model 3 of figure 3.1.3 has been added. And at the end, the last part of the 3 parts of the incremental development model i.e., the third organization has been worked on, where only the third i.e., the last organization's incremental process has been discussed from all the organizations.

3.1.4 Activity Diagram

An activity diagram, like a flowchart or data flow diagram, represents a diagram of a system's activity and flow of control. Activity diagrams are mainly used in business and software companies to measure the progress of various software tasks. Activity diagrams are sometimes referred to as flowcharts.

Here the picture of Activity Diagram for User of figure 3.1.4 has been added. Here is a user's flowchart. A user will login or signup the system, then that user will donate, then logout from the system and finally the system will end.

Users:

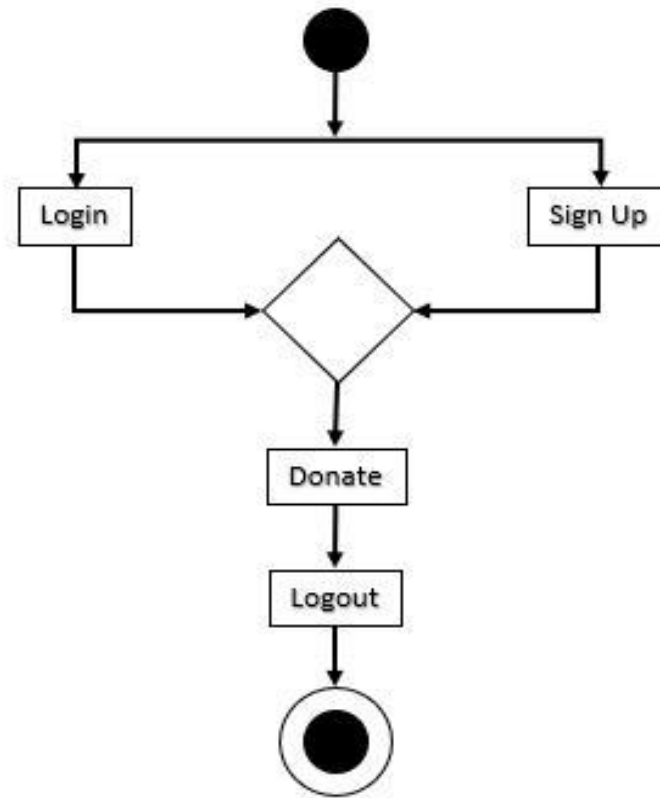


Figure 3.1.4: Diagram of Activity Diagram for Users

Administrator:

Here the picture of Activity Diagram for Administrators of figure 3.1.4 has been added. Here is an administrator's flowchart. An administrator logs into the system, does all the key management, organization runs and sends notifications to all organizations, handles the admins of each organization, then logs out and finally the system is done.

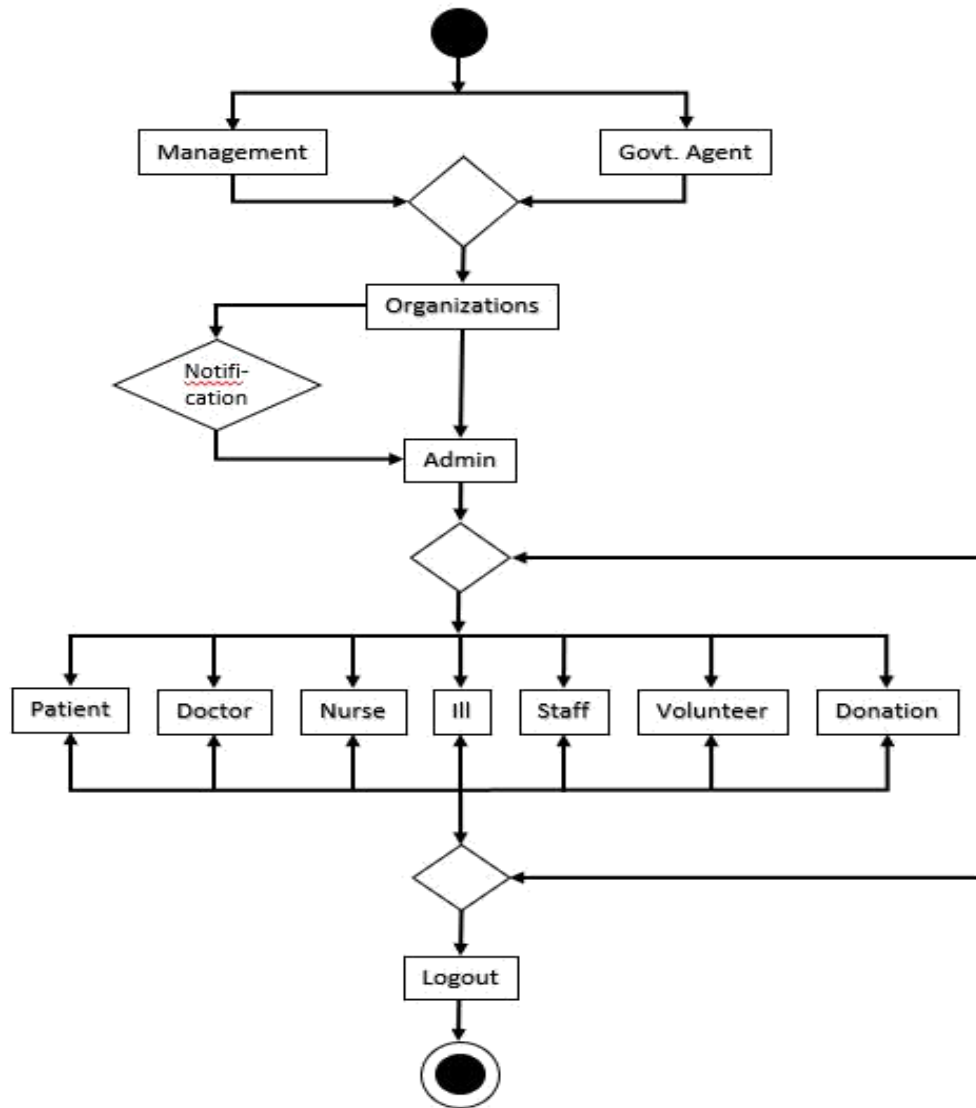


Figure 3.1.4: Diagram of Activity Diagram for Administrators

3.1.5 Sequence Diagram

A sequence diagram shows the order in which messages are passed between one or more objects and also shows the control structure between objects. That is, this diagram describes how objects work together and in what order. Sequence diagrams basically represent the timeline starting from the top and gradually descending down the sequence of connections. These diagrams are commonly used in business organizations or software development organizations to document new system requirements or processes.

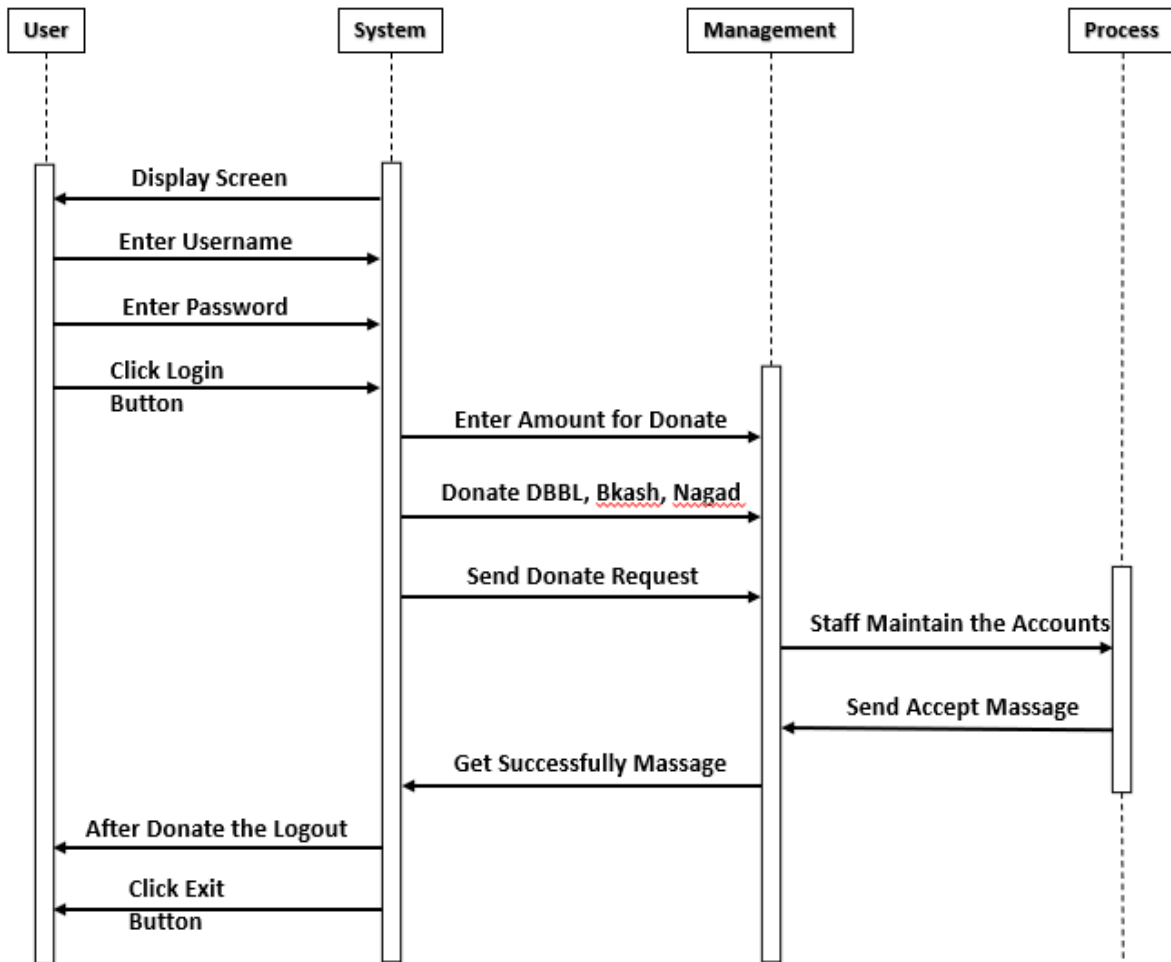


Figure 3.1.5: Diagram of Sequence Diagram

Here the picture of Sequence Diagram of figure 3.1.5 has been added. Here is the flowchart of the sequence diagram. A flowchart has been drawn of how a user enters the system and completes all the activities and exits the system. Here first 4 activities like user, system, management, process have been found out. The flowchart of how a user will come out of the system after completing the activities through system, management, process has been described.

