

PROJECT TITLE

DIU Donation System



Daffodil
International
University

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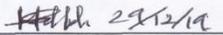
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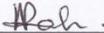
This Project titled "DIU Donation System", Submitted by Jannatul Ferdous, ID No:181-16-299 to the Department of Computing & Information Systems, Daffodil International University has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of B.Sc. in Computing & Information Systems and approved as to its style and contents. The presentation has been held on 29-12-2019.

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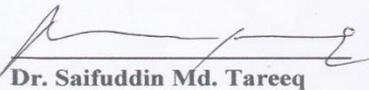
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Without this helps it was so hard to complete this project. All of my friends and family members who helped me in doing a lot of Research and achieve the expectation of the project, I am really thankful to them.

Executive Summary

The “DIU donation System” is an online fundraising system that provide a special service for the student of DIU through which student can create events to seek for donations in various purpose and other can see those events and make donation for those events. However, the gather donation through online is still not much popular which is not expected in this new modern era. That is why I have tried to provide a digitized solution by developing an online donation System. I have tried my best to provide but it needs further improvement as I cannot meet all the requirements due to limited amount of time.

Table of Contents

Acknowledgement	i
Executive Summary	ii
Chapter 1 – Introduction	1
Introduction	1
Chapter 2 – Initial Study	2
Project Proposal	2
Background of the Project	3
Problem area	4
Possible solutions	5
Prototyping	6
Chapter 3 Literature Review	10
Discussion on Online Fundraising	10
Discussion on problem solutions based on published articles	10
Comparison of three/four leading solutions	11
Best Features	12
GoFundMe	12
ScolarMatch	14
Stony Brook University	15
3.3.2 Limitation	16
Recommended Approach	16
Chapter 4 – Methodology	18
What to use and why to use	18
Waterfall model:	18
Advantages of Waterfall:	18
Disadvantages of Waterfall:	19
Rapid Application Development (RAD)	19
Advantages of RAD	19
Disadvantages of RAD	19
Dynamic Systems Development Method (DSDM)	20
Advantages of DSDM	20

Disadvantages of DSDM.....	20
Used techniques by DSDM:.....	21
Sections of Methodology	21
Feasibility Study	21
Critical Analysis	22
Requirement Analysis	22
Design Specification	22
Implementation	22
Testing.....	22
Implementation plans	22
Chapter – 5 Planning.....	23
Project Plan	23
Work Breakdown Structure (WBS)	23
Resource allocation:	24
Time duration:	25
Gantt chat:	26
Test Plan	27
Testing against time boxes.....	27
Required tests	28
Unit Testing.....	28
Integration Testing.....	28
Module Testing	29
Test Case	29
User acceptance test plan	29
Risk Management	30
Risk Identification	31
Risk assessment	32
Risk precaution	32
Steps taken for possible risks.....	33
Change Management	33
Factors that might cause change.....	33
DSDM Atern welcomes change	34
Considering business value / priority	34

Change workshop	35
Changes that are allowed	35
Key Decision takers of change.....	35
Quality Management	36
Rules applied to maintain quality	36
DSDM Atern standard quality measures	37
Quality Plan and measuring meter	38
Chapter – 6 Feasibility	39
All possible type of feasibility	39
Technical feasibility:.....	39
Operational feasibility:.....	39
Economic feasibility:	40
Cost Benefit Analysis	41
DSDM – good or not for this project –PAQ	42
Chapter – 7 Foundation	43
Problem Area Identification	43
Interview:	43
Summary of the interviews:.....	44
Observation:.....	44
Proposed System:	46
Summary of Foundation	46
Chapter 8 – Exploration	47
Old System Use Case	47
Activity Diagram:	47
Full System Use case:	48
Full System Activity Diagram:	49
Prioritized Requirement List (PRL)	49
Chapter 9 – Engineering	51
New System Modules	51
Use Case.....	51
Class Diagram	52
EERD Diagram	52
Sequence Diagram	53

Component Diagram	53
Deployment Diagram	54
Registration Page	54
Login Page	55
Chapter 10 – Deployment	57
Core Module Coding Samples	57
Student register page.....	58
Possible problem break down	62
Developing and Designing the database:.....	62
Development Back end interface:.....	62
Login into system based on user role:	62
Prioritization while developing	62
Chapter 11 – Testing	64
Test Plan Acceptance	64
Test case	64
Unit Testing.....	64
Module Testing	65
Integration Testing.....	68
Acceptance Testing	72
Security Testing.....	75
Performance Testing.....	76
Usability testing	78
Chapter 12 – Implementation	80
Training	80
Big bang implementation	80
Chapter 13 – Critical Appraisal and Evaluation	82
Objective that could be made	82
Objective- Following and adopting a specific methodology for the developing of the project:..	82
Success Rate:.....	83
How much better it could be done	83
Objective- Implanting a platform for DIU student from where they can get service:.....	83
Success Rate:.....	83
Objective- Establishing a standard documentation of the project:.....	84

Objective- Creating feasibility and risk analysis report:	84
Success Rate:.....	85
How much better it could be done:.....	85
Objective- Performing several testing and implementation methods	85
Success Rate:.....	85
How much better it could be done:.....	85
Why those aspects could not be done.....	85
Objective totally not met / touched	85
Why these features could not be touched:	85
What could be done to touch the feature:	86
Chapter 14 – Lessons Learned	87
Pre project – review – closing	87
What I have learned	87
What problem I have faced	88
What solutions occurred	88
Chapter 15 – Conclusion	90
Summary of the project	90
Goal of the project	91
Success of the project	91
My experience	92
References	93
Appendix.....	94
Unit Testing	94
Module Testing	94
Integration Testing	95
Acceptance Testing	95

Chapter 1 – Introduction

Introduction

Fundraising is a common and well known way that non-profit organization can gather for their activities. These activities can include an extremely wide cluster of concerns, for example, religious or humanitarian gatherings, research organizations, public broadcasters, political crusades and ecological issues. Sometimes it can be really hard for anyone to do something without taking financial help from other people. But not all people are willing to help another. Some people are really want to help other people in a non-profitable mind. Sometimes this help can be for a chosen charity. And gather those fund for some specific reason or some people is commonly known as fundraising. Fundraising is normally known as the process of admiring financial support. For most nonprofits to bring in revenue for their organization's mission it is an essential way.

