INDEPENDENT UNIVERSITY, BANGLADESH

Designing and developing a website for a voluntary organization

An undergraduate internship report submitted by

Name: Nure Saba (Student Id:1722250)

In consideration of the partial fulfillment of the requirements for the degree of

BACHELOR OF SCIENCE

in

Computer Engineering

Department of Computer Science and Engineering

Summer 2020

Designing and developing a website for a voluntary organization

An undergraduate internship report submitted by

Name: Nure Saba (Student Id:1722250)

has been approved on --/--/--.

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Md. Fahad Monir
Internship Supervisor & Lecturer

Department of Computer Science and Engineering
School of Engineering, Technology and Sciences
Independent University, Bangladesh

ACKNOWLEDGEMENTS

Letter of Transmittal

Date: 18th January 2021

Md. Fahad Monir

Internship supervisor and lecturer,

Department of Computer Science and Engineering,

Independent University, Bangladesh

Subject: Submission of Internship Report titled "Designing and developing a website for a voluntary organization"

Dear Sir,

I am pleased to inform you that I have completed this internship report on "Designing and developing a website for a voluntary organization". This have been a great pleasure for me to complete this work and be able to present you this report. For completion of this work, I have collected essential data using both primary and secondary sources. I have learnt a lot of new and unique issues of management information system and IT while preparing this report. It was a challenging experience for me to prepare a theoretical as well as practical knowledge based coordinated report based on my works and studies. I tried my best to use the guidelines and counseling provided by you to make this report as informative as possible.

I express my heartiest gratitude for providing me the opportunity to complete this report on my internship. I would be greatly obliged if you call me for any explanation or any query about the report as and when deemed necessary.

Sincerely Yours,

Nure Saba

Id:1722250

School of Computer Science Engineering

Independent University, Bangladesh

Evaluation Committee

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Signature

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Name ....

Supervisor

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Signature

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Name ....

Internal Examiner

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Signature

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Name

Kazi Zahidul Alam

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External Examiner

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Signature

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Name

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Convener

ABSTRACT

This report discusses my experience as an Intern at StarHOST from July 01, 2020 to September 30, 2020.At beginning of my intern my responsibility was to write Technical Proposal and analyze the requirements of the clients as well as to make presentation for clients. After one month, they reviewed my performance and gave me opportunity to work under their web development team. They were making a website for "Arpon foundation". I was fortunate enough to actively work on the project. This report describes all the processes from planning requirement analysis, development, physical and logical designs etc. which are required to design an up to date website. A well-organized website is a vital requirement for a company. Being a voluntary organization, Arpon foundation realized their need of a responsive website a while back when they expanded overseas. A donation portal was incorporated in the website as well as the home page was designed as such it could be used as a promotion portal to showcase their projects. StarHOST IT company mainly uses WordPress to develop websites, they make use of HTML and CSS when required. The website I worked on was built in WordPress. As for COVID 19 situation, most of my intern days I had to work from home. On the problems and solutions chapter I discuss about the problems in details. On first and second chapter I discuss about the company and about the work environment as well as my report details. On chapter 3 and 4 I discuss about the methodology and design of the website. On the later part of the report I discuss about the outcomes, problems and solutions during the internship period. Lastly I discuss about future developments and improvement scopes for this website.

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CHAPTER 01

1.1 BACKGROUND

Internships are formal programs designed to provide practical experience in real world environment to students who are new to field. Internships help to build competent resume by giving students visible work experience Although colleges and universities assists students in finding the right Internship programs, it is the responsibility of the would-be interns to carefully examine internship programs, and see if those programs actually offer the training they need.

There is no standardized duration for how long an Internship program lasts but typically an Internship is the period of three to twelve months. During this period interns have the opportunity to explore their field of interest, find out what future they are diving and whether or not their skill sets match their path of career.

Internship program provides a distinct platform to interns to build a solid foundation to their career, understand the workplace culture, gain vital work related experience, develop relevant skills, and also presents the opportunity to find permanent employment in the host company.

Some of the major benefits of Internship program to students include:

- Students can learn about the workplace culture and gain much needed work experience.

- Student can finally experience practical implementation of things they have been learning in the classroom

- Students can build a strong foundation that will bolster their career

- Good performance in the internship program can secure permanent employment with the host company

- Some internship programs are paid programs meaning students can earn money while they get necessary exposure.

1.2 PURPOSE OF INTERNSHIP

Internship program provides a new perspective to the students. It provides learning opportunities outside the boundaries of the course curriculum and classroom activities. These opportunities enhance student's capability to apply theoretical understanding into real-world scenarios, thereby enhancing the students' academic and career goals.

From the student perspective, internship assists with career development in different diverse fields such as coding, programming, networking, marketing, etc. by providing vital work experience that allows students to explore their area of interests and develop relevant skills and competencies.

From the organization perspective, internship provides a unique opportunity to train fresh talents, enhance their professional development as well as aid the professional growth of the intern mentors/supervisor. Organization can also find potential employees within the interns.

1.3 OBJECTIVE OF INTERNSHIP

The major objectives of internships are:

- To expose students to a particular job and a profession or industry

- To provide students with opportunity to develop skills in the field of interest

- To assist students in gaining vital work related experience and building strong resume for bright career

- To help students in developing business contacts i.e. creating network contacts

- To help students potentially land permanent or contractual jobs from host company

1.4 OBJECTIVES OF THE REPORT

This report has been prepared as a requirement of the internship program of the BACHELOR OF SCIENCE in Computer Engineering Department of Computer Science and Engineering. The report will definitely enrich the knowledge of the students from upcoming batches regarding the workplace environment. Using that knowledge, they may prepare themselves appropriately for their future internships. In addition to that, the report is intended to reflect my achievements,

project works and professional growth during the intern period. Besides, anybody looking for a short detail about StarHost IT Ltd. may find this report useful.

The report is designed to meet specific goals. Its goal is to –

1. The introduction of the organization, including the standard following here

2. Leading products of the organization

3. Description about the team where I work

4. A detailed description of responsibilities

5. As an intern achievement, focusing on non-academic achievements.

6. To know about the problems faced in the software industry

7. To know how these problems are solved

8. To know the coding style and conventions of the industry

9. To go through the development cycle and model

10. Working with documentation and customization

11. Understanding software maintenance

1.5 SCOPE OF THE REPORT

This report is made only for academic purpose and to fulfill the requirement for industrial attachment. This report has covered the direct and indirect aspects of software industry and their challenges. This report gives an insight of the experience that I achieved from my workplace. A brief description of StarHost IT Ltd. is included so that other students can get to know about the company and may decide whether it is suitable for them or not. If internships are about gathering skills, then projects are the main way of gathering them. Till writing this report I have completed one project and helped in developing the web applications for StarHostIT Ltd. The tasks, timeline and results of those specific projects are included for a better visualization of industry standard projects.

1.6 LIMITATIONS OF THE REPORT

While gathering information, analyzing and representing the data's I have faced some limitations. However, despite the limitations I have tried hard to prepare a comprehensive and rather interesting report. The overall limitations of the report are mentioned below-

1. There were some restrictions in disclosing some information as it was assumed to be confidential. Therefore, I could not include those in my report.
2. Some of the information that I got from secondary sources were not arranged consistently.
3. AS I was not permanent employee at StarHost IT Ltd. I could not see the disadvantages of the old system.
4. One of the major limitations is the shortage of time. Since the officials had no enough time to respond toward my query but they had tried their best to help me to provide information.
5. Because of organizational confidentiality, I could not put or disclose some information in the report [1].

CHAPTER 02
INTERNSHIP WORKS

2.1 INTRODUCTION

This chapter provides an outlook about the project and its features. Web application has become a necessity of any organization which has a number of members associated with it, along with new members interested to join. The Internet is the best way to introduce the organization and provide current and future information to its members. A web presence is also necessary to define the legitimacy of an organization. Here WordPress is used to design the website. WordPress is a free and open-source content management system written in PHP and paired with a MySQL. WordPress was born out of a desire for an elegant, well-architecture personal publishing system built on PHP and MySQL. It can also be used as a platform for self-publishing, that is popular for web developing works. The story of WordPress tells us how open source communities work to make something so useful without compromising software freedom. WordPress project is driven by a community of dedicated developers, users, and supporters. PHP was developed by Ramus Ledford. It is a freeware. It is also a weakly typed, free from language. It is easy to design interactive and complicated websites at ease in WordPress. So it is becoming more and more popular among the web designers. Many add on is also available to incorporate with the existing design.

2.2 BACKGROUND

The project is about designing a website for a voluntary organization named 'Arpon Foundation'. The main purpose of this website is to manage and maintain the whole organization remotely. This includes managing donations, promoting charities, signing up new members and reaching international organizations. Before this, the organization was operated in pen and paper. Management worker and volunteers need to work hard for maintain logs, accounts as well as to promote the organization. With the analog system they were facing problem to reach people for donation as well as to process it, the company couldn't showcase their work and they couldn't inform people about their new projects. After facing these problems, they have decided to make a website. They approached StarHOST IT for a complete solution. StarHOST IT decided to make this process online base. Using this website, people can easily donate and join as a volunteer. The foundation can showcase their work on the site as well as can take them to international standard. I was appointed by StarHost IT team to work on this project [2].

2.3 OBJECTIVES

The objectives of this project is given below:

1. To ease up the donation process. Before this website the donation process need to be done manually, volunteer need to be involved in the process of receiving, confirmation and logging the donation data. But after incorporating the donation receiving system in the website, no volunteer is needed in the whole process. It eases up the whole process as well as eradicate human error.