3.2 Requirement Collection and Analysis

To create a project, many things need to be considered. Many things mean how our final output will come, whether customers will use this project properly, whether customers will encounter any bugs while using this project, Whether the management people are able to manage it well, whether

the other organizations or individuals involved in the project can run it properly, whether the other functional issues can work properly, the things that are necessary to run our software. Whether they are sufficient etc.

3.2.1 Hardware Requirements

Hardware requirement is basically the specification of the computer we use to implement our system. Besides, the minimum criteria required for the computer to run the system in Django framework and criteria recommendations have also been given.

MINIMUM:

OS: Windows 7,8,8.1

Processor: I3 latest gen

Memory: 4 GB RAM

Graphics: 4GB GRAPHICS

DirectX: Version 11

Storage: 3 GB available space

RECOMMENDED:

OS: Windows 10

Processor: I5

Memory: 8 GB RAM

Graphics: 6GB or above GRAPHICS

DirectX: Version 12

Storage: 3 GB available space

Apart from the above items, desktop computer, telephone, printer is required. A desktop computer is essential for software management. If a person or organization wants to donate to the old age home, he will have to do it himself, otherwise he or the organization will have to contact the management and send the donation, so telephone is required. Printers are used for various calculations such as how much money has been donated by someone or an organization to an old age home, or any documents such as printing useful reports or extracting anything necessary from online.

3.2.2 Software Requirements

The software requirement is basically the specification of the software that we have used in our project, the description of the language in which the system has been developed, the database of the language and the name of the operating system that the language will run on. A necessary operating system to work on Windows. Operating system is used so that a system can run properly. Here Microsoft Windows XP is used as operating system.

Used for this project:

Framework: Django

Language: Python, Html, CSS, JavaScript

Operating System: windows 11

Web Browser: Chrome

Processor: CoreI3

HDD: 256GB

SSD: 256GB

RAM: 8GB

Database for Django Framework:

Oracle Database:

Operating System: Windows 2000 / NT / XP

Recommended processor: I5

Recommended RAM: 128MB

For FAT file system:

Oracle Home Drive: 861 MB

System drive: 51 MB

For NTFS file system:

Oracle Home Drive: 336 MB

System drive: 51 MB

Web browser (if using manager web site)

Microsoft Internet Explorer 5.0 or higher

Django Framework:

Operating System

Windows 2000 Professional

Windows 2000 Server

Windows XP Professional

Windows NT 4.0

Windows Millennium Edition (I)

Windows 98

3.2.3 Feasibility Analysis

Our system can be implemented as a digitalized web-based software technology. Which will make this digital web-based system economically, technically and operationally viable.

Economic Feasibility:

Our digitalized web-based software system is established with all old age homes. If this project follows the outline of a specific model from the Gantt chart or software development life cycle models, the system can be established very quickly and, in less time, and at less cost.

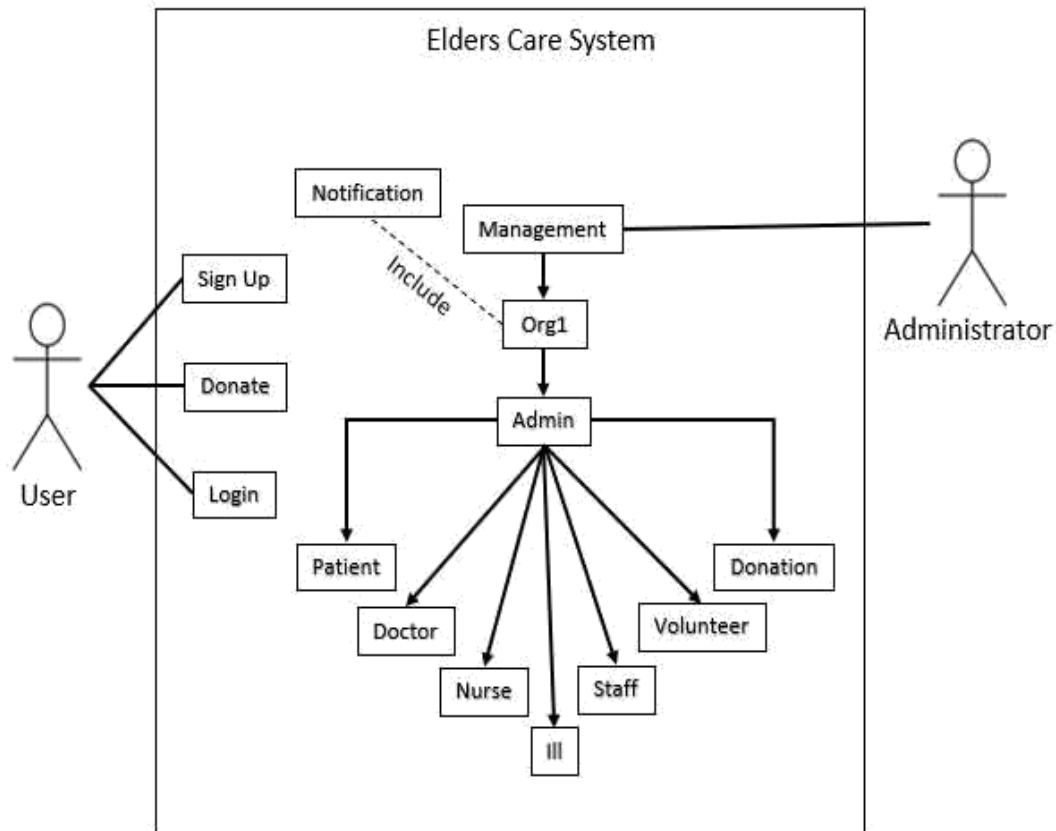
Technical Feasibility:

Our system is fully digitized web-based software, where all old age homes will be established based on digital and online specialized technology. That is, it is technically very convenient.

Operational Feasibility:

As our system is fully digitized web-based software, all old age homes can be communicated digitally and online very easily and beautifully. As a result, any person or organization can donate online at home to any old age home according to their ability. So, it is operational feasible.

3.3 Use Case Diagram and Description



A use-case diagram describes a high-level function and scope. Use-case diagrams draw connections between the system and its actors. That is, the use case diagram basically analyses what the actors do with the system and how the actors use it. Here the picture of Use Case Diagram of figure 3.3 has been added.

Figure 3.3: Diagram of Use Case Diagram

Use case: Notification

Action: Administrator

Type: Secondary and Essential

Pre-condition: None

Post-condition: Org 1

Use case: Admin

Action: Administrator

Type: Secondary and Essential

Pre-condition: Patient, Doctor, Nurse, Ill, Stuff, Volunteer, Donation.

Post-condition: Org 1

Use case: Donate

Action: User

Type: Primary and Essential

Pre-condition: None

Post-condition: User

3.4 Logical Data Model

A logic model could be a realistic outline of the relationship between a program's assets, activities, and its expecting impacts. Logic models clearly and concisely appear how intercessions influence behaviour and accomplish a goal. On the opposite, logical data model could be a demonstrate that's not particular to a database that describes things approximately which an organization needs to gather data, and the connections among these things. The three primary data model types are relational, dimensional, and entity-relationship (E-R). There are moreover a few others that are not in common use, counting hierarchical, network, object-oriented, and multi-value. Logical data modelling too functions to detail the attributes related with a data component. For case, a logical data model would indicate the nature of a data component, i.e., account name (string), account number (integer).

3.5 Design Requirement

After completing the diagram part of our website, the design part will move. There we will discuss frontend design and backend design as well as visual images. And in the diagram above we discuss about Business Process Modelling, Incremental Development Model, Data Flow Diagram, Use Case Diagram and Description, Activity Diagram, Sequence Diagram as well as the diagram is shown through visual flow.

CHAPTER 4

DESIGN SPECIFICATION

4.1 Front-end Design

The front end of a website is what users see or interact with when they visit a website. The front end of the website is responsible for the total look and feel of an online experience. Because as the saying goes, "First impression is the best impression" or "First impression least long". So, if the frontend design is good looking, then a user's first look at the website will have a positive effect on it. Frontend design involves many programming languages for creating the HTML, CSS, and presentational JavaScript code that makes up a user interface design for website. Here the picture of Front-end Design of Elders Care Welcome Page of figure 4.1 has been added.

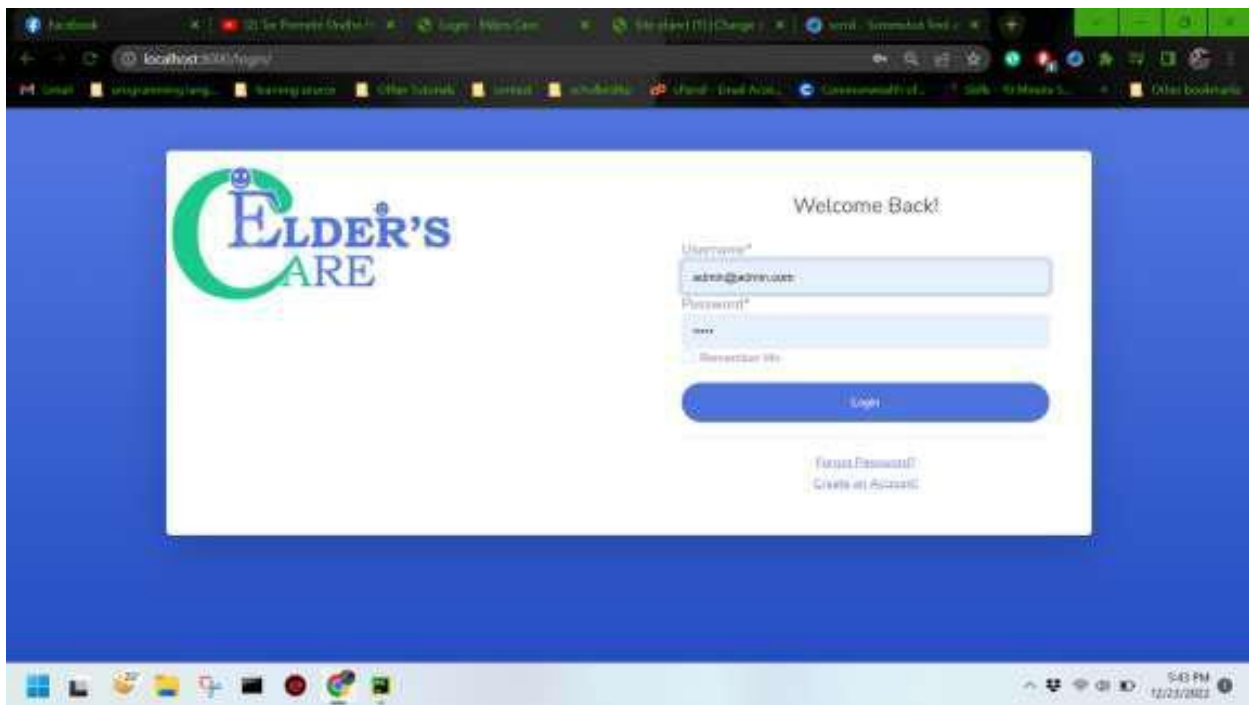


Figure 4.1: Front-end Design of Elders Care Welcome Page

This is the frontend design of the login page of our developed system. For the frontend design of this webpage, we have used HTML, CSS and presentational JavaScript programming languages to design the user interface.