In most of the countries, there are many popular websites for gather funds through online. Also there are fundraising websites in many universities. All those websites are managed centrally in order to help people and students who have needs those helps desperately. It is a great challenge for implementing such an enormous system in Bangladesh to manage authentication issues and donors information effectively both internally and externally.

The purpose of the proposed solution is to help DIU students in order to provide them gather their desire funds through direct communication from individuals people to university students through an effective fundraising platform. Donors can also communicate with fund seeking people easily and efficiently for give their donations through the system. Also any person who is interested in gather or donate funds can gather various information and research report through the system.

Chapter 2 – Initial Study

Project Proposal

The title of the system is “DIU Donation system” is for the purpose of gather and collect donation through online. This system will reduce the troubles of the issues of authentication lies in other online fundraising system. Crowdfunding is a new way to raise money online for non-profit, charity, social enterprise, community project or person in need. Crowdfunding is the practice of funding a project or venture in online by raising small amounts of money from a large number of people. It is very important for charity organization to be recognized by as many people as possible to attract more donations for its good deeds in the community. The proposed system will follow the method of crowdfunding. To ensure security user have to registration and then login, the students of the university those who seek for some financial help will create an event to promote the campaign with valid documents. The people who want to donate will see all the events are running in the system and will donate which campaign they prefer to donate money or other things. As funds come in they will be transferred on those students' accounts. And after taking the donations students must have to send their donors progress update.

In this system there are three types of users, administrator, student and donors. Administrator will cover up the managerial things which include the all management tasks such as financial transactions, mange all the information of donors and students. Admin will be accountable for the system and will manipulate this system. Admin can add and remove any donors or students. He/she will manage the financial calculations. He/she will manipulate about all the information students or donor share is authenticate. Moreover, this system will be useful for the students as well. Through this system the student will be able to create own profile as student or donor and can create events for gather donation and can give donation to those events as donor. Student and donor will take the following benefits from the system.

- Ensure security.
- System will be available for 24 hours.
- Create Events.

- User portfolio
- Promote campaign.
- Give feedback about event.
- Enrolment number.
- Donor retention rate.
- Make donations.
- Content management.

Furthermore, they will be able to log in to the system to promote their events for social media as nowadays social media is much popular. The web project will have a content management system for administrator or charity organization itself to constantly make updates and amendments to the content of existing pages, rearrange the site structure and reassemble menu, monitor commenting in forums, control user registration, and administer online. This can be done by means of Extranet/Intranet and administrator login. This volunteer-type access will ensure that volunteers can also make minor amendments to their posted ads and events, and will be constantly sent newsletters or alerts.

Background of the Project

There is a say, “No one has ever become poor by giving”. Fundraising is the process of seeking and gathering voluntary financial contributions by engaging individuals, businesses, charitable foundations, or governmental agencies. Nowadays new forms of fundraising such as online fundraising have emerged in recent years. In spite of the popularity of fundraising through social media platforms, if a campaign is more than a one-time event, a full website is more functional and looks more trustworthy and reputable than a Facebook page. Raising fund for educational purpose is always popular. Some universities have their own ways to gather fund for universities students. When clubs and groups on campus need extra money, or any students need money for educational purposes or for their personal problem organizing a fundraiser is a great way for them to get the cash they need.

But difficulty arises when some universities don't do such type of things and they don't have any proper website to make these things possible. In most of the developed countries, raising fund in universities are very active and very common. University managed centrally in order to help students to achieve higher education and also for the development of the university. Fundraising plays an important role in for many kinds of campaign. It is a great challenge for implementing such an enormous system in Bangladesh to manage raising fund and give the people who are seek for it effectively both internally and externally. And nowadays online funding is become popular and easiest way to

But Bangladesh is a developing country and according to World Bank Bangladesh's' poverty rate is below 9% in 2018. As measured by the percentage of people, living below the international extreme poverty line. So still for some people education is a hard thing to carry out. Sometimes it became a problem to continue higher education in universities or any unwanted situation can prevent someone to do so. If those students get help from their educational institution it might be very helpful for them to continue their study without any worry.

In order to minimize this mishap, the proposed system will be developed where students will be able to share their problem and can directly contact with the donors. Also donors will get advanced facilities to communicate with those students who needs financial or any education help.

Problem area

Online fundraising system is available in all over the world though I did not found any donations website specific for any educational institution. There are several kinds of fundraising system like oporajoy, Jaago foundation and so on. But we can see that there is static website of hotel management in our country. Likewise, here we can see the oporajoy website where the events are accessible and people can give donations on those events but there is no ending of those events and don't have any duration time. Moreover, here we can see only one picture as details of the event but it's not fulfill the authentication properly. I think, this is quite important to let the user know the accurate and authenticate information about the events according to events category.