2. To communicate with donors and volunteers easily and effectively.

3. To promote the organization.

4. To reduce human labor and ease up the management process.

5. To ease up the transaction process.

6. To take the standard of the organization to international level.

2.4 PROJECT GOAL

The team at our office was given some goals that we had to fulfill before we hand over the product. These goals were set after several meetings with the client. Then we studied the demands and make a proposal. After several revisions and cost analysis, final project goals were set. They are:

1. Make an interactive website with graphics.

2. Easy to understand and access.

3. Full admin control and data logging.

4. Member data log.

5. Donation management and redirecting.

6. Room for future expansion.

CHAPTER 03
INTERNSHIP ROLES AND RESPONSIBILITIES

3.1 ABOUT StarHOST IT

StarHOST IT is a web development company in Bangladesh concentrating in Customized ERP application and Web-Based Solutions. StarHOST Offers Elevated Business Automation with Professional service of outstanding quality.

StarHOST IT offers all kinds of commercial corporate and personal web based services include web development solution, software development and so on. StarHost IT provide the most comprehensive product portfolio, and the portfolio include a wide range of web services- Domain Registration, Linux and Windows Hosting, Attractive Website Designing, Dynamic Web Application etc.

3.2 COMPANY PROFILE OF StarHOST IT

StarHOST IT is one of the TOP web Hosting service provider in Bangladesh since 2005.They are growing up a web design company in Mirpur 10, Dhaka, Bangladesh. They provide an end to - end service, including customized software, business automation, website appraisal, project management, website development, website update. StarHOST IT's mission is to provide reliable website Design, E-Commerce Solution as well as all IT support to the clients with very affordable price that people can do their business in IT sector as well as for helping people to make Digital Bangladesh. StarHostIT practices development transparency, making work logs, work in progress previews, schedules and other development information available in real time via our client portal. They always try to fulfil their client's requirements. StraHostIT always trust its quality and deadline and never lose our client and brand quality.

Figure3.1 StarHOST IT Home page [3].

3.3 MISSION

StarHost IT is fully focused in their missions and they tend to work for their mission fulfillment. Their missions are:

1.To maintain the leading software solution provider ensuring benefit of customers, shareholders and employees.

2.Developing, and exploiting the remarkable experience, expertise and knowledge of all of our people.

3.Developing a distinctive competence in process development and project management.

3.4 StarHOST IT SERVICES

Dedicated Support Team: Your business is important to them and they want to make sure that you are satisfied with the application or product.

Hosting and Domain services: They are top Web Hosting service provider in Bangladesh. They provide multi type of web hosting such as Linux Hosting, Windows Hosting, Cloud Hosting, Specialized Hosting.

They provide Domain registration in Bangladesh. Top level Domains are .com, .net, .org, .info. In Bangladesh we also provide .BD Domain such as .com.bd, .net.bd, .edu.bd.
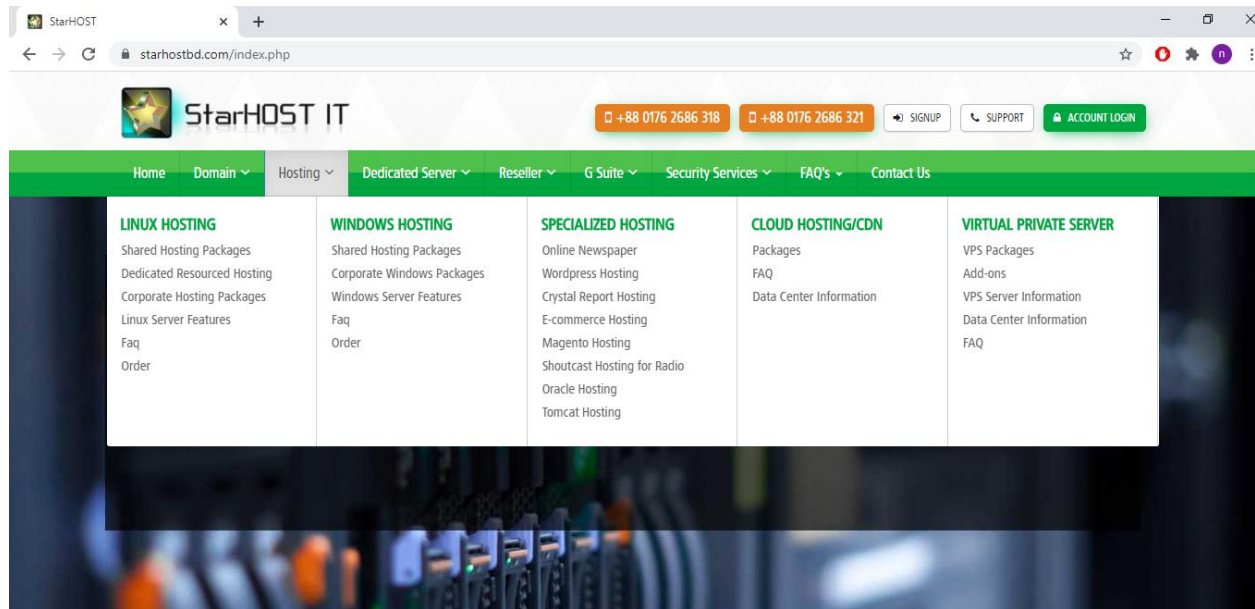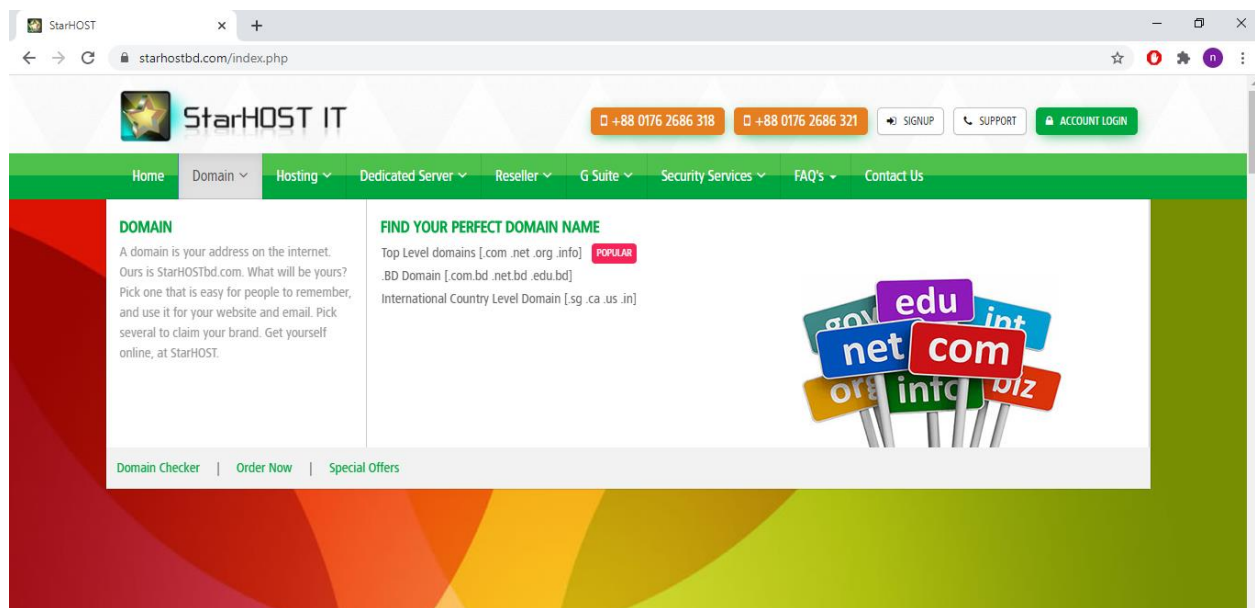

Figure 3.2   StarHOST IT Hosting page

Figure 3.3 StarHOST IT Domain Page

Dedicated Servers: They provide reliable and affordable dedicated servers.

They provide:

> World class service in Bangladesh.
>
> Flexible and customizable server.
>
> High quality branded hardware.

3.5 USING WEB DEVELOPMENT PROJECT TEMPLATES

A website template (or web template) is a pre-designed webpage, or set of HTML web pages that anyone can use to "plug-in" their own text content and images into to create a website. Usually built with HTML and CSS code, website templates allow anyone to setup a website without having to hire a professional web developer or designer, although, many developers do use website templates to create sites for their clients. This allows anyone to build a reasonably priced personal or business website that can then be listed in search engines so users can search for your specific product or service. In the case of All website templates, each design we offer is a self-contained (or standalone) downloadable complete website that you can use to "plug-in" your text and image content with little, or no, editing of the layout or design elements. A web design template or a website design template is a template which is in most cases used to present some information in the Internet. A web design template is a catchall name for several types of templates like: – HTML templates – website design templates represented with HTML code only – PSD templates – templates which contain only .psd files, graphics only, with no code – Flash templates – website design templates developed with Flash – Flash intro templates – templates of an intro clip, developed with Flash only, used to represent a company or/and a project. There are some others, which, due to their specific usage, are not so popular: FrontPage templates, Dreamweaver templates, etc. Web Framework in general, a framework is a real or conceptual structure intended to serve as a support or guide for the building of something that expands the structure into something useful. In computer systems, a framework is often a layered structure indicating what kind of programs can or should be built and how they would interrelate. Some computer system frameworks also include actual programs, specify programming interfaces, or offer programming tools for using the frameworks. A framework may be for a set of functions within a system and how they interrelate; the layers of an operating system; the layers of an application subsystem; how communication should be standardized at some level of a network; and so forth. A framework is generally more comprehensive than a protocol and more prescriptive than a structure. Examples of frameworks that are currently used or offered by standards bodies or companies include:

• Resource Description Framework, a set of rules from the World Wide Web Consortium for how to describe any Internet resource such as a Web site and its content.

• Internet Business Framework, a group of programs that form the technological basis for my SAP product from SAP, the German company that markets an enterprise resource management line of products

• Sender Policy Framework, a defined approach and programming for making e-mail more secure

• Zach man framework, a logical structure intended to provide a comprehensive representation of an information technology enterprise that is independent of the tools and methods used in any particular IT business.