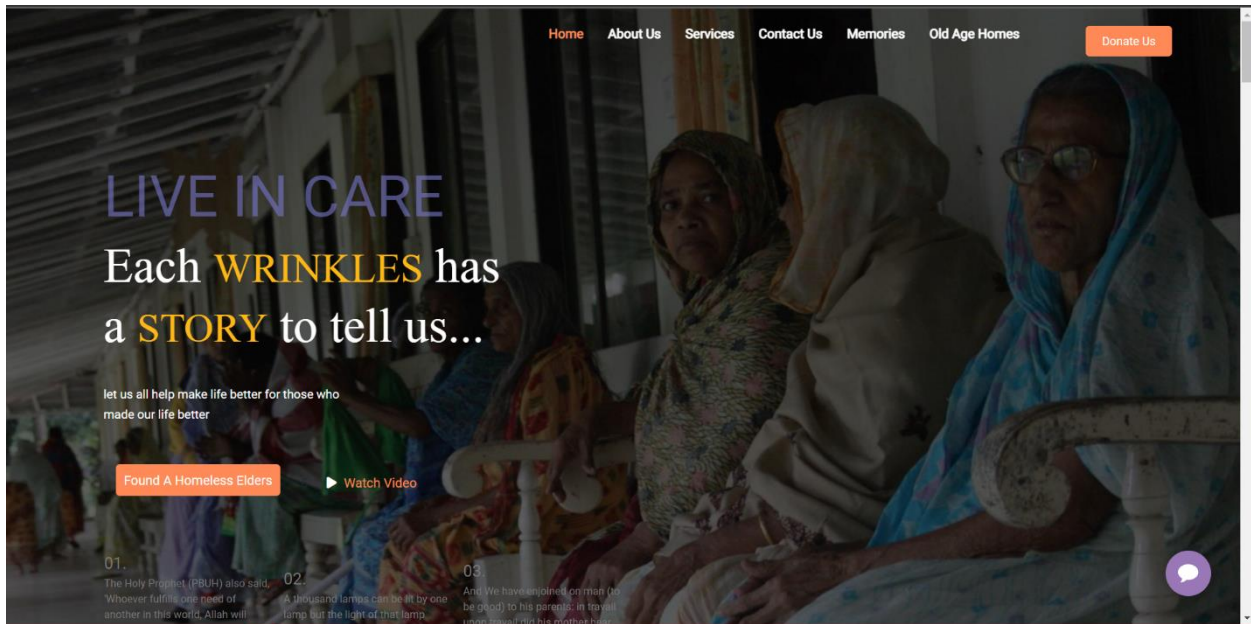


Figure 4.1.1 Front-end Design of Elders Care Website

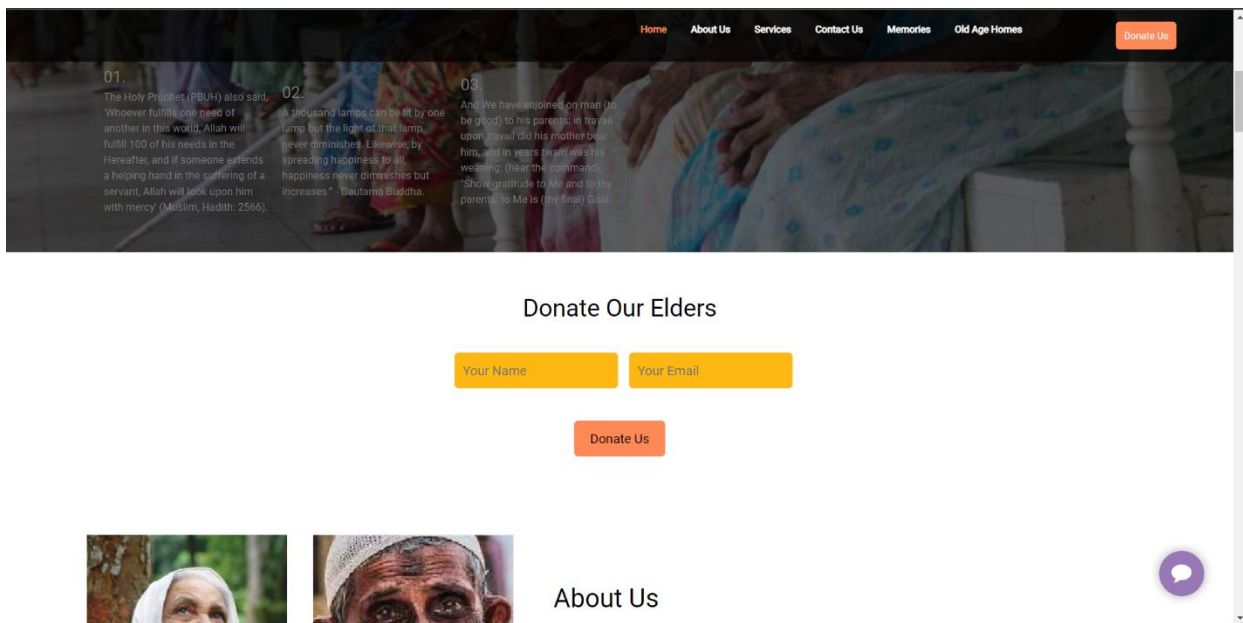


Figure 4.1.1: Front-end Design of Elders Care Website

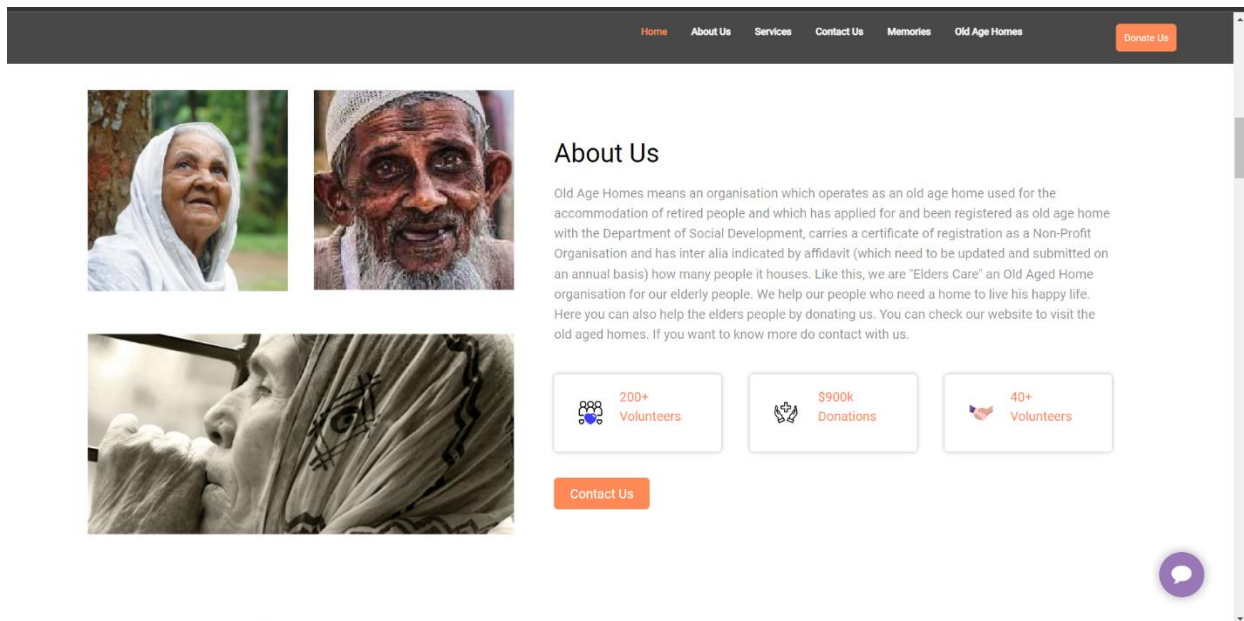


Figure 4.1.2: Front-end Design of Elders Care Website

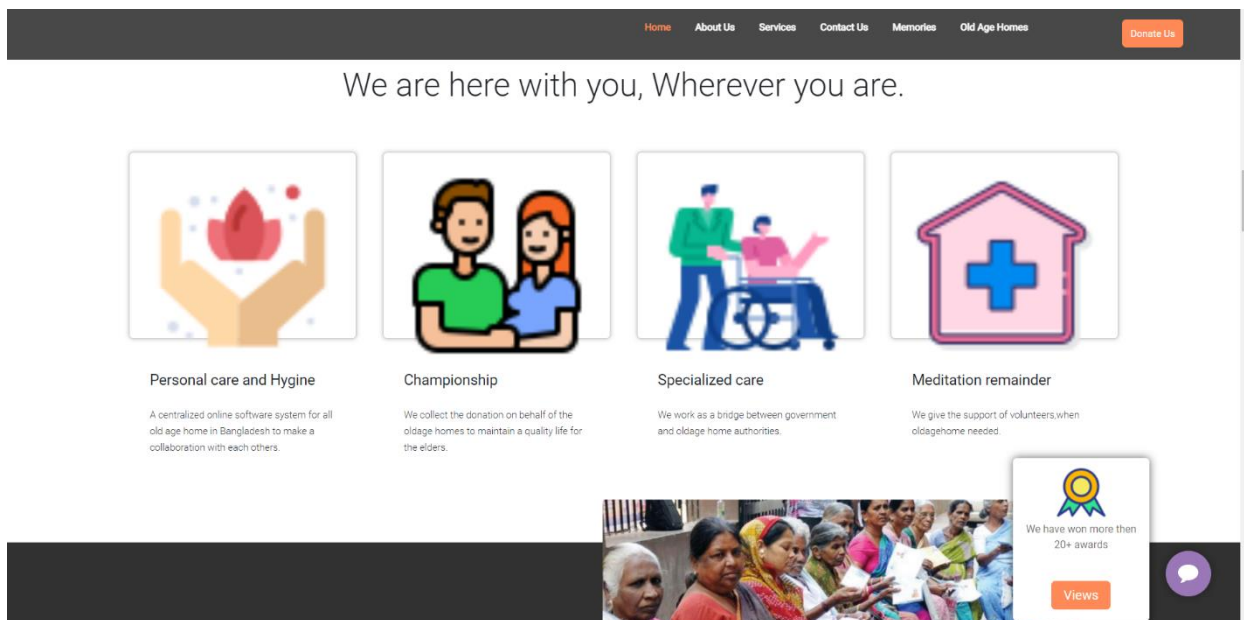


Figure 4.1.2: Front-end Design of Elders Care Website

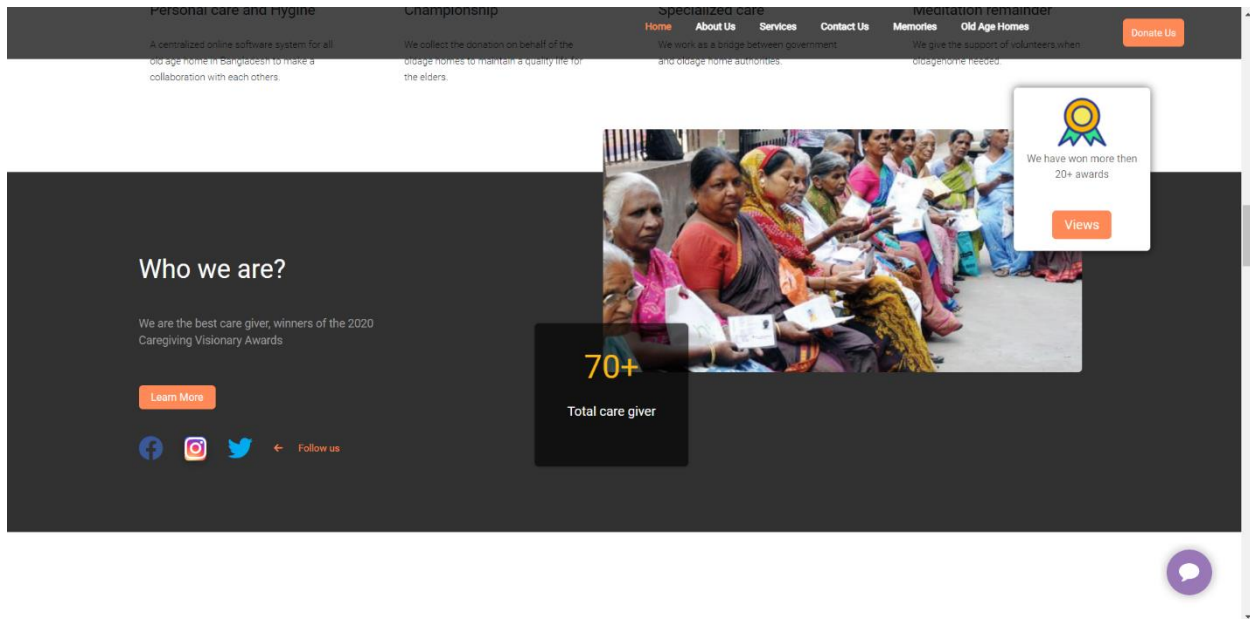


Figure 4.1.3: Front-end Design of Elders Care Website

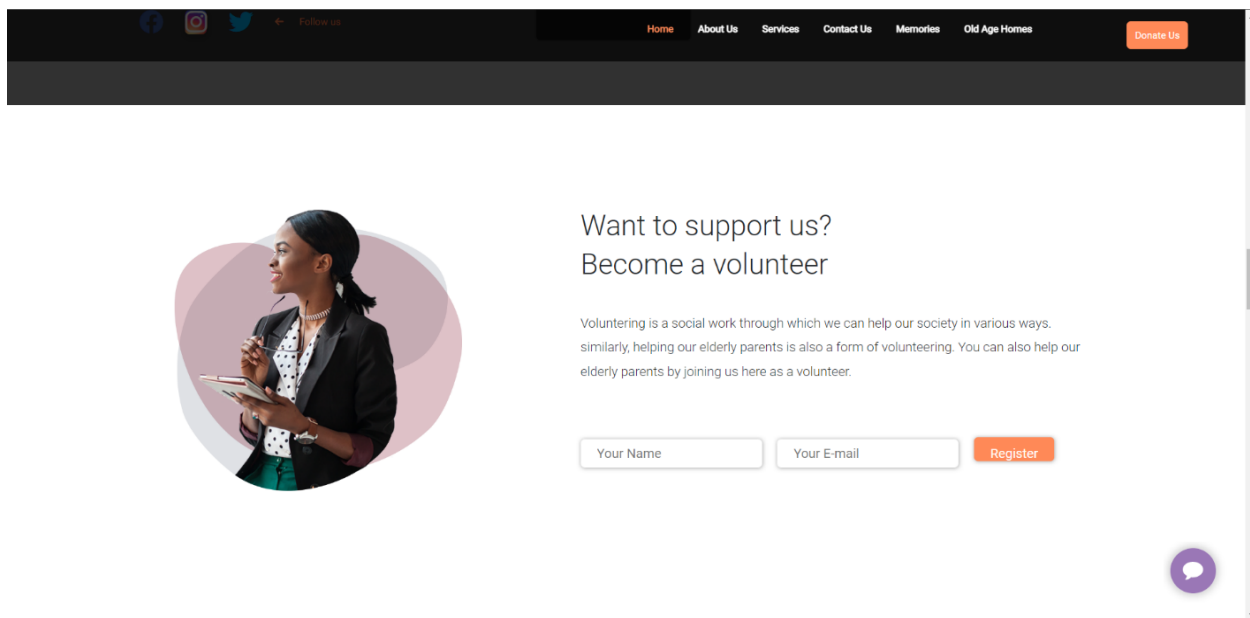


Figure 4.1.3: Front-end Design of Elders Care Website

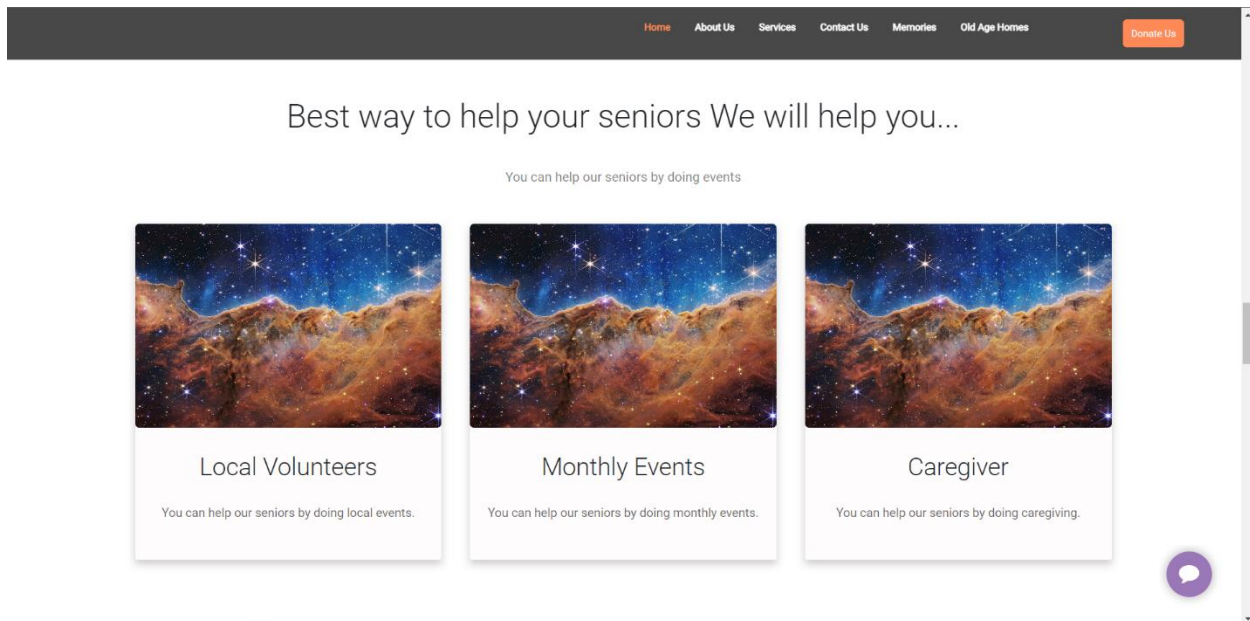


Figure 4.1.4: Front-end Design of Elders Care Website