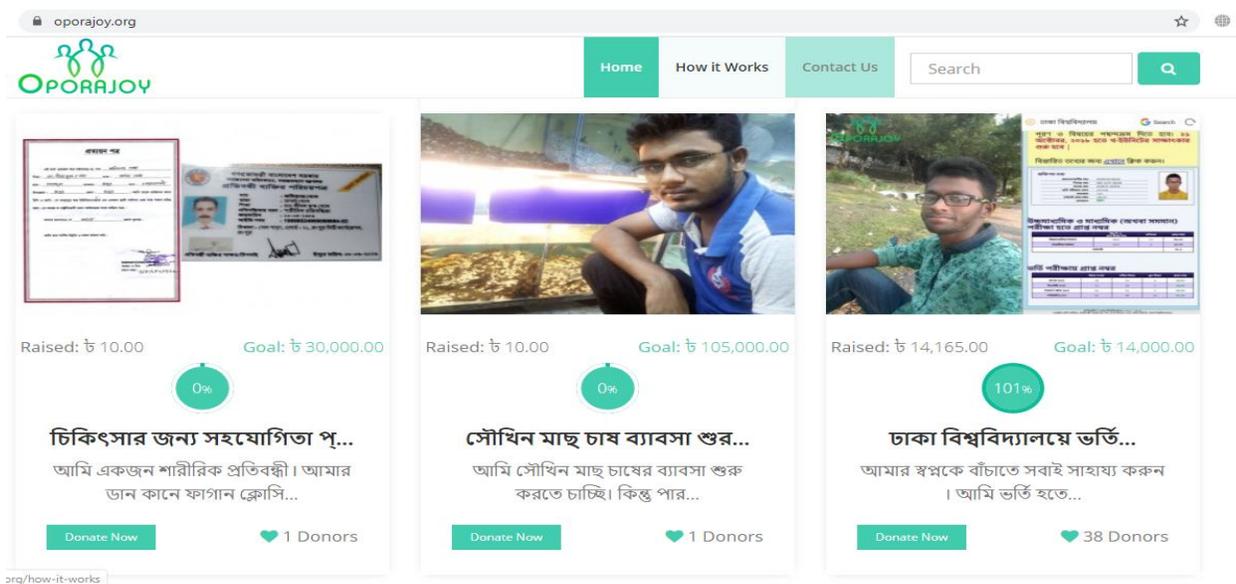


Figure 1: Specific Problem Area

As this is a customized software and only for DIU students so I have provided proper authentication process for them which is not much available to others systems. The duration time of the events will be shown on the system and after expire the time events will be gone from the website. By this feature events will not be hanging on the website and donors will have clear idea about the system and will more interest and involve themselves within system.

Possible solutions

Compromising all the issues in existing system I have identifying the problem areas, I have decided to build a customized software of donation system for my own university. If he will buy a system. This software will provide an extra feature along with the following features:

- Ensure security.
- System will be available for 24 hours.
- Create Events.
- User portfolio
- Promote campaign.

- Give feedback about event.
- Enrolment number.
- Donor retention rate.
- Make donations.
- Content management.

This system will be beneficial for the students DIU because this will reduce the worry of authentication to gather donation through online. Admin will manage the system properly to make it more reliable. Although the system is easy to manage. Moreover gather fund through online is now much easier than pervious way. It will allow the user to reach more people and make communication. It will also make people encourage to make donation through online.

Prototyping

The homepage design be visually engaging but clean and neat without any extra distractions. It is possible to include one rich flash movie at the top of the page for adding dynamics to the page and greater interactivity. The homepage structure might be organized into 4 sections, including banner with logo, navigation bar, login, and sign up, and search options. Dynamic main content section with updatable content and news; side-bar section for advertisements of membership and merchandize, new and up-coming events; footer with the information about the charity, contact details, and site map. All users that want to take part in the charity's active social lives or organize events for charity causes will first have to register with the website, submit their details as follows:

- Full name
- Date of birth
- Current address/postcode
- E-mail and telephone number
- University ID
- A particular charity cause they are interested in

- Password

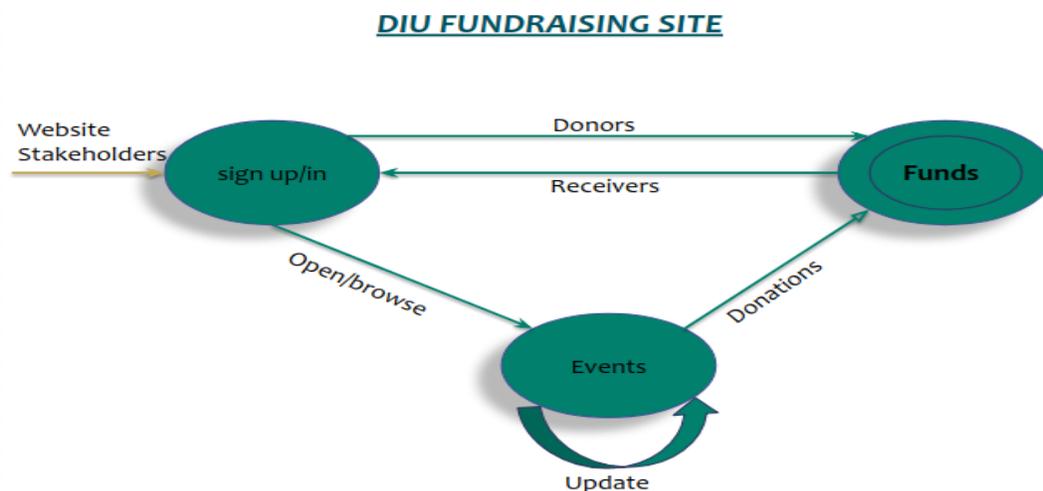


Figure 2: Prototype

Initial research- market viability & comparative analysis

I have researched the web-space on similar or more or less identical charity web-sites. They are all well organized and well maintained. I have found some repudiated international fundraising website. They are all are very useful and so many people already using those software. Some Bangladeshi's website I visit like Oporajoy, Jaago foundation they are also well known in our country and many people gather their funds through those websites. My project is about a fundraising site for a particular university. I searched for that kind of website. But I didn't find any suitable website about that topic. There are options for university student to gather fund on the website but it's not particular for them and it's on some international website. I didn't find any website for university fundraising in our country. So I decided to take ideas from other fundraising site and make a website only for Daffodil International University students. Hope that will be very useful for them.

Market research analysis based on the feasibility factors:

In this section the main aim is to understand the current environment with existing system. Consider the above discussion some websites yet not overcome some issues

like authentication and some websites have not enough information about crowdfunding. Though some established websites are so good to use fulfill all the requirements for users. And those websites are well organized. And nowadays online fundraising is getting popular and some western countries universities take initiates steps for online fundraising sites. On the basis of our country this system will help daffodil international university students to greater their money from those people who are seeking these kinds of platforms.

➤ **Project Objectives:**

The primary objective of the web-site is to communicate the importance of helping fellow students who suffer from various insufficiencies to all potential users of the website. This can be done through collaboration of the charity organization with event organizers and posting different events on the site's homepage. Besides, I have some purpose that I want to meet through this website.

1. Development of aid resources(Donations)
2. Management and distribution of contributions to all needy and low income fellows.
3. Optimum provision and utilization of operational, physical and human resources.
4. Organization and maintenance of the facilities and user data to allow the ease of their access.
5. Speeding up the practical procedures.
6. Helping event makers in their strategic action plan.