3.6 TRAINNING ATTEND

They have a long culture to give opportunities to the intern seeking students and fresher's. They believe in fresh talents and want to create opportunities for them. I was hired as an intern and firstly I was appointed to admin section. After one month of work, when I developed and realized office culture as well as responsibilities, I was transferred to the web development team. I worked under supervision of the senior web developer and tasked simple correction at first and eventually big page building.

In StarHOST IT I worked with:

1.WordPress

2. HTML

3.PHP

3.7 WORK ENVIRONMENT

The overall work environment is professional and friendly. The workers are motivated and dedicated to their work. They were very helpful to me and they encourage me always to give more efforts. Whenever I was frustrated and needed help, they helped me with a smile. I was able to finish my project for their kind helpfulness. I never felt an outcast.

In StarHOST IT the web developers are divided into two categories, they are:

Front End Developer: The front end developer generally works at client side dealing with the web page design, graphics that is accessible to the user.

Back end Developer: The back end developer is a person who is responsible for the back end development that interacts with the server. This type of web developer specializes in the languages like PHP, CSS, WordPress.

The job profiles for the web developer includes:

- front end web developer.
- back end web developer.
- web application developer.
- Design and layout analyst.
- Senior web analyst.
- Web marketing analyst.

3.8 WEB FRAMEWORK

In general, a framework is a real or conceptual structure intended to serve as a support or guide for the building of something that expands the structure into something useful. In computer systems, a framework is often a layered structure indicating what kind of programs can or should be built and how they would interrelate. Some computer system frameworks also include actual programs, specify programming interfaces, or offer programming tools for using the frameworks. A framework may be for a set of functions within a system and how they interrelate; the layers of an operating system; the layers of an application subsystem; how communication should be standardized at some level of a network; and so forth. A framework is generally more comprehensive than a protocol and more prescriptive than a structure.

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• Sender Policy Framework, a defined approach and programming for making e-mail more secure.

CHAPTER 04
LITERATURE REVIEW

A literature review is a survey of scholarly sources on a specific topic. It provides an overview of current knowledge, allowing you to identify relevant theories, methods, and gaps in the existing research.

Conducting a literature review involves collecting, evaluating and analyzing publications (such as books and journal articles) that relate to your research question.

The literature survey method is an examination of information on specific subject. It is reviewing what is known, and not what is assumed. It aims to create the final, precise representation of the knowledge and research-based theory available topic. This method is going to be used due to need of gathering and processing theoretical base. I am going to use different books and articles, also other sources like tutorials, forums and related software.

4.1 HOW THE PROJECT IS RELATED WITH UNDERGRADUATE COURSES

An internship is professional training in a safe and structured working environment that encourages the mentor-mentee relationship. A typical internship program assigns interns to a mentor or one of the experts in the field from whom you can learn from. Mentors train and give professional advice to their interns on how to navigate workplace culture in a specific industry. Internships are designed to help you develop work habits that will lead to your success.

My project is directly and indirectly related with few courses I have done. Here I am describing the relation of the project with my undergraduate courses:

Web Applications and Internet (CSE309/CSC454): I have done Web Applications and Internet course under Lecturer Sanzar Adnan Alam in Spring 2020. I learned web development from this course. I have done few projects based on web application and internet. Personal Portfolio, Company Website and few other projects helped me a lot in learning web development.

These projects helped me a lot in my internship period. The project is almost fully based on the knowledge I gained from the course.

Database Management (CSE303/CEN401/CSC401): I have done Database Management course under Mahadi Hasan, PhD (Associate Professor) in Autumn 2019. This course is a pre requisite course of Web Application and internet. I leaned about php, MySQL and XAMPP from this course. Without a basic knowledge in Database Management is not possible to work in a project containing real time data. Entity Relationship Diagram, Rich Picture, Process Diagram,

SQL and many other key parts of database management were taught here. These concepts helped me a lot to complete the project.

The project is also connected with few other courses. It is like, I learned one thing from any course and realizing the use after years while working on it in practical project. Web Applications and Internet, Database Management courses are directly related my project. The project is also indirectly related with few courses or topics not described here.

CHAPTER 05
METHODOLOGY

SOFTWARE DEVELOPMENT METHODOLOGY

A software development methodology or system development methodology in software engineering is a framework that is used to structure, plan, and control the process of developing an information system.

Every software development methodology framework acts as a basis for applying specific approaches to develop and maintain software. Several software development approaches have been used since the origin of information technology [4] [5] .These are

1. Waterfall Model

2. Prototype Methodology

 3. Rapid Application Development

4. Dynamic System Development Model Methodology

5. Agile Software Development Methodology

 6. Spiral Model

We choose agile process as methodology for this project.

 Agile development consists of iterations. This means, the website owner receives a viable piece of website at the end of each iteration. First it's the design of the future product then is launched the development, where the product receives new features and gets tested, iteration by iteration. Besides, the software owner can track the progress of development by receiving timely reports. Furthermore, this allows the owner to shape the picture of the app by giving feedback and altering requirements. Requirements to develop a software tend to change. Vision and strategy change. Users may demand new features or pay less attention to other "useless" features. These requirements may vary from insignificant ones to those which require rewriting quite a bulk of code. Agile method adds more room for change/improvement. As agile developer, we can keep track of the altering/improving the website.
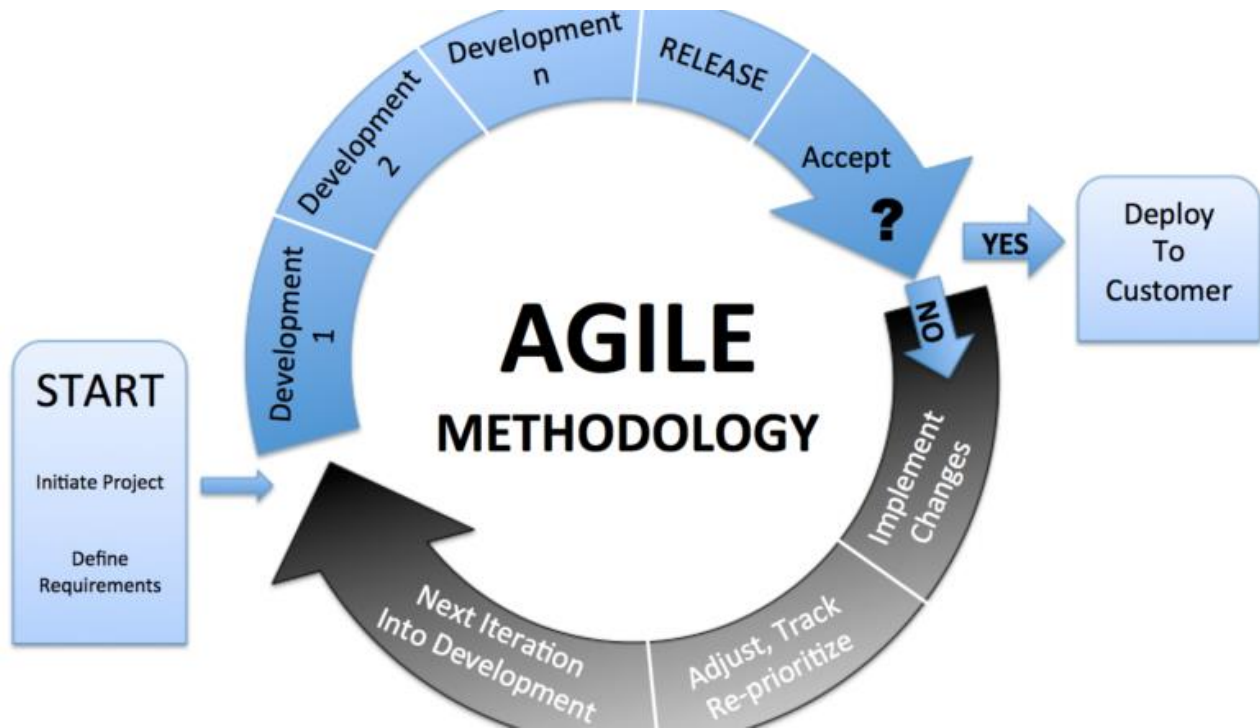
Figure 5.1 Agile methodology

Agile development model is a type of incremental model. Agile website is developed in rapid and incremental cycles resulting in small incremental releases. Each release is thoroughly tested to ensure that website quality is maintained. Agile website development is a process for developing website. "Agile" project management is an umbrella term that covers many different kinds of website development. [6]

Figure 5.2: Website Development Plan

There are several reasons for choosing agile process [7].

High Product Quality

- Regular testing to see that the product is working during the development
- Defining and elaborating requirements just in time
- Incorporating continuous integration and daily testing into the development process
- Sprint retrospectives to continuously improve processes and work
- Software is developed in incremental, rapid cycles.
- Conducting sprint retrospectives, allowing the scrum team to continuously improve processes and work
- Completing work using the definition of done: developed, tested, integrated, and documented
- Taking advantage of automated testing tools in order to develop during the day, test overnight, and fix bugs in the morning.

Higher Customer Satisfaction

- Demonstrating working functionalities to customers
- Delivering products to market quicker and more often with every release
- Keeping customers involved and engaged
- Possessing the potential for self-funding projects.

Increased Project control

- Daily Sprint meetings
- Transparency though information radiators

Improved performance visibility: On agile projects, every member of the project team has the opportunity to know how the project is going at any given time. Daily scrum meetings, daily sprint reviews, and visible progress charts offer concrete ways to see progress.

Reduced risk: Agile project management essentially eliminates the chances of absolute project failure. Working in sprints from the very beginning allows teams to develop a working product from the beginning, or fail fast and take another approach.

Customized team structures: Self-management puts decisions that would normally be made by a manager or the organization into scrum team members' hands. Because of the limited size of development teams — five to nine people — agile projects can have multiple scrum teams on one project. Self-management and size-limiting mean that agile projects can provide unique opportunities to customize team structures and work environments.

Increased project control: The many opportunities to inspect and adapt throughout agile projects allow all members of the project team — the development team, product owner, scrum master, and stakeholders — to exercise control and ultimately create better products.