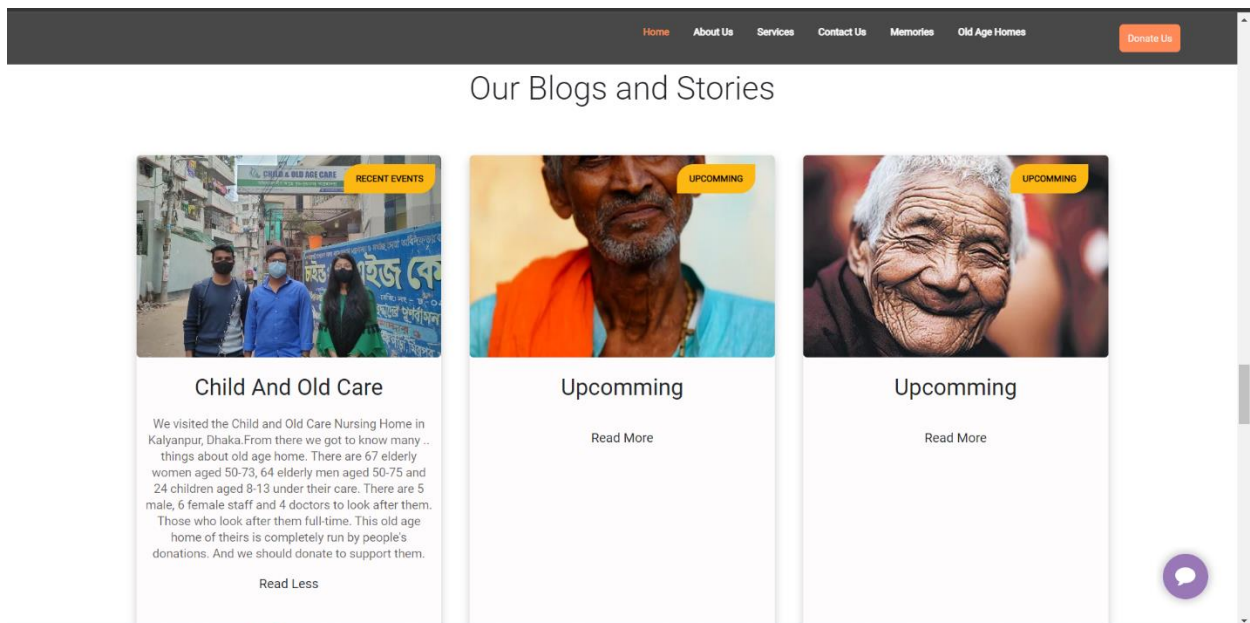


Figure 4.1.4: Front-end Design of Elders Care Website

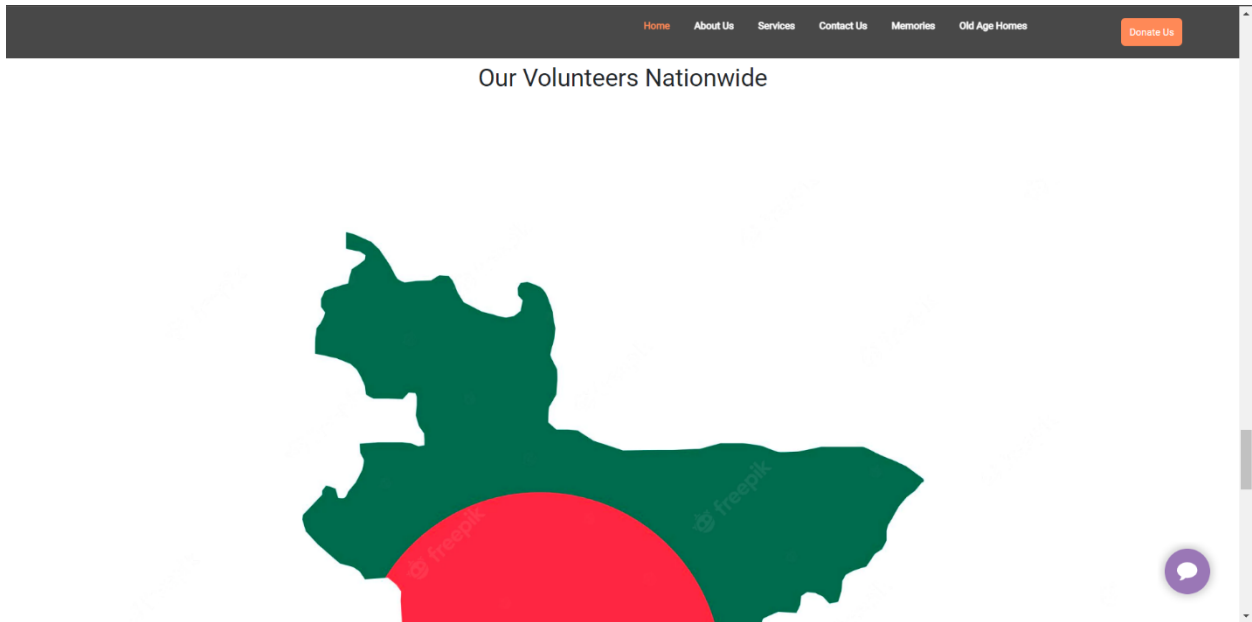


Figure 4.1.5: Front-end Design of Elders Care Website

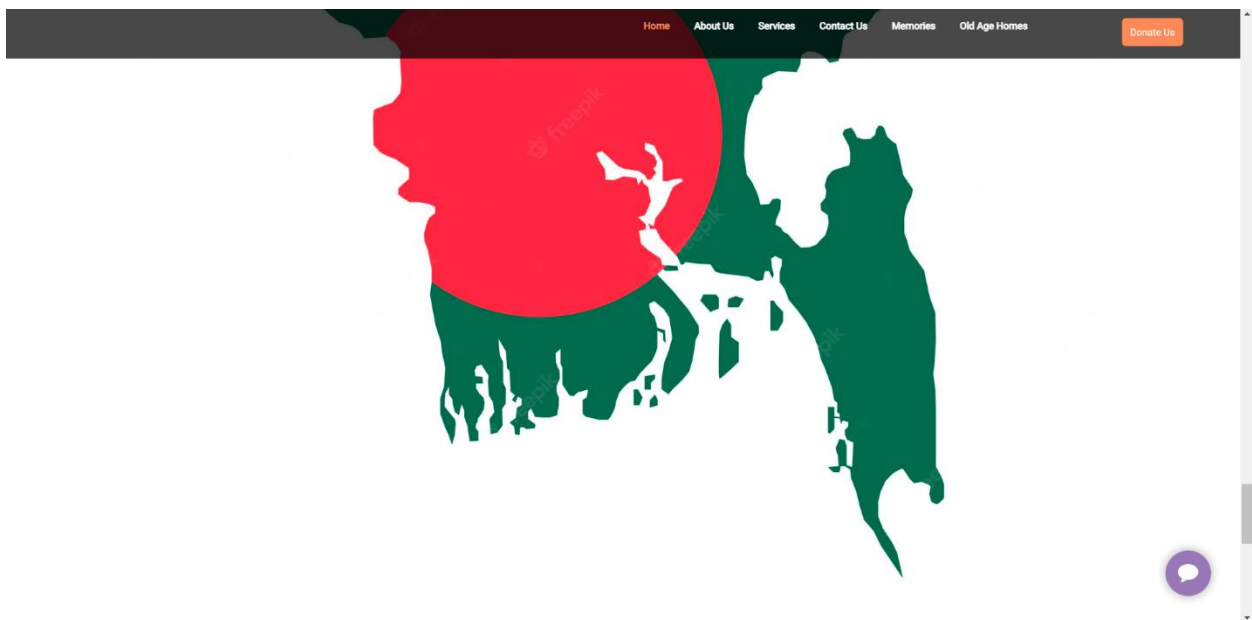


Figure 4.1.5: Front-end Design of Elders Care Website

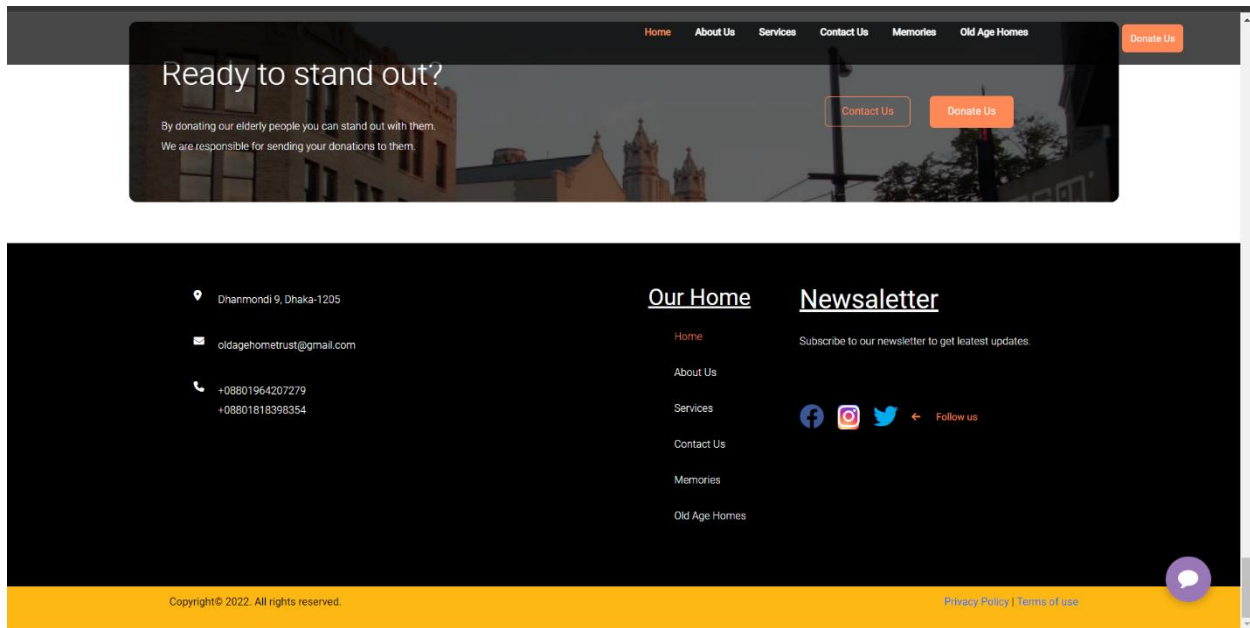


Figure 4.1.6: Front-end Design of Elders Care Website

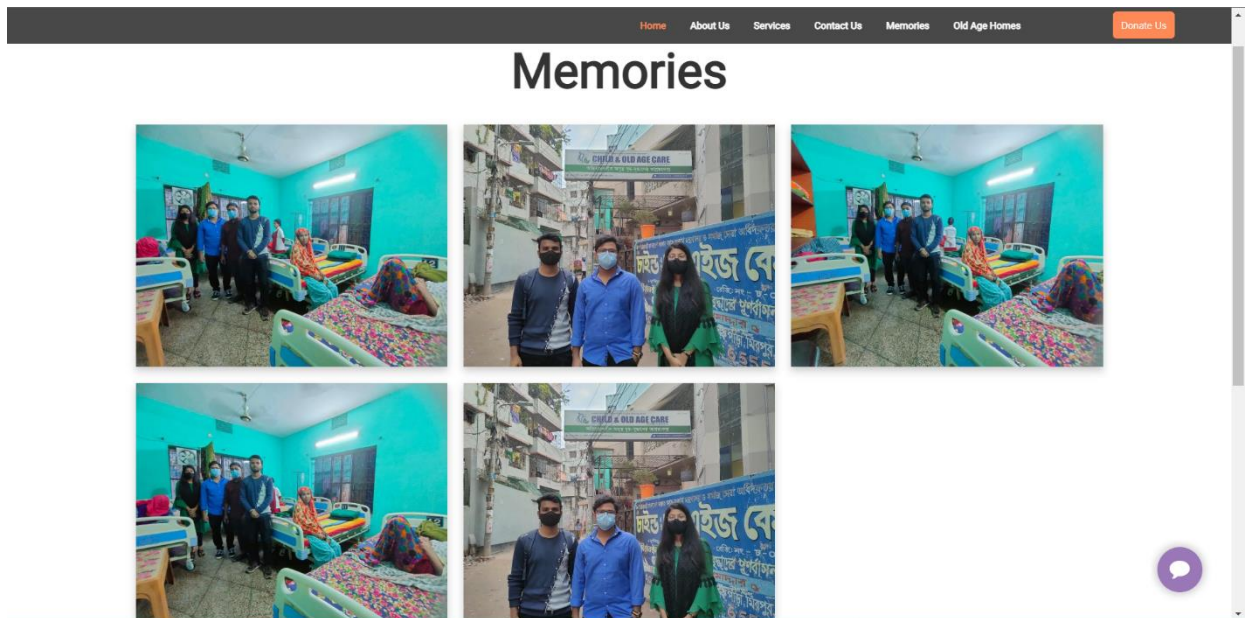


Figure 4.1.6: Front-end Design of Elders Care Website

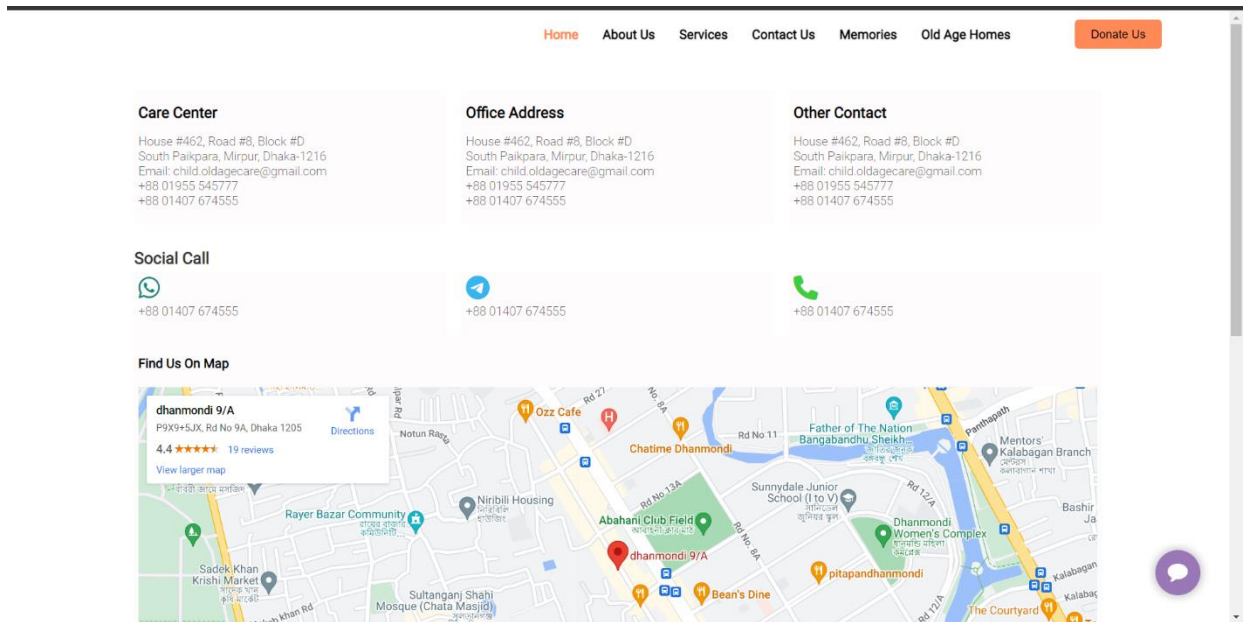


Figure 4.1.7: Front-end Design of Elders Care Website

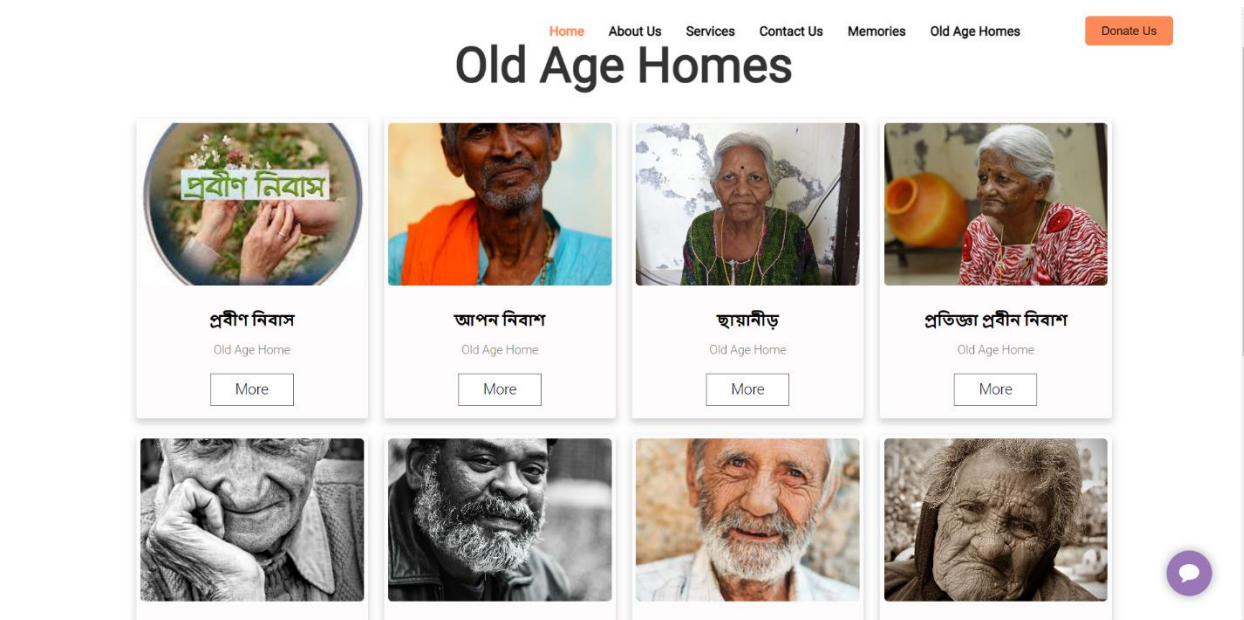


Figure 4.1.7: Front-end Design of Elders Care Website

4.2 Back-end Design