Have a content management system for administrator or charity organization itself to constantly make updates and amendments to the content of existing pages, rearrange the site structure and reassemble menu, monitor commenting in forums, control user registration, and administer online. This can be done by means of Extranet/Intranet and administrator login. This volunteer-type access will ensure that volunteers can also

make minor amendments to their posted ads and events, and will be constantly sent newsletters or alerts.

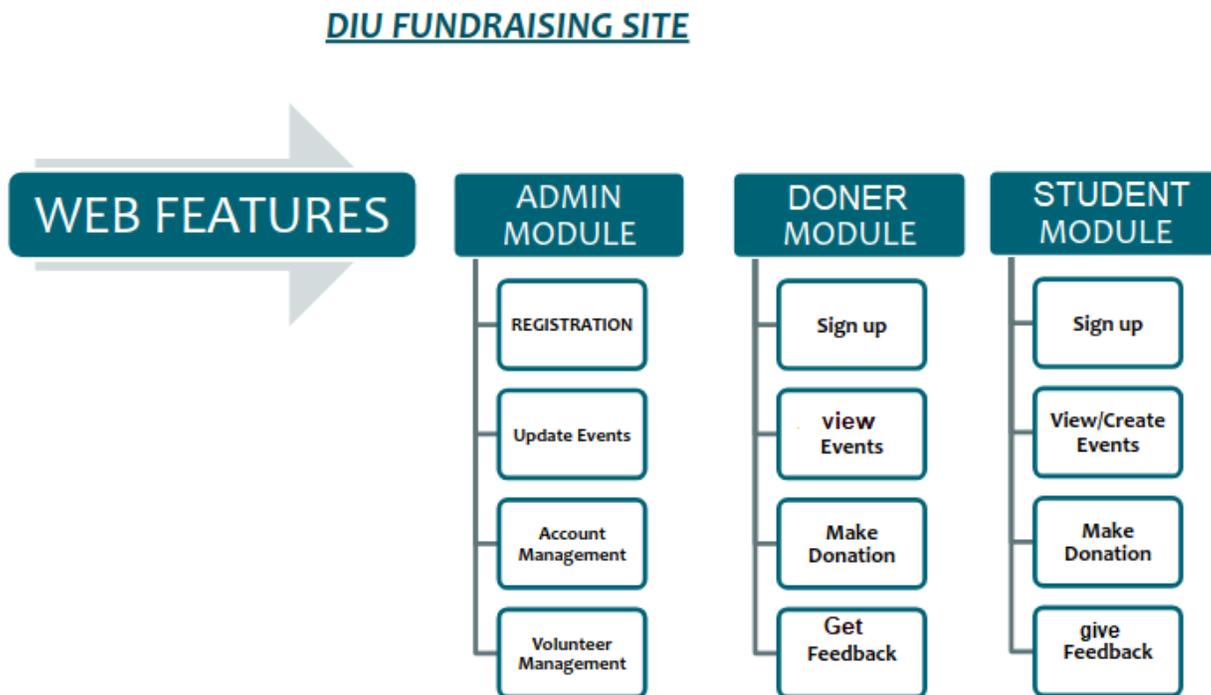


Figure 3: Web Features of the project

In this stage, web application is developed. In described, understanding the websites objective and development involves UI design and coding connects with database. Coding is necessary for development stage. So I have developed a system using HTML and CSS for building the website along with, JAVASCRIPT, JQUERY and MYSQL for database. I have chosen this platform for developing the web application, and it is quite easy to deploy the application through this languages.

Chapter 3 Literature Review

A literature review determines the summary of the important information to a particular topic based on scholarly papers. A literature review ensures the throughout understanding of a topic. Literature review plays an important role in developing a project because it helps to identify similar work done within the selected area, potential problem areas and the solutions which are required for developing a successful project.

Discussion on Online Fundraising

Fundraising is the process of seeking and gathering voluntary financial contributions by engaging individuals, businesses, charitable foundations, or governmental agencies. Nowadays new forms of fundraising such as online fundraising have emerged in recent years. In spite of the popularity of fundraising through social media platforms, if a campaign is more than a one-time event, a full website is more functional and looks more trustworthy and reputable than a Facebook page. Raising fund for educational purpose is always popular. Some universities have their own ways to gather fund for universities students. When clubs and groups on campus need extra money, or any students need money for educational purposes or for their personal problem organizing a fundraiser is a great way for them to get the cash they need. But difficulty arises when some universities don't do such type of things and they don't have any proper website to make these things possible. Some websites are also not well maintained. That's why DIU Fundraising site is providing the best option for Daffodil International University's students.

Discussion on problem solutions based on published articles

This is an online fundraising system where students of DIU can have the service of gather and can give donation for any needs. Nowadays crowdfunding is very much popular on whole world and it is a very familiar way of gather financial or others donation through it and it is also become known to the people of our country. However I have faces several issues during using fundraising sites. Along with solutions those issues are given below:

❖ **Trust:** The main issues lies within all fundraising system is trustworthiness. The people who wants to give donation are always worried about all those comping in the website weather authenticate or not or the website is verified or not. Sometimes some events can be fake and people can be cheated.

Solution: The website have to have enough information to prove the authentication. And all camping should be verified by the developer of the website. User data have to have enough security and privacy.

❖ **No online identify to verify:** Most of the time the visitors do not use their original particulars to make donation or create any campaign. They can involve with the system with fake id.

Solution: There are some ways of solving this issue. During registration the verification of user should be done with authentic information.