CHAPTER 06
PROJECT MANAGEMENT & FINANCING

6.1 WORK BREAKDOWN STRUCTURE (WBS)

A work-breakdown structure in project management and systems engineering, is a deliverable oriented breakdown of a project into smaller components. A work breakdown structure is a key project deliverable that organizes the team's work into manageable sections. The Project Management Body of Knowledge (PMBOK 5) defines the work-breakdown structure as a "hierarchical decomposition of the total scope of work to be carried out by the project team to accomplish the project objectives and create the required deliverables" [8].

 A work-breakdown structure element may be a product, data, service, or any combination thereof. A WBS also provides the necessary framework for detailed cost estimating and control along with providing guidance for schedule development and control.

WBS is a hierarchical and incremental decomposition of the project into phases, deliverables and work packages. It is a tree structure, which shows a subdivision of effort required to achieve an objective; for example, a program, project, and contract. In a project or contract, the WBS is developed by starting with the end objective and successively subdividing it into manageable components in terms of size, duration, and responsibility (e.g., systems, subsystems, components, tasks, subtasks, and work packages) which include all steps necessary to achieve the objective.

A work breakdown structure permits summing of subordinate costs for tasks, materials, etc., into their successively higher level "parent" tasks, materials, etc. For each element of the work breakdown structure, a description of the task to be performed is generated. This technique (sometimes called a system breakdown structure) is used to define and organize the total scope of a project [9].
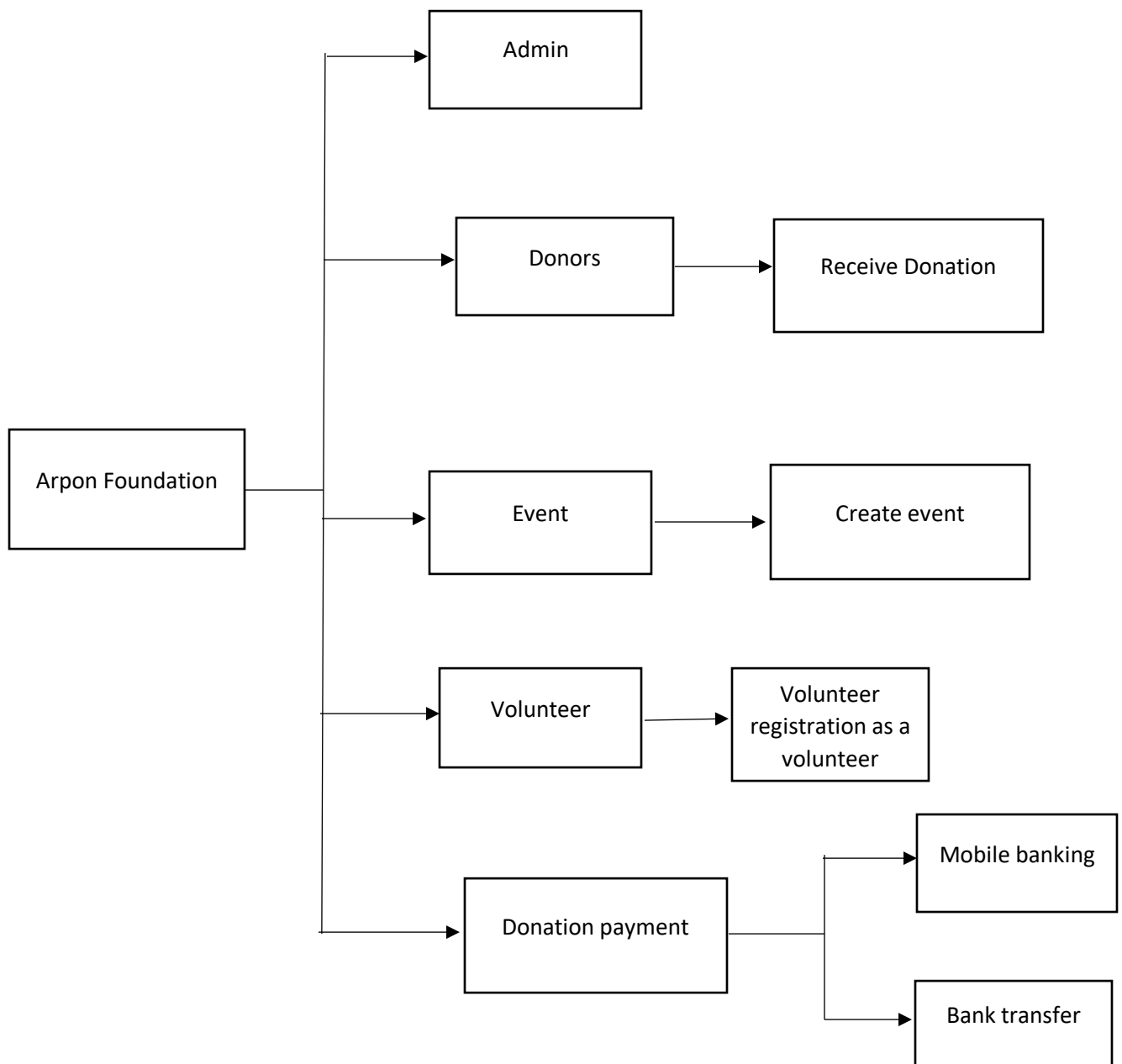
Figure 6.1 Work Breakdown Structure (WBS)

6.2 TIME DISTRIBUTION

Assigning time to the tasks is important for timely completion of the project. This means breaking down the project into different tasks. This can be achieved by creating a to-do list. Next, the tasks should be prioritized according to the importance. Not all the tasks have equal priority. Some of the tasks need to be completed first to avoid project delays.

Process wise time distribution of the project is described here in the table:

No	Activity	Start Date	End Date
01	Customer Requirement Analysis	08.08.2020	08.08.2020
02	Work Breakdown Structure	09.08.2020	10.08.2020
03	Designing	11.08.2020	14.08.2020
04	Implementation	13.08.2020	17.08.2020
05	Testing	18.08.2020	18.08.2020
06	Project Submission	19.08.2020	20.10.2020

Table 6.1: Time Distribution Table

6.3 GANTT CHART

Activity	8.8. 2020	9.8. 2020	10.8. 2020	11.8. 2020	12.8. 2020	13.8. 2020	14.8. 2020	15.8. 2020	16.8. 2020	17.8. 2020	18.8. 2020	19.8-20.10 2020
Customer Requirement Analysis	■											
Work Breakdown Structure		■	■									
Designing				■	■	■	■					
Implementation						■	■	■	■	■		
Testing											■	
Project Submission												■

6.4 RECOURSE ALLOCATION

Resource allocation is the process of assigning and scheduling available resources in the most effective and economical manner. Projects will always need resources and resources are scarce. The task therefore lies with the project manager to determine the proper timing of those resources within the project schedule. Resource management is prone to several challenges that developer needs to be aware of to properly allocate resources and manage them throughout the project.

Client changes: As a project manager you might have already experienced how changes to the scope, timeline or budget can affect project delivery. With resource allocation it's actually the same – having an up-to-date resource calendar will help you to smoothly adjust resources once the changes appear.

6.5 ESTIMATED COSTING

Employee	08.08. 2020	09.08. 2020	11.08. 2020	13.08. 2020	18.08. 2020	Total Hour	Hour Cost	Total Cost
Intern web developer	5	5	8	8	5	31	150	4650
Web developer and MD			4		4	8	600	4800
Others								1000
Total								10450

CHAPTER 07
DESIGN, IMPLEMENTATION

7.1 DESIGN

Design provides representations of software that can be assessed for quality. Design is the only way to accurately translate a customer's requirements into a finished software product. Software architecture provides abstract representation of overall structure of software. Design has parts, High Level Design (HLD) and Low Level Design (LLD).
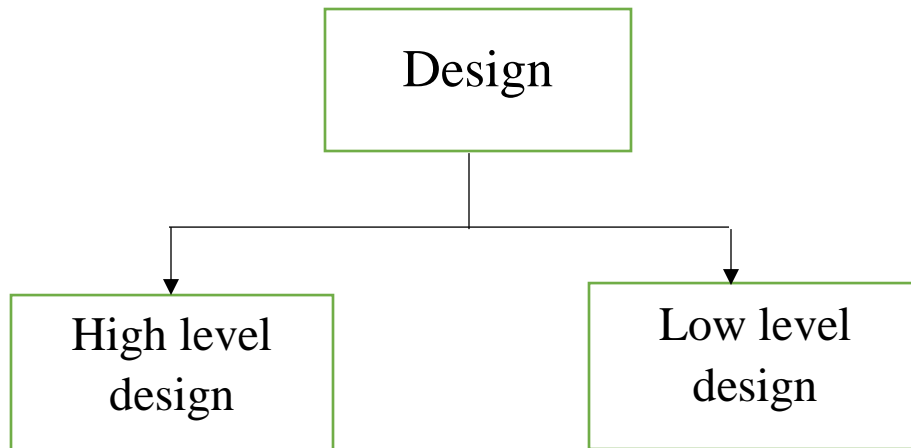
we perfumed only low level design.

Low Level Design (LLD): It defines the actual logic for each component of the system. Class diagrams with all the methods and relation between classes comes under LLD. Programs specs are covered under LLD.

7.2 PROJECT INTRODUCTION

This website is an online donation and membership management website system developed to serve the wants and needs of the charitable organizations, foundations and other welfare societies as corporate website solutions do not necessarily meet the unique demanding of such non-profit organizations. This foundation is the best website solution for charitable organizations and foundations to streamline their distinguished set of daily operational functions.

The system is a modern web-based website module that assists your charity operations in areas like membership management, volunteer sign up, managing fundraisings and much more.

7.3 PRODUCT DESCRIPTION

a) Summary: This is a web based application for a voluntary organization which would automate the functioning of a voluntary organization system. A voluntary organization is a virtual site where everyone can browse and donate of unprivileged people. There has bank details where people donate. There has an application system for join as a volunteer.