A Workflow is a sequence of tasks that processes a set of data. Workflows occur across every kind of business and industry. Anytime data is passed between humans and/or systems, a workflow is created. Workflows are the paths that describe how something goes from being undone to done, or raw to process.

4.2.1 Login page workflow

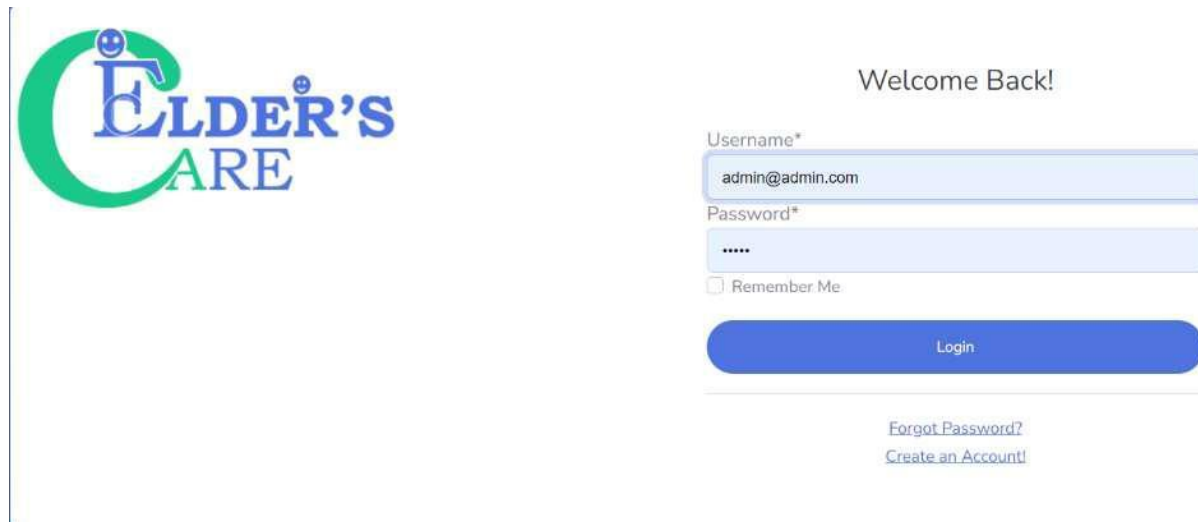


Figure 4.2.1: Login Page Workflow of Elders Care

Here the picture of Login Page Workflow of Elders Care of figure 4.2.1 has been added. This is first login page. When someone shoots the URL, he will be forwarded to this page. So here, there will be 4 types of home pages through the login. Default is the visitor page. Other 3 options will be Admin, Authority and User. On these three home pages client's needs to have a user Id and password to get into the page. These user id and password will be provided from the authority section only.

4.2.2 Visitor page nav workflow

Here the picture of Visitor Home Page Workflow of Elders Care of figure 4.2.2 has been added. Each navigation menu is linked with each other except the contribute menu. When someone hits the contribute menu, he will be redirected to the payment gateway interface. Where he/she can

donate some to the organization or return to the home page. As this is the navigation bar that will be presented in each visitor page, so every navigation will be interlinked.