Comparison of three/four leading solutions

Technologies are moving towards day by day, and similar applications are working incredibly on their own way and each application is different from others with their working method. Doing analysis on some similar system will help to know which functions are best and which functions are not very well for the system and also can understand the advantages of the system. By evaluate all the different feature of those systems, it helps to decide which features we can adopt for the propose system. On this part of the document I am going to discuss on some internationally recognized similar application, in order to developing the proposed system. Those well-known systems are given below:

✚ <https://www.gofundme.com/>

✚ <https://scholarmatch.org/about/>

✚ <https://www.stonybrook.edu/campaign/>

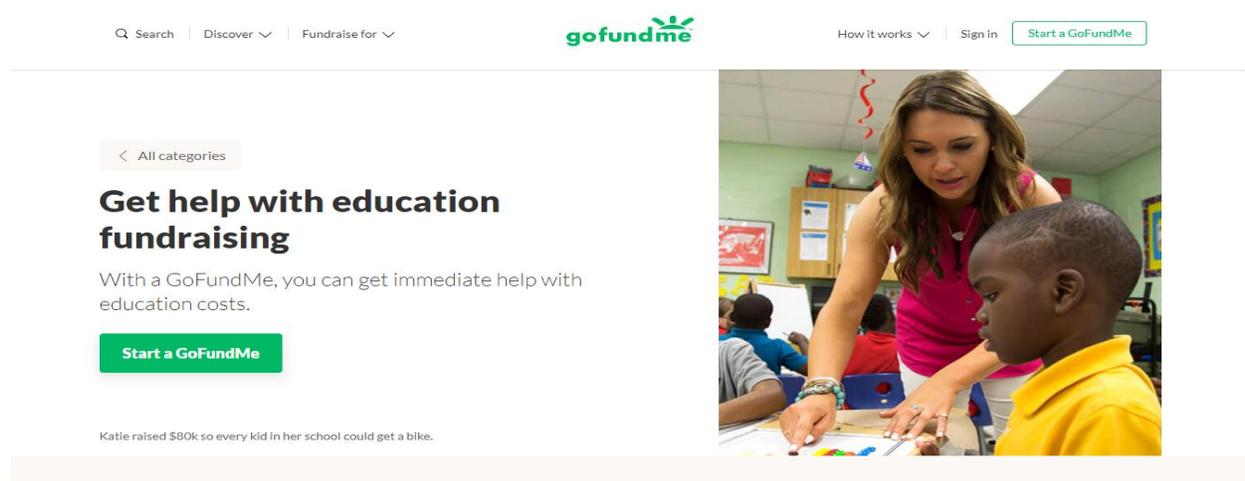
I have selected three existing solutions which is very effective and well known among people for their unique features and work in order to critically analyzing the systems and make a proper evolution for the proposed solution. Each solution have different functions and service which help to analyze all the features which can be very suitable

and appropriate for the proposed system. The strength and weakness of all these existing solutions are given below

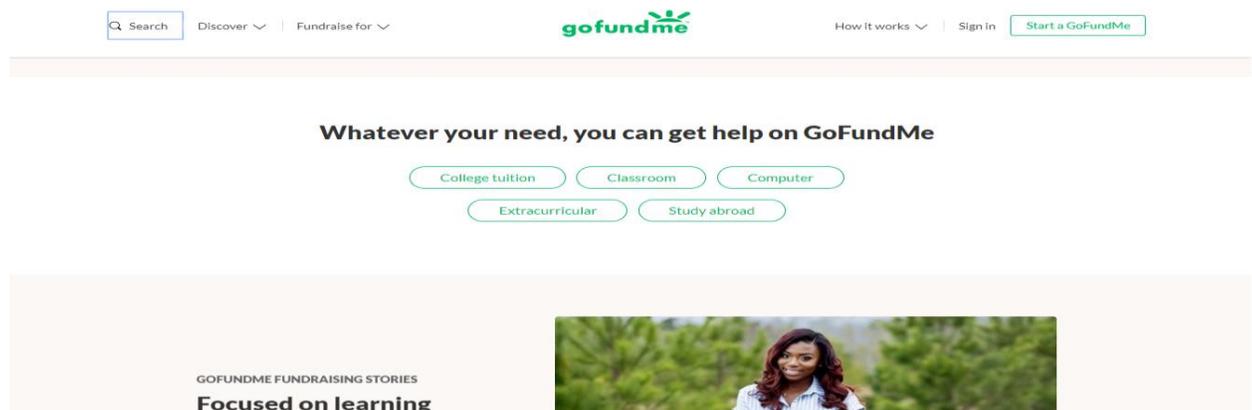
Best Features

GoFundMe

1. The interface of this site is very simple, well colored and easy to understand. So it's very easy to use this site for any kind of users.
2. The navigation bar is so simple and clear. The font color and font size are also appropriate for user to easily understand and easy to use.



3. The purpose of taking help is categorized in the site. Where User can select on which types or on which related topic they need to take donations form people.



- All ongoing events and the position of the events are showing very nicely. Anyone can understand and can have all the information about all events.