Product Stakeholders:

Admin: perform project tasks.

- Foundation admin: administration.
- Create, read, update, delete content
- Monitor lessons
- Update lesson plans
- Create calendar events

Stuff/Volunteer: 1. Decision maker.

2. Employees (whether paid or unpaid volunteers)

Donors: 1. General people

2.promoter

7.4 SYSTEM ANALYSIS

Analysis can be defined as breaking up of any whole so as to find out their nature, function etc. It defines design as to make preliminary sketches of, to sketch a pattern or outline for plan. To plan and carry out especially by artistic arrangement or in a skillful wall. System analysis and design can be characterized as a set of techniques and processes, a community of interests, a culture and an intellectual orientation. The various tasks in the system analysis include the following.

Feasibility Analysis

Feasibility analysis is the process of confirming that a strategy, plan or design is possible and makes sense. This can be used to validate assumptions, constraints, decisions, approaches and business cases.

The importance of a feasibility study is based on organizational desire to "get it right" before committing resources, time, or budget. A feasibility study might uncover new ideas that could completely change a project's scope. It's best to make these determinations in advance, rather than to jump in and to learn that the project won't work. Conducting a feasibility study is always beneficial to the project as it gives you and other stakeholders a clear picture of the proposed project.

Below are some key benefits of conducting a feasibility study:

- Improves project teams' focus, feasibility analysis makes a project well planned and helps to focus on important parts.
- Provides valuable information for a "go/no-go" decision, by feasibility analysis, we have palled about where we should work and where we should not.
- Feasibility analysis narrows the business alternatives.
- Identifies a valid reason to undertake the project,
- Enhances the success rate by evaluating multiple parameters.

7.5 EFFECT AND CONSTRAINS ANALYSIS

A formal method for decomposing the constraint within a whole system into several constraints within subsets of its variables, (i.e., of an originality lower than the original) so that the latter fully accounts for the former. Constraint analysis thereby reveals the component structure of an observed system.

7.6 CONTEXT LEVEL DATA FLOW DIAGRAM

```
                    ┌─────────────────────┐
                    │     Volunteer       │
                    │ foundation/charity  │
                    │     foundation      │
                    └─────────────────────┘
                              │
        ┌─────────────────────┼─────────────────────┐
        ▼                     ▼                     ▼
┌───────────────┐     ┌───────────────┐     ┌───────────────┐
│  1.Manage     │     │  2.Manage     │     │  3.Manage     │
│  Volunteer    │     │  Donors       │     │  event        │
└───────────────┘     └───────────────┘     └───────────────┘
        │                     │                     │
        ▼                     ▼                     ▼
┌───────────────┐     ┌───────────────┐     ┌───────────────┐
│  Volunteer    │     │  Receive      │     │  Create Event │
│  registration │     │  Donation     │     │               │
└───────────────┘     └───────────────┘     └───────────────┘
        │
        ▼
┌───────────────┐
│  Login &      │
│  authentication│
└───────────────┘
```
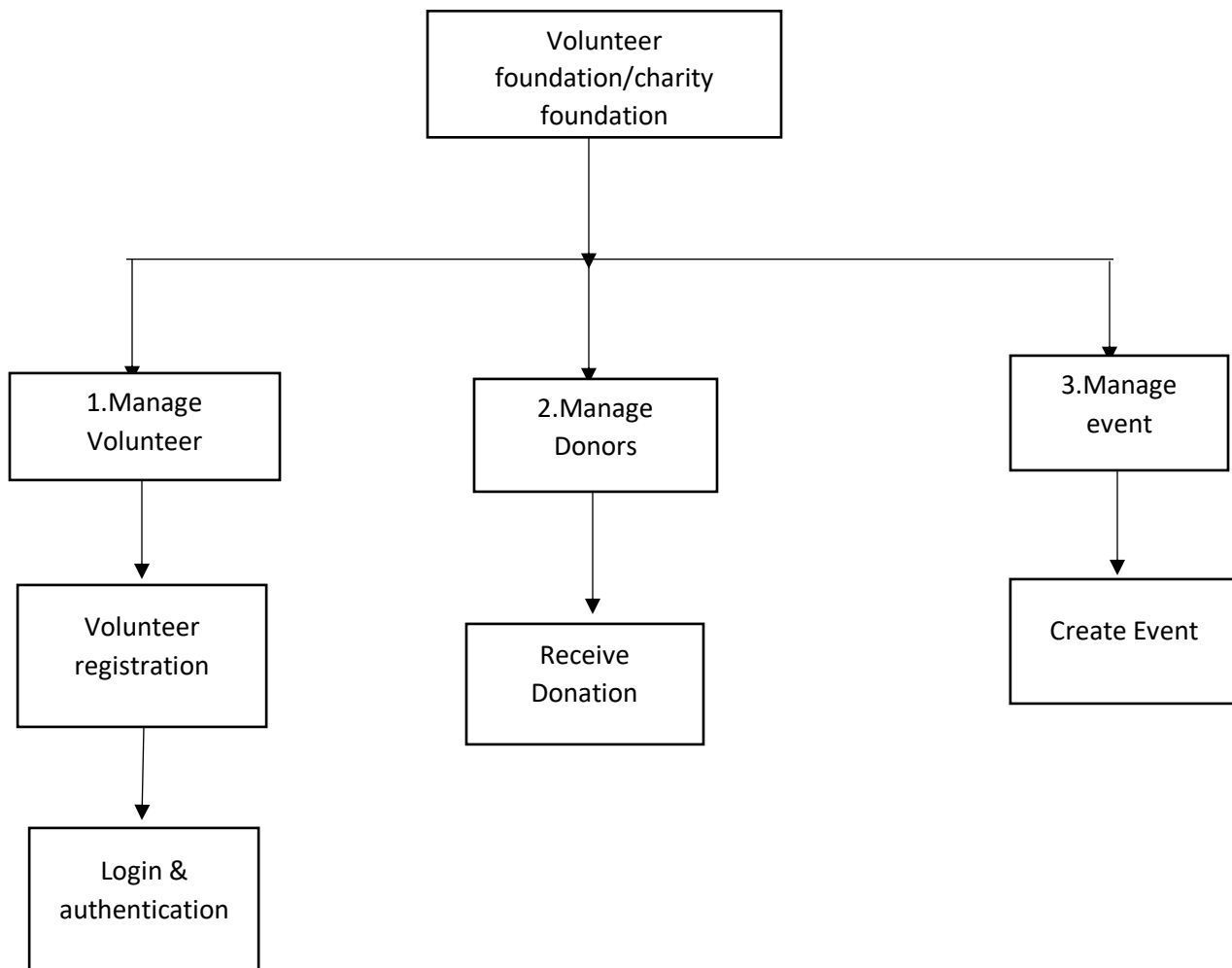
Figure 7.1: Data flow diagram

7.7 SOFTWARE KEY TECHNICAL FEATURES

Some key features are following below: -

- **Log In**- Only members of the organization such as donors and volunteers are allowed to access certain resources. First, potential volunteers are required to input personal information and take a quick survey. Documents and certificates showing proof of working with event required to become a volunteer.

  The system will provide mail/phone no verification option, which is a good behavior of an application when it comes to security issue.

- **Add New Member-** User can register them self-providing information to the system. Information has to be correct.
- **Update/Delete Member-** Admin can add members. Users can delete their account if they want.

7.8 USE CASE- DIAGRAM
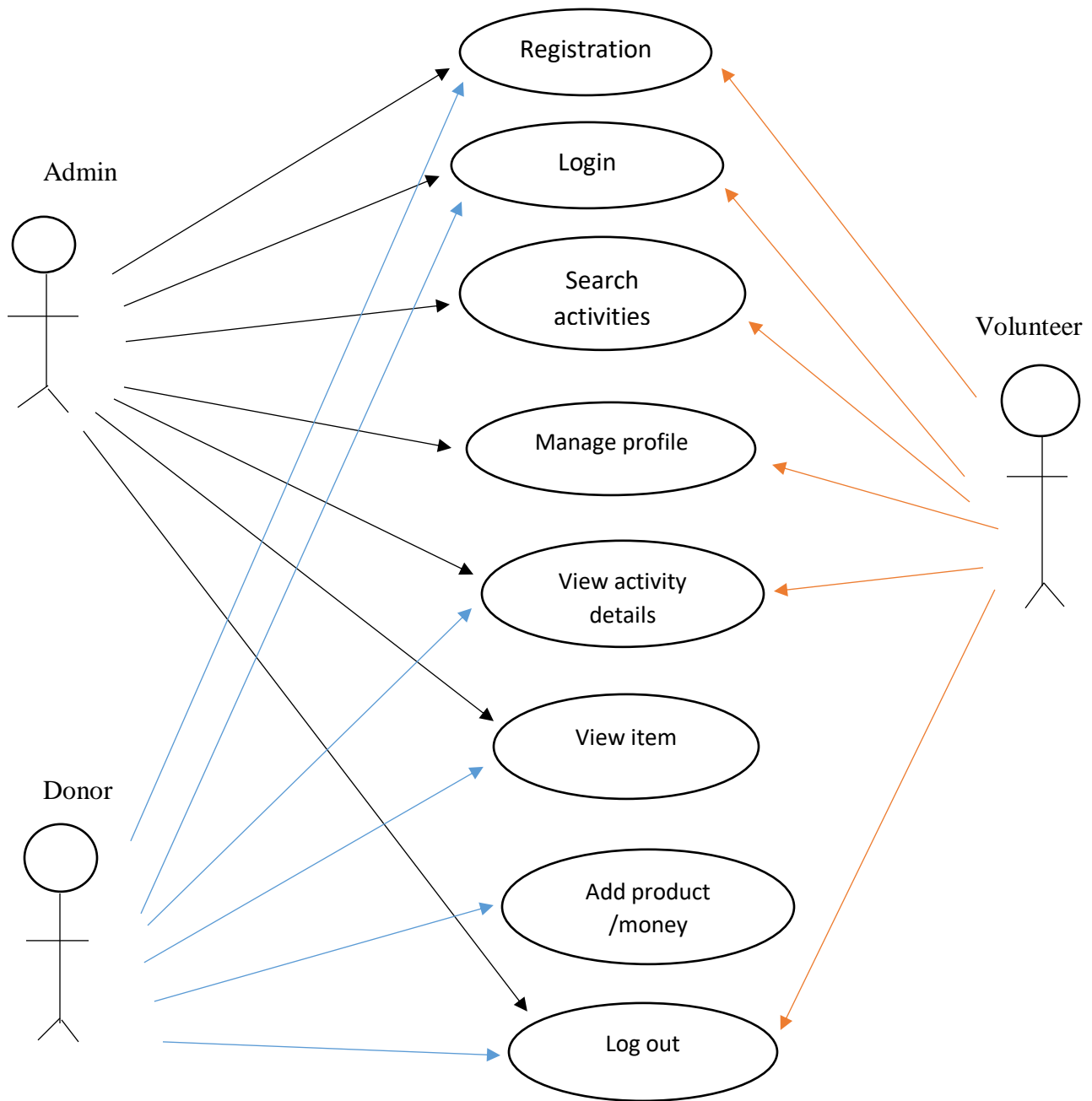
Figure 7.2: Use Case Diagram

7.9 REQUIREMENT SPECIFICATION

Hardware Requirements:

- 512MB RAM or more
- 200MB free ROM space
- Standard Color Display
- Data/WIFI Network
- Any smartphone/Laptop/Desktop

Software Requirement

- Windows or android
- Google Chrome
- Firefox
- Microsoft edge or any browser

Product Features

This project has one module for all users. It contains following features –

- Home

- Who We are

- Our Project

- Bank details

- Be an Arpon volunteer

- Contact us

7.10 USE CASE-SCENARIO

Normal Scenario: Registration

Use case name: Registration	Use Case Id: 001
Area: Registration for website.	
Actor(s): User, Volunteer, Donor, Administrator.	
Stakeholder	
Level	
Description: All new persons who want to register use this USECASE	
Triggering Event: All new person registration Web site, enters name, password and other information and clicks the submit button.	
Trigger type: : External	

Steps Performed (Main Path)	Information for Steps
1. User search for website on server.	Website url/Website name
2. System displays website.	
3. User click the button sign up.	
4. System displays user registration form	
5. User enter data	First name, Last name. DOB, email address, contact, Password.
6. Click the button signup	

7.	Website sent user a verification code	email address, contact.
8.	User enter verification code	Registration Record Confirmation Number
9.	Click the button continue	
10.	Successful Registration Confirmation Web page is sent to the participant	Registration Record Confirmation Number

Preconditions:	user has already submitted valid information
Post conditions:	System will notify user has successfully registered.
Assumptions:	User has a browser and a valid information.
Success Guarantee:	user has registered and is enrolled in all selected sessions.
Minimum Guarantee: participant.	Successful Registration Confirmation Web page is sent to the
Requirements Met:	Allow users to be able to register using a secure Web site.
Outstanding Issues:	How an invalided information should be handled?
Priority:	High
Risk:	Medium

Normal Scenario: Search.

Use case name: Search.		Use Case Id: 002
Area:	search for new event/ new donor	
Actor(s):	volunteer , administrator.	
Stakeholder:		
Level		
Description: Search makes it easy to search for event, donor. With this search companion, user can specify several search criteria. For example, new event for donation/work etc.		
Triggering Event:	User can specify several search criteria.	
Trigger type: : internal		

Steps Performed (Main Path)		Information for Steps
1.	User search for website on server.	Website url/Website name
2.	System displays website.	
3.	User click the button login.	
4.	System displays user login form	
5.	User enter data	ID , Password.
6.	Click the button Submit	
7.	Website allow user	Registration number that recorded.

8. System will show searching screen.		
9. user can specify several search.		
10. By pressing search button system will list down all searching results.	Event, Product/money	

Preconditions: database.	The donor or volunteer to be searched should have been registered in
Post conditions:	1.User can view his desire results
Assumptions:	Participant has a browser and logged in.
Success Guarantee: for. this check use case.	User can view his desire results; User can also request article to reserve
Requirements Met:	Allow user to view and request using a secure Web site.
Outstanding Issues:	How curriculum should be handled if event/member is not available?
Priority:	High
Risk:	Medium

Normal Scenario: Transaction.

Use case name: Transaction	Use Case Id: 003
Area: Transaction	
Actor(s): Administrator, Donor	
Stakeholder:	
Level	
Description: Donor can donate product or money	
Triggering Event: user can specify several search criteria request for the event. Donor can be clicking button to donate money/product.	
Trigger type: : internal	

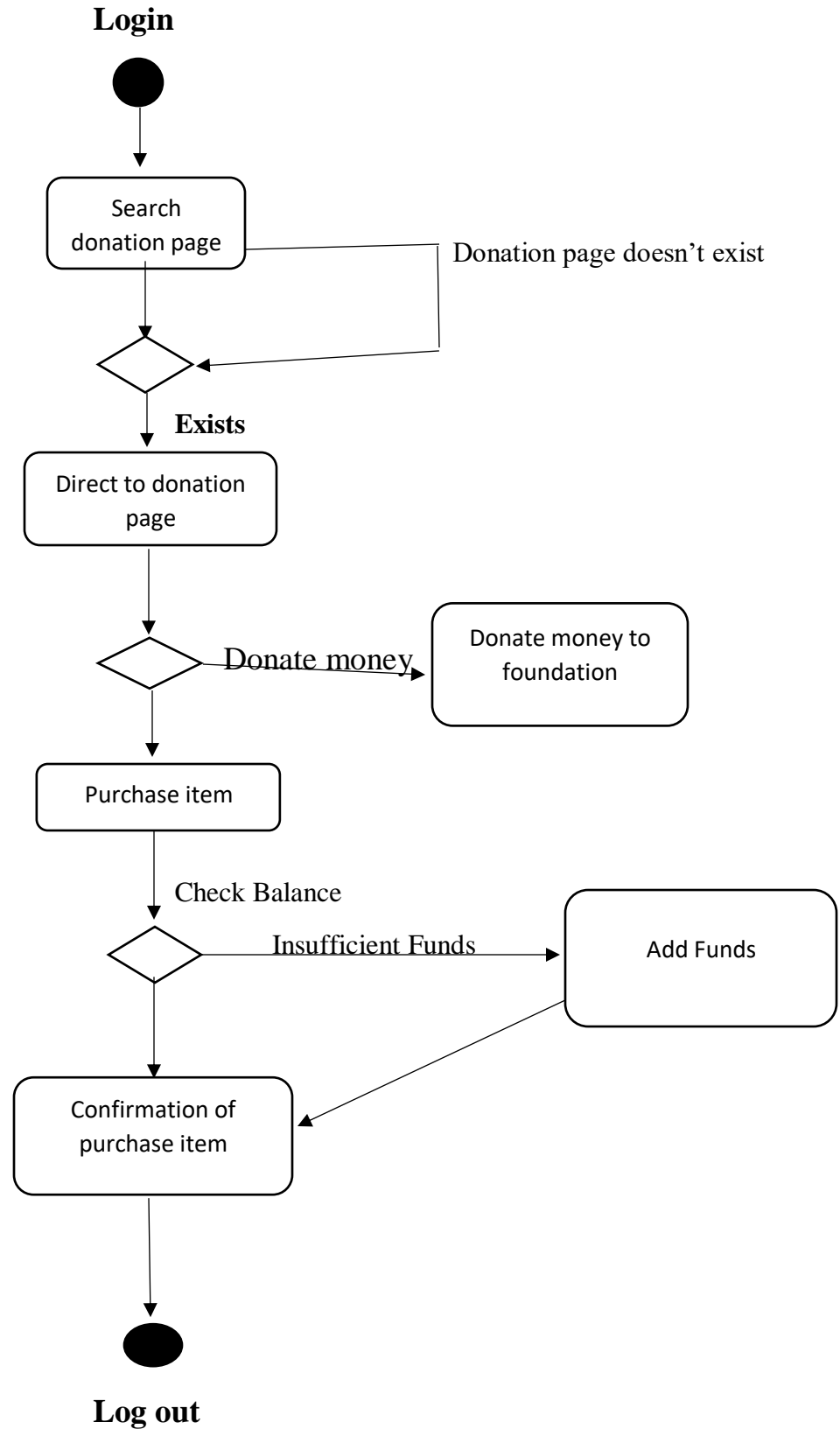| Steps Performed (Main Path)	Information for Steps
1. User search for website on server.	Website url/Website name
2. System displays website.	
3. User click the button login.	
4. System displays user login form	
5. User enter data	ID , Password.
6. Click the button Submit	
7. Website allow user	Registration number that recorded.
8. System will show searching screen.	