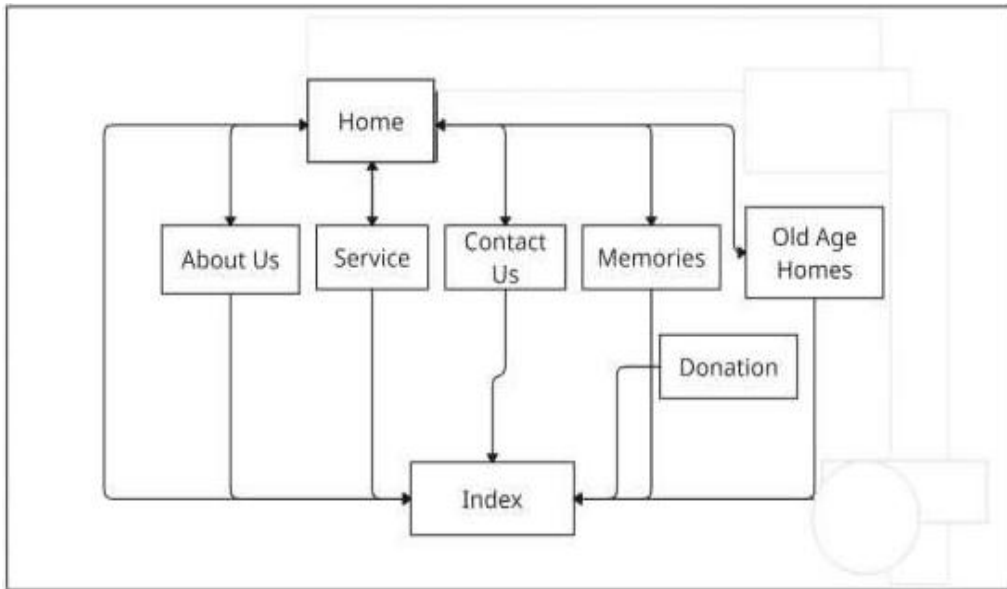


Figure 4.2.2: Visitor Home Page Workflow of Elders Care

4.2.3 User Interface nav workflow

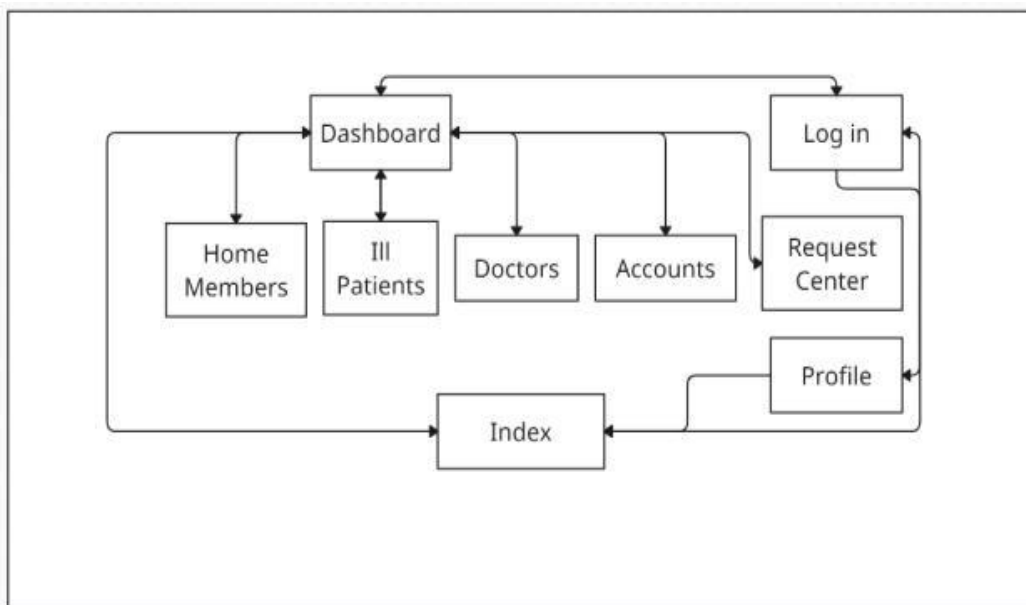


Figure 4.2.3: User Interface Nav Workflow of Elders Care

Here the picture of User Interface Nav Workflow of Elders Care of figure 4.2.3 has been added. When entering the user interface, the profile will appear first. Then from the profile, a user can go to this page Diagnostics, Form, Medication, Form, Medication List, Routine, Table, Prohibitive, List, Visited Record, Table. All the pages are again connected with Index.html. Home, About, Logo, Achievement, Contribute, Payment gateway, contact us pages are connected with Index.html. Which a user can see when he enters the site.

4.2.4 Authority nav workflow

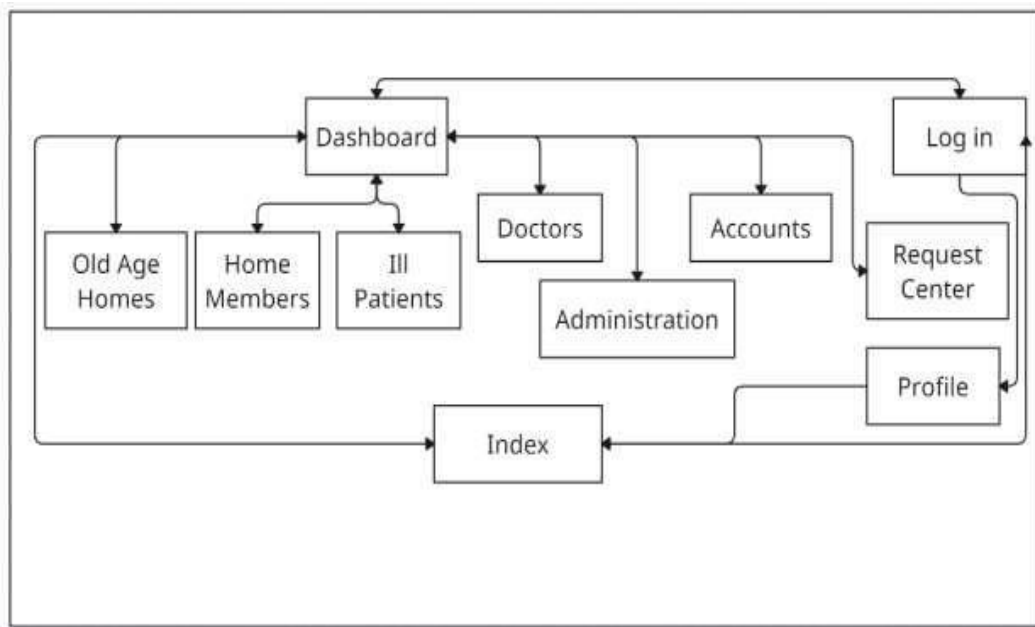


Figure 4.2.4: Authority Nav Workflow of Elders Care

Here the picture of Authority Nav Workflow of Elders Care of figure 4.2.4 has been added. An authority can observe and control the entire system. By logging in and reading Docker on the home page, the authority will be directly connected to his profile as well as visitors, galleries, files and can edit everything.

4.3 Interaction Design and User Experience (UX)

User experience design is when a developer uses the entire experience to interact with a new product. That is, transforming the developer's experience interacting with a new product. And interaction design is the developer instant using a product so that the developer has a pleasant experience. Simply put, UX design encompasses interaction design. Interaction designers focus on

the moment when a user interacts with a product and aim to improve the interactive experience. That is, interaction design and user experience are not synonymous.

4.4 Implementation Requirements

After completing the design part of our website, the implementation part will start. There we will discuss what things will be needed to create a website, what equipment will be needed, which language will be used for frontend, which language will be needed for backend, which framework will be used, which database will be used. After the implementation comes the testing part. Which browser is used to complete the testing part and the testing report that is discussed.

4.5 Output

Here some picture of Front-end Design of Elders Care Dashboard of figure 4.5 has been added. Here is the output of our entire system. The output shows the frontend design of the system.

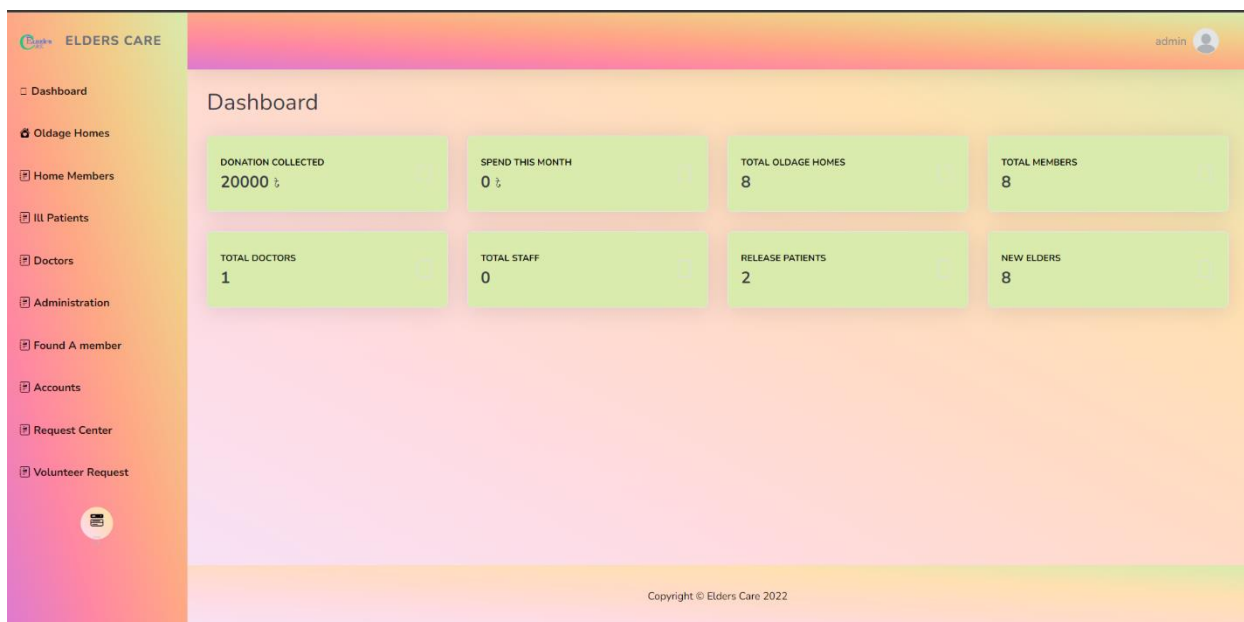


Figure 4.5: Front-end Design of Elders Care Dashboard

Here is the admin dashboard panel. An admin can handle the whole system. He/She can operate every system. He/She can add Doctor, Staff, Manager, Patients.