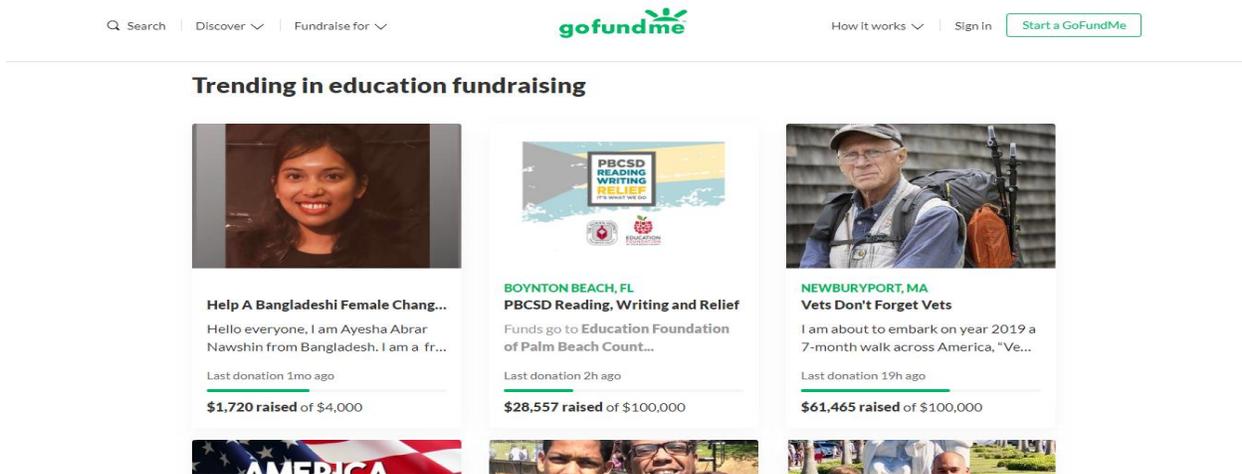
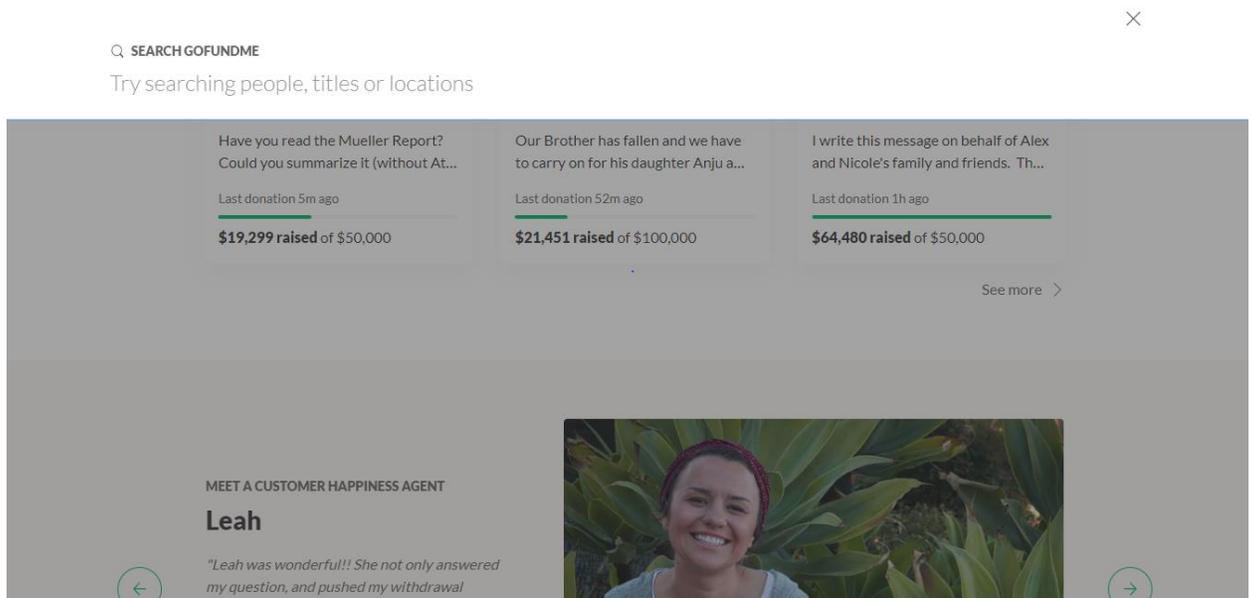


Figure 6: ongoing events are showing in the site.

- The sites contains three different types of search option such as search by people, search by location and search by title.



- Only registered user can start to give donations on that site. And all important information shows within in the sign in page.

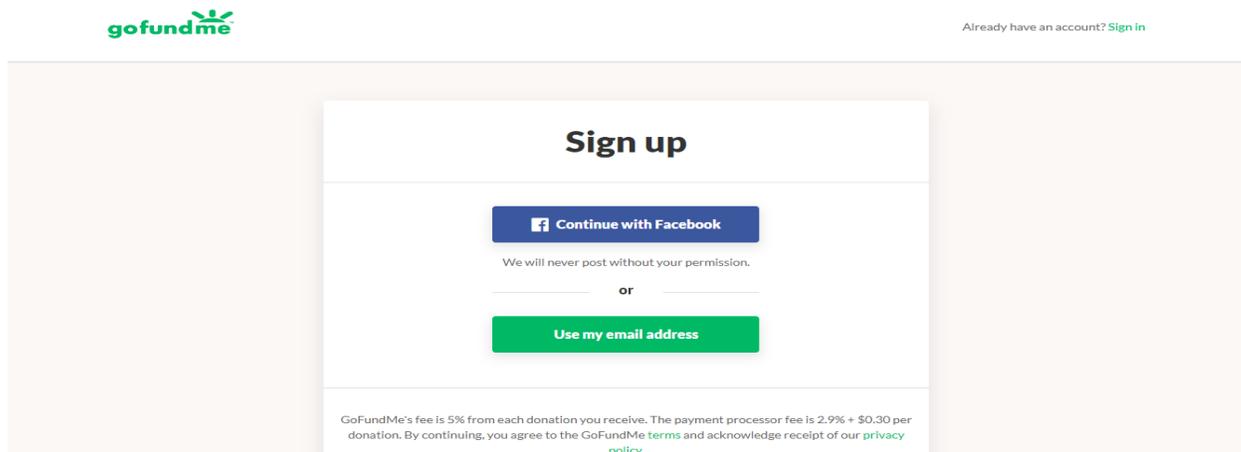
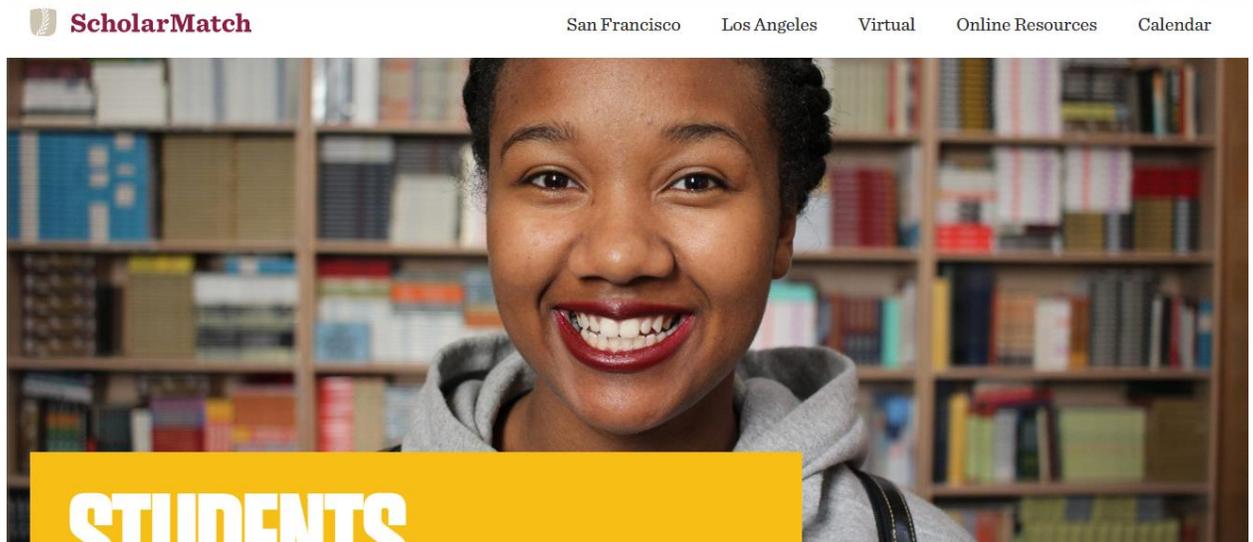


Figure 8: Registered user can make a donation in the site.