9.	User can specify several search criteria.	
10.	By pressing search button system will list down all searching results.	Event

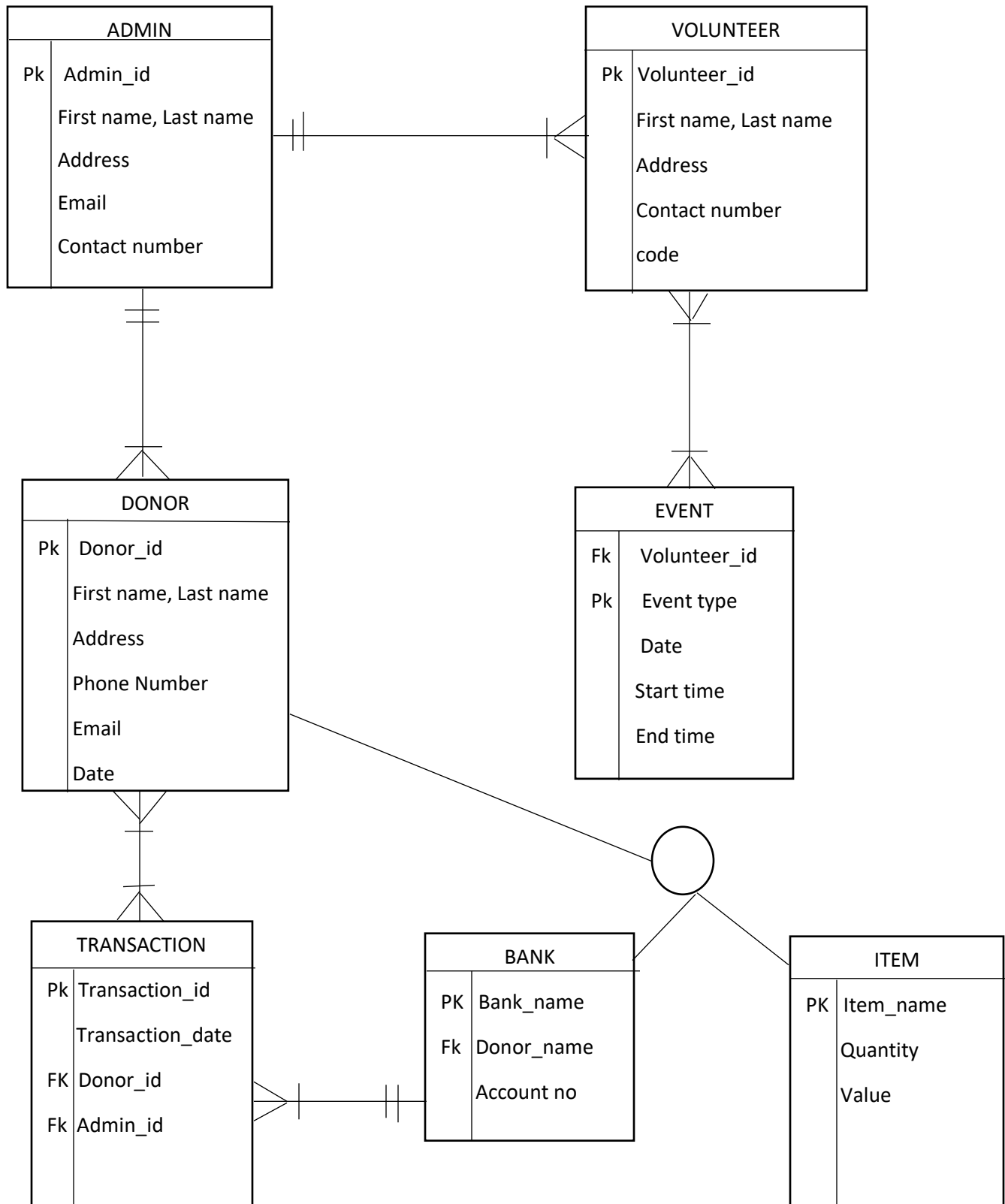|	
Preconditions:	The donor/admin to be issued should have been registered in database.
Post conditions:	1.Donor can donate.
Assumptions:	User has a browser and logged in.
Success Guarantee: product/money.	User can view his desire results; User can also request to donate
Requirements Met:	Allow user to view and request using a secure Web site.
Outstanding Issues:	1. How curriculum should be handled donor are not available? 2. If the login fails .
Priority:	High
Risk:	Medium

Normal Scenario: Login.

Use case name: **Login**	Use Case Id: 004
Area: login	
Actor(s): Donor, Volunteer, administrator.	
Stakeholder:	
Level:	
Description: To interact with the system, Any donor and volunteer can repost on something unusual about any member or event .	
Triggering Event: enters ID, password and clicks the login button.	
Trigger type: : External	

Steps Performed (Main Path)	Information for Steps
1. User search for website on server.	Website url/Website name
2. System displays website.	
3. User click the button login.	
4. System displays user login form	
5. User enter data	ID , Password.
6. Click the button login	

7. Website allow user.	Registration number.
Preconditions: If the staff or administrator wants to login then he should have been first registered.	
Post conditions: User will be able to search/create event.	
Assumptions: 1.User has a browser and logged in. 2. member/volunteer, donor must be available.	
Success Guarantee: user is allowing to check, view.	
Requirements Met: Allow user to view, issue and repost, keep the information privet using a secure Web site.	
Outstanding Issues: 1. The login fails after entering login and password. 2. It is the responsibility of the administrator to see that all volunteer, donor are properly registered and can login to the system.	
Priority: high.	
Risk: Medium	

7.11 ACTIVITY DIAGRAM

Volunteer Activity Diagram:

Login

No

Call administration

yes

Search volunteer page

Administra tion called

No

Check event

Event not available

Not available

Available

Confirmation of event

Log out

Donor Activity Diagram:

Login

Search donation page

Donation page doesn't exist

Exists

Direct to donation page

Donate money → Donate money to foundation

Purchase item

Check Balance

Insufficient Funds → Add Funds

Confirmation of purchase item

Log out

7.12 ER DIAGRAM

7.13 CLASS DIAGRAM

Registration

-RagistrationId: int

-FirstName: string

-LastName: string

-EmailAddress: string

-Password: string

-PhoneNumber: int

Foundation

-FoundationId: int

-Name: string

-FoundationEmailAddress:string

-FoundationPage: string

+Create ()

+Retrieve ()

+Update ()

+Delete ()

Volunteer

-VolunteerId: int

-UserName: string

-EmailAddress: string

-Location:string

-PhoneNo: string

+Create ()

+Retrieve ()

+Update ()

+Delete ()

Donation

-DonationId: int

-FoundationId: int

-Name: string

-Owner: string

_Amount:double

+CreateDonation ()

+UpdateDonation ()

+DeleteDonation ()

Transaction

+ProccessTransaction ()

Bank

-UserId:int

-Amount:double

-CardType:string

-CardNumber:int

+UpdateDetails()

51

CHAPTER 08
INTERNSHIP OUTCOME

8.1 PROBLEMS AND SOLUTIONS

There are a lot of problems in web development because it contains more type markup language, methods, objects, modifiers, and many ways to create project. The searching for a suitable solution is very problematic sometimes. But once I could get the complete picture it became manageable.

Problem

There are more problems to create when I was working with WordPress. Sometimes it's not matched with my expectation, and placed in appropriate place. Web designing takes a lot of creativity, uniqueness and brainstorming sessions to come up with a nice web design. Only a web designer can tell about the challenges they go through on regular basis. Web designs which are liked and appreciated by target market and clients are mostly the result of constant development and regressive critical thinking. Website's sync with multiple apps along with its ability to be responsive are just a few factors which are pondered by the web designer. This makes web designing a challenging role.

Due to COVID 19 situation I was forced to work remotely. Internet was a major issue as my home is in rural area. I had to be connected with my boss continuously and sometimes I had to brief the clients. Doing these works remotely added some extra troubles that can be avoided. In Zoom meeting, network drop was a common issue. I think I might be able to do more work if I worked on person.

Solution:

Really web development is very interesting and interactive but at first it was very hard for me to understand. Through the internship training I could learn an understand many objectives with interest. At first I faced problem to correlate my web development course with the practical work. But after some time I could find solution of WordPress and other problems in my training period on my own. Clean code reduces unexpected errors, I learned it the hard way.

I solved the internet problem by taking broadband connection. I focused on my work and place it above my other activities.

8.2 LEARNING OUTCOMES

My learning from the project:

From the project of Arpon Foundation, I have learnt a lot of things which are

1. How to communicate with the customers

2. What manners should follow when communicate with a customer

3. How to attract/influence a customer

4. How a website helps an organization in the long run

5. How to beat the competitors

6. How to fix the price

7. How to sell/bargain with customers

8. What are the times of promoting products

9. How to promote products

10. Strategical development of website.

I have also learned some soft skill in various languages. They are listed below:

CSS

- Basic CSS (selector, internal, external, Inline, Class, Id, Background, font, Text, Padding, Margin, Border, list CSS, hovering and elements)
- Advance CSS (border-radius, opacity, cursor, layers, position, display, float, gradient, and multiple-column)
- Concept of Menus (single menu, dropdown menu)
- Template, design using CSS div.

HTML

- Basic concept (Client Server Communication)
- Basic HTML (Tags, Element, Attributes, Paragraphs, Headings, Line Breaks, Horizontal Rule, Lists, Table, Color Codes, Font, Text Linking, Email, Images, Background, Comments)
- HTML Forms (Input, Text Fields, Password, Checkbox, Combo Box, Text Areas, Files, Buttons)

WordPress

- Basic WordPress (table, color, headline, image, background)
- WordPress Forms (text fields, combo box, dashboard, widgets)

8.3 CHALLENGES

There are different types of challenges have to be faces during the software develop. Most commonly:

- Syntax error.
- Fatal error.
- Find out the problem and try to solve that.

CHAPTER 09
CONCLUSION

CONCLUSION

The current work is the initial background report for the website development project. This report aims to provide a critical review of the relevant literature in the web design field and also to describe key aspects of the methodology that was applied throughout the project. This report tries to examine various issues that arises while building a website. These are the first and most crucial steps that will ensure that the final website, will be developed according to the requirements of the market and will be tailored to the needs of its users. Further research and more focus will be given on software tools after these parts of the methodology are complete. Finally, an attempt will be made to contact some experienced web developers and ideally some web developers who have worked on similar projects, in order to absorb valuable knowledge from their experience.

As a conclusion, I can say that this internship was a great experience. Thanks to this project, I acquired deeper knowledge concerning my technical skills but I also personally benefited. I learnt how to handle client, how to make presentation for client and behave professionally.