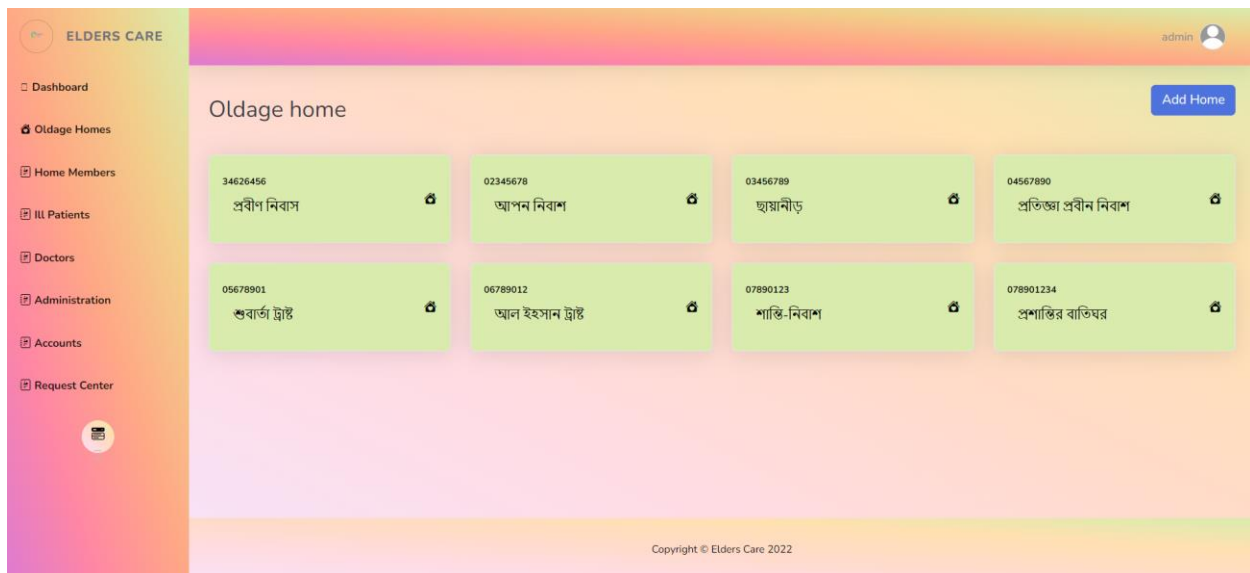


Figure 4.5.1: Front-end Design of Elders Care Dashboard

Here is all old age homes dashboard. Admin can operate this.



Figure 4.5.2: Front-end Design of Elders Care Dashboard

Here is the manager dashboard. A manager can operate only one old age home which was allocated by the admin for him/her.

CHAPTER 5

IMPLEMENTATION AND TESTING

5.1 Implementation of Database

We used Django framework in backend and along with Django framework we used Oracle database. Windows 2000, NT, XP have been used as Operating System. Also, I3 and I5 are used as recommended processors. 128MB is taken as Recommended RAM. Oracle's Home Drive used for FAT file system is 861 MB, System drive is 51 MB. Oracle Home Drive used for NTFS file system is 336 MB, System drive is 51 MB and Chrome browser, Microsoft Internet Explorer and Mozilla Firefox are used as web browsers.

5.2 Implementation of Front-end Design

In software implementation we use different programming languages for frontend and backend design. We have used HTML, CSS, Bootstrap language for frontend implementation and Python and JavaScript language for backend implementation. We have used Django framework for the entire website. And as Operating System we can use Windows 2000 Professional, Windows 2000 Server, Windows 2000 Advanced Server, Windows XP Home Edition, Windows XP Professional etc.

5.2.1 Procedures

Before we started working on this project, we had to do a lot of analysis on this idea. After many types of analysis, we have done feasibility analysis to see if this idea can survive in future and what problems or complications will be faced in order to survive. After passing the feasibility analysis we designed the prototype. After prototype design we direct idea implementation. First, we use HTML, CSS, Bootstrap language to implement the frontend design part. After the frontend part is complete, we implement the backend design part. We use Python and JavaScript languages to implement the backend design part. Also, we chose Django as framework. Then after the frontend and backend are complete, we connect the system to the database. Here we have used Oracle database. After the database connect our initialization is done. Then after all the initial work comes the testing phase, where the initial work is tested and passes the testing successfully.

5.2.2 Detailed System Description

Elders Care is a web-based software that works like an organization. All nursing homes will be connected here under a software. Here 4 supports will be given to the old age homes from the organization or website. Namely, the organization will be centrally managed through software, any organization or person can donate to any old age home as per their wish, all the support received from the government will be given to all the old age homes through the organization and the old age homes will be given to the organization. It will be arranged for unnecessary volunteers. Some things are directly related to these supports. For example: Donor, General User, Accounts Section, Patient and Manager. The function of each is analysed below.

Doner:

The customer or donor can be an individual or an organization. If any person or organization wants to send donation to any old age home then that person or organization can donate to the old age home through our system or organization according to their ability. Basically, we have introduced this system to make it easier for them to donate, so that organizations or individuals can send donations through our system online without visiting the old age home directly.

General User:

This system will also have general users. So that users can understand how our system or organization works. General users can also send money to the fund of the organization, from where all the money can be donated by the management committee of the organization to various old age homes.

Accounts Section:

Accounts Section is a very important part of our system. The cashier will always monitor whether any organization has donated money to the organization, whether any organization has donated money to any old age home, any general user has donated money to the organization's fund. Accounts Section will be aware of all stages of cash transactions.

Patient:

The Patient are the elders of the old age homes under our organization. The system will provide information about the physical condition of the members and the physical condition of the patients

of each nursing home separately, it will be updated regularly or after a certain period. The system is basically working for the members, how they can lead a good life, so it is important to be aware of the patient's physical condition.

Management:

Management committee is the core part of an organization or system, through which an organization is controlled. All the matters shown above such as: donor, general user, accounts section, patient, all these matters will be controlled by the management committee. So here the most important and more responsibility is the management committee.

5.3 Testing Implementation

After all our work like many types of analysis, feasibility analysis, prototype design for idea implementation, HTML CSS Bootstrap language to implement the frontend design, Python and JavaScript languages to implement the backend design etc. work is completed comes the testing stage. In the testing phase we basically run our entire code to see if it works properly, without any errors. If any error or bug is found then we will catch that bug in testing phase. And then he should troubleshoot the bug and rerun to see if the code runs properly. We can see this testing basically in different browsers of the internet like Chrome browser, Microsoft Internet Explorer and Mozilla Firefox etc.

5.4 Test Results and Reports

After testing our website, we did not find any bugs and the entire code of the website ran properly. As a result, no bugs or errors came in our testing results. Our report is prepared based on the testing results, there is no unnecessary stuff in our report i.e., the report is written maintaining professionalism.

CHAPTER 6

IMPACT ON SOCIETY, ENVIRONMENT AND SUSTAINABILITY

6.1 Impact on Society

Our system or organization basically consists of many nursing homes. The old age homes that will be under our organization will be provided through private donations and donations from the public sector. As a result, the nursing homes under the organization will be much updated and move forward. Besides, there will be a good impact on the old age homes socially. The social impact on our organization is analysed below:

- i. The old age homes that will be under our organization or system will be built in very good quality, so no one can make bad comments about it.
- ii. All old age homes under our organization will be managed in such a way that all the old age homes have a fill of capacity. As a result, a positive aspect about our organization will emerge in the society.
- iii. Elderly people do not have to worry about their family members if they have an old age home under our organization. That is, family members can send their old people to our under-age-old age home and they can live in peace.
- iv. Besides sending donations to our organization, donors will feel a positive aspect that through this organization donations are going to all old age homes under the organization.
- v. Donors can raise it higher in society by donating specifically to old age homes according to their wishes and capabilities.
- vi. Donors will donate more by seeing the work process and progress on the website. The society will gain a better understanding of old age homes.
- vii. General users will also be willing to donate by seeing the work process and progress on the website.
- viii. People from all walks of life can donate as there are online payment options. As a result, a good aspect will emerge about us from all sections of the society.
- ix. If the people of the society want to know anything about money transactions, it can be shown with proper documents. As a result, people in the society will have more faith in our organization.

- x. If any nursing home in the country needs workers, they will be provided from our organization. As a result, our organization will be promoted and expanded.
- xi. The volunteers of our organization will help not only in the nursing home, but in all the developmental works of the society and in various aspects. This will create a good impression of our organization in the society.

6.2 Impact on Environment

Our system or organization consists of many nursing homes. The old age homes that will be under our organization will be provided through private donations and donations from the public sector. As a result, many developmental works can be done in the old age homes under the organization. The environment around the old age homes can be decorated beautifully with the donation money. In this beautiful environment, old people can spend their last years gracefully with laughter and play. That is, the good aspects of our organization will have an impact on the society, as well as on the environment.

6.3 Ethical Aspects

Our organization will be ethically honest. Donations will continue to come to our organization regularly, in which case money matters should be handled ethically. So that people outside the organization cannot make any bad comments. Because for some reason, if the fingers are raised towards ethics against our organization, then a very bad impression will be created. So we have to be more careful in terms of ethics and we ourselves have to ethically deliver the organization's donations to the appropriate old age homes.

6.4 Sustainability Plan

As our organization plan is nationwide, we need to have a specific planning. Before starting our organization, we have to prepare a certain plane and accordingly we have to move forward and carry out all the activities. According to the specific planning, all old age homes in the country should be brought under a platform, then all old age homes should be provided with all kinds of donations, whether private, institutional or government. Then planning how to take good care of the old people along with the developmental work of the old age home with the donation money should also be done.

CHAPTER 7

CONCLUSION AND FUTURE SCOPE

7.1 Discussion and Conclusion

The final result of this project is to move the system forward through the few supports that our organization can get through the system. Delivery of donations to all old age homes in our online based donation system. Then the donations that come from the government to the nursing home should be delivered to the nursing home. Recruiting volunteers in old age homes if volunteers are needed. Finally, all the old age homes and all activities of each old age home are monitored through central management software. Also, to ensure that all donors and common users can use the software properly. Ethical accounting of all online and offline donation transactions in the account section. Last and foremost is to ensure proper care and medical care for the elderly.

Hence the idea of building the system with many old age homes was finally implemented. We have developed a system that will be able to manage and represent every information in the nursing home. We have tried to cover contact information, status updates, donation system, health profile and an account management section of the organization. The output of this system is to allow donors to donate online through our organization, take government grants to the doorsteps of old age homes, recruit volunteers to various old age homes, ensure the well-being of the elderly and ensure all types of medical care, and all through the end system. Centrally monitored. So, this system will be beneficial for all old age homes and will contribute to great progress.

7.2 Scope for Further Development

In future we will try to extend this system more. Initially the amount of aging that will be under our system or organization will increase with the passage of time and will create more pressure on the server. That's why the server needs to be improved in the future. At present, our system will work within Bangladesh but at some point, we will try to extend this system internationally to work with other countries and try to bring donations from various UN agencies. As many features as our system currently has, new features will be added in the future.

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Final Test

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3	Submitted to University of Liberal Arts Bangladesh Student Paper	1 %
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