ScloarMatch

- All the information about campaign is well orgnied.

2. This website have particular options for students



Stony Brook University

1. This is the university website and there is a particular portion for university donation system.

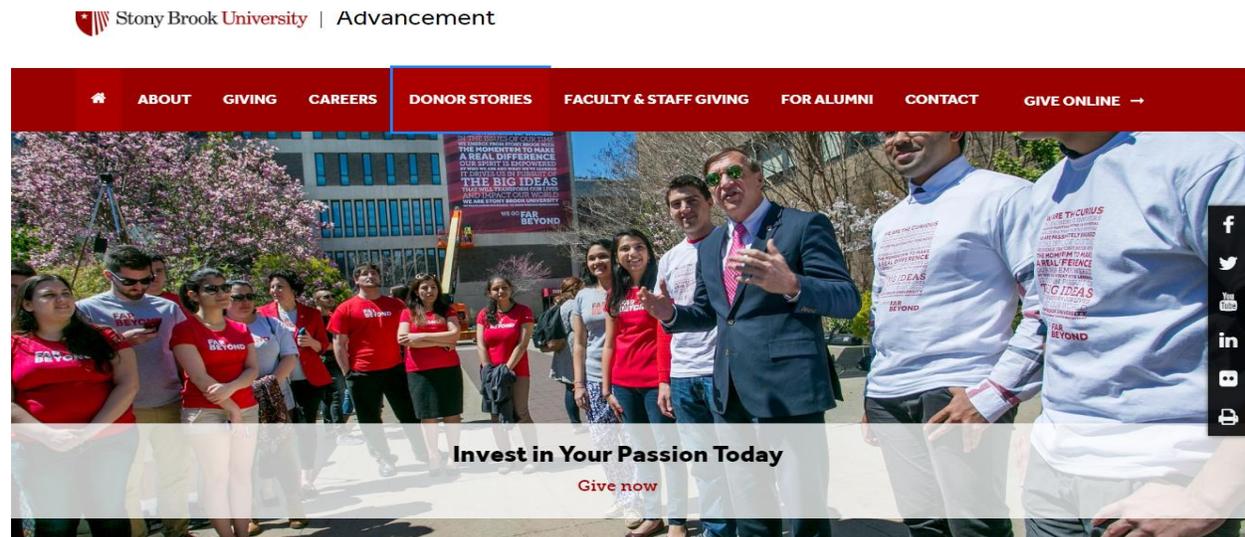


Figure 11: particular portion for university donation system.

2. Give feedback after using donations.



3.3.2 Limitation

GoFundMe

1. It is not a donation system for any particular university.
2. Too many options make the system look complex.

ScolarMatch

1. It is not a donation system for any particular university.
2. Mainly give online resources to students.
3. No messaging system is available there.

Stony Brook University

1. The navigation bar is not so friendly.
2. The interface is not well designed.
3. Color contrast is not appropriate.

Recommended Approach

After doing critical analyzing on the existing systems it is decided which features and functions should have been in the proposed system. Also decided how the interface

should have to be designed. Some recommend approach will be considered for the proposed system which is given below:

- The information and content of the site will be displayed properly.
- The font of the site and color contrast will be clear and attractable to users.
- Only after registration students will be able to create events on various purpose.
- Registered users will be able to update and delete their profile and can edit any information.
- The navigation will be easy to get and easy to understand.
- All events will be shown to all users who will visit the page.
- A site for DIU students and other people where they can communicate with each other by registering into the system.
- The proposed system will be contain several search options.
- All donors for an event will be shown on the site.

Chapter 4 – Methodology

For developing a project, choosing a methodology is essential which is suitable and appropriate with the nature of project. Methodology allows better understanding of business needs and end user requirements to development team. In this section a brief description is provided about the selected methodology for the proposed project with proper evaluation.

What to use and why to use

While developing a system Software development methodologies (SDM) playing a crucial role. To access the success and failure rate of the system software development methodologies are essential. There various methodologies are used for developing a system. For developing a system there are various methodologies are used such as Waterfall methodologies, Rapid Application Development (RAD), XP or Extreme Programming, Dynamic Systems Development Method (DSDM) etc. Among those I will find out which method is suitable for my system. All those methodologies and their pros and cons are described below:

Waterfall model:Waterfall is the basic traditional method for software development that follows straightforward structure of system development life cycle. This model divide the cycle into a set of phases - finish one phase then move on to the next. In this method each phases depends on the information from the previous phase. One phase can be started after completion of previous phase. It is very simple but idealistic and easy to understand and manage. And the phases do not overlap with each other. This method does not allow changes of requirements because there is no way to back on previous phase. This method is appropriate for those projects where the requirements are fixed (GeeksforGeeks, n.d.).

Advantages of Waterfall:

- The features and functionalities of project are very easy to understand.
- Maintain sequence of activities - finish one phase then move on to the next.
- Waterfall allows easy testing and analysis.
- Saves significant amount of time for project development.

Disadvantages of Waterfall:

- Not appropriate for long term project.
- During development of project testing is not allowed.
- During development phase Iterative development and changes of requirements are not allowed.
- For object-oriented projects this model is not suitable.
- Each phase is depend on details information of its previous phase.

Rapid Application Development (RAD)

Rapid application development (RAD) method follows iterative development and prototyping with minimal planning that aimed to provide quick result. It is easier to make changes during the development process through this method, as there is no detailed preplanning (Powell-Morse, 2016). This method classifies the analysis, design, development and test phase into a series of iterative development lifecycle. Rapid Application Development method can be applied successfully to those projects where the project can be broken into modules, otherwise RAD may fail.