There are huge opportunities available for the students who want to work in this field. Many private and public organizations hire web designer for their online work and website development. Also an experienced person in this field can also work as a freelancer; there are many online companies which provide online projects to the individuals.
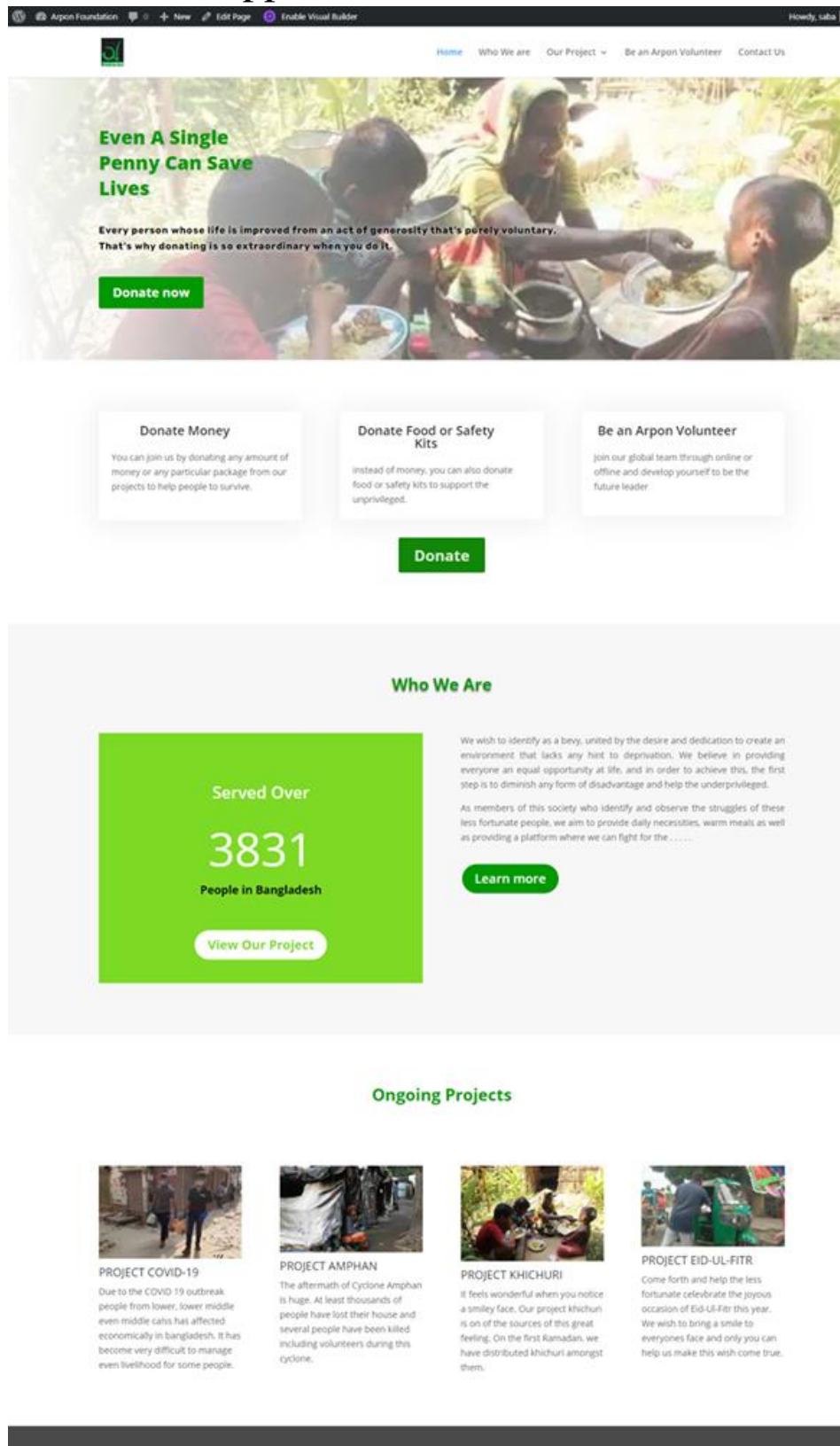
Future Scopes

Especially if I don't have any experience. Finding work can be a real challenge. A successful internship can help me turn an experience into a career opportunity. So as a successful internship my future scopes will be:

- To be work IT company.
- Can work as a Software Engineer.
- Can work as a Web Designer.
- Can work as a Web Developer.
- Can work as a QA Tester.

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Appendix: UI Screenshot

Figure: Home Page

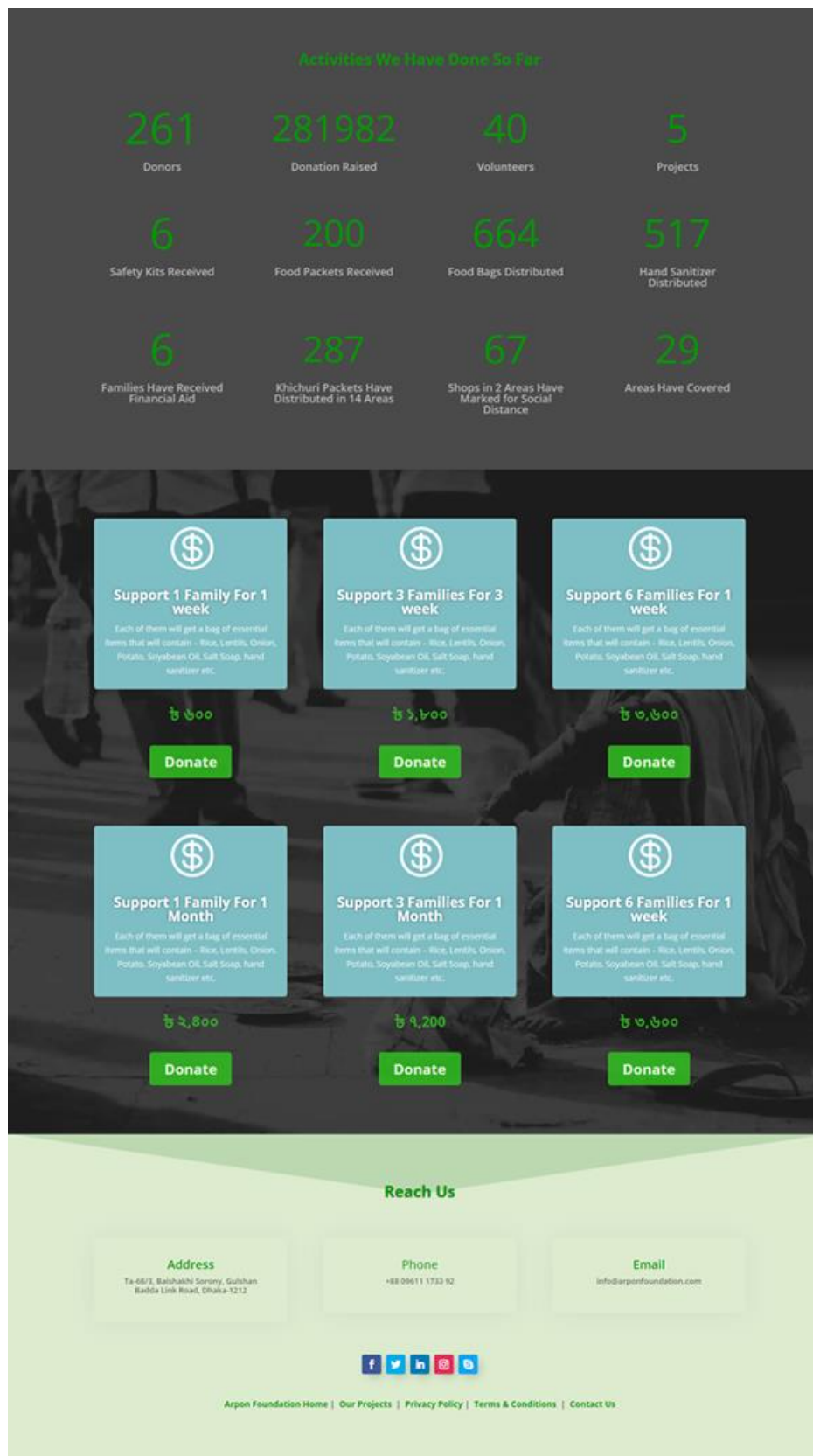Home   Who We are   Our Project ⌄   Be an Arpon Volunteer   Contact Us

Because Only Together We Can Win

ACROLL THE GLOBE, WE ARE UNITED IN OUR DEDICATION TO HELP THE HUNGERS

অর্পণ ফাউন্ডেশন

We wish to identify as a bevy, united by the desire and dedication to create an environment that lacks any hint to deprivation. We believe in providing everyone an equal opportunity at life, and in order to achieve this, the first step is to diminish any form of disadvantage and help the underprivileged.

As members of this society who identify and observe the struggles of these less fortunate people, we aim to provide daily necessities, warm meals as well as providing a platform where we can fight for the basic rights for children so they can be the better future of this society.

We seek your contribution and guidance in this journey of making the world a better place to be in.

MISSION

Arranging funds and essentials to help the needy wherever possible.

VISION

Our vision is to eradicate hunger amongst the underprivileged.

VALUES

United – Through our passion is diminishing the concepts of deprivation.
Dedicated- In being the change and bringing a change.
Passionate- About our cause.

Mohammad Parvez Ahmed
Dhaka Bangladesh
f ✈ in

Mohammad Tipu Sultan
Dhaka Bangladesh
f ✈ in

Maisha Tanzim
Oliphant Crescent, Clarkston, Glasgow, UK
f ✈ in

Faysal Mohammad
Doha, Qatar
f ✈ in

Mohammad Parvez Ahmed
Dhaka Bangladesh
f ✈ in

Mohammad Tipu Sultan
Dhaka Bangladesh
f ✈ in

Maisha Tanzim
Oliphant Crescent, Clarkston, Glasgow, UK
f ✈ in

Faysal Mohammad
Doha, Qatar
f ✈ in

Reach Us

Address
Ta-68/3, Baishakhi Sorony, Gulshan Badda Link Road, Dhaka-1212

Phone
+88 09611 1733 92

Email
info@arponfoundation.com

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Figure: About us page

Figure: Our Project Page

Figure: Contact Us Page