Advantages of RAD

- This method reduces development time and provide quick result
- It makes development process easier through increasing reusability of components
- Allow users feedback and changing of requirements to provide efficient solutions

Disadvantages of RAD

- Required strong and highly skilled team members for identifying business needs
- It is more complex to manage project through this method
- Need user involvement throughout the development lifecycle
- Success of project highly depend on modeling skills

Dynamic Systems Development Method (DSDM)

Dynamic systems development method (DSDM) is skeletal structure of Rapid application development (RAD) that allows users involvement and iterative and incremental approach during the project life cycle in order to satisfy end user needs. DSDM is quite in demand for software development because it provides system development within the specified time frame and the allocated budget. DSDM always focuses on business needs and appropriate for those project where business goal is clearly defined.

Advantages of DSDM

- Allow changes of requirements during the project development life cycle
- Reduce the risk of building wrong solution
- Ensure the delivery of system within the specified timeframe
- Iterative and incremental approach makes the system development more smoothly

Disadvantages of DSDM

- Inappropriate user involvement may lead the failure of project
- It is needed to complete each feature before moving to the next
- DSDM is not suitable for small project as it never delivery all requirements

The success of the proposed project totally depends on the user's satisfaction. So the priority of user requirements should be considered first for the success of the project. The user's requirements may be changed during the development life cycle. In order to handle the changes of requirements during project development, it is needed to select a methodology that allow changes, iterative development and involves users in the development life cycle. For these reasons, DSDM would be a good choice that allows iterating in every step of its life cycle. But, in every stage of the development lifecycle of DSDM method live user feedback is essential. However it may be impossible to engage live users during the development life cycle of the proposed project. So such type of method would not be appropriate and applicable for the proposed project.

Bringing this in mind, a framework has been designed for the development of proposed system that is appropriately fit with the nature of the project. Through following the development framework a suitable solution will be developed and the framework will allow iterative and incremental development process.

Used techniques by DSDM:

There are some techniques in DSDM Atern which are follows to complete the project:

➤ MoSCoW Prioritization

This strategy mainly helps DSDM Atern to set the features based on priority. The abbreviation of MoSCoW Prioritization is given below:

Must Have: This part defines all those requirements which is non-negotiable and essential for the project. Without those the system will be valueless.

Should Have: This part defines important requirements which is not mandatory but add significant value which will be beneficial.

Could Have: This part defines those requirement which will have a small impact if it left out.

Won't Have: This types of requirements are not a priority for the system it can be added even after the project (ProductPlan, n.d.).

Sections of Methodology

The section of methodology describes the procedures or stages such as identifying requirement, analyzing requirements, design, etc. for developing a system (Kallet& Richard, 2004). A breakdown of the selected framework is provided in the below.

Feasibility Study

This section is very important for the development of proposed project because it will outline the evaluation of business ventures, possible solutions of problems and suggests the best alternative. Through this section it will be confirmed the economic, social, operational and technical aspects of the project and also will be considered the cost and time estimation for the proposed system.

Critical Analysis

In this section it will be identified the current business environment, problems of users and what features should be developed for the proposed solution through analyzing and researching existing systems.

Requirement Analysis

This phase is an important part for developing the system. In this section the user requirements will be gather involving the users and the requirements will be prioritized and specified considering the business goals.

Design Specification

In this section a prototype will be designed for the proposed system considering the requirements and also front-end website and backend database will be designed.

Implementation

In this section the system will be develop and implemented according to the designed prototype and the final solution will be released with proper documentation.

Testing

In this section a test plan will be produced and a test log will be documented. Testing will be iterative and testing will be confirmed during implementation phase.

Implementation plans

The main development will be implemented within this section. All of the requirements which had collected before from the clients and business, those have to be keep in mind during the implementation period of the system. Prototype can provide a minor idea that how the solution will be signifies in real. This is how the proposed system can be implemented with suitable documentations.

Chapter – 5 Planning

Planning defines the process to complete a project within a particular timescale with defined stages and designated resources (Rouse, 2007). It most commonly represents the form of a project plan, test plan, risk management, change management and quality management that make it easy to communicate with stakeholders. Planning is essential for developing a system that will help to deliver the system within the limited timescale. It will also help to identify any risks and changes that may require for the implementation of the system. This section of the document outlines the detail planning of the proposed project.

Project Plan

Work Breakdown Structure (WBS)

The work breakdown structure is a method through any complex and large project can be done. WBS is the outline of a specific project that describes the schedules of deliverable major functions and sub-functions and actual work efforts. The work breakdown structure (WBS) is used as a management tool during the project life cycle in order to identify, assign and track total work scope.

In the following the work breakdown structure is given based on the category of tasks but the sub categories are not shown in the diagram.

NO	Task Name	Start Date	End Date	Duration
1	Introduction	25/09/2019	27/09/2019	1
2	Initial study	28/09/2019	29/09/2019	2
3	Literature Review	30/09/2019	31/09/2019	2
4	Methodology	1/10/2019	4/10/2019	4
5	Planning	5/10/2019	6/10/2019	2

6	Feasibility Study	7/10/2019	9/10/2019	3
7	Foundation	10/10/2019	11/10/2019	2
8	Exploration	12/10/2019	14/10/2019	3
9	Engineering phase	15/10/2019	18/10/2019	3
10	Deployment phase	19/10/2019	19/11/2019	30
11	Testing	20/11/2019	28/11/2019	9
12	Implementation	29/11/2019	30/11/2019	2
13	Critical appraisal	1/12/2019	7/12/2019	7

Figure 4: WBS Diagram

Resource allocation:

Normally the resources of a project consist of analyst, developer, tester, user, equipment, knowledge and time. Resource allocation is the essential part for a project development that helps to track project schedules, milestones, deliverables and deadline in the most effective ways.

No	Task Name	Duration	Resource Name
	Event Manage System	105	Analyst, Developer, user, tester
1	Introduction	5	Analyst
2	Initial study	10	Analyst
3	Literature Review	8	Analyst
4	Methodology	8	Analyst
5	Planning	10	User, Analyst
6	Feasibility Study	5	Developer and Analyst
7	Foundation	7	Developer and Analyst

8	Exploration	7	Developer and Analyst
9	Engineering phase	8	Developer and Analyst
10	Deployment phase	10	Tester, Developer and user
11	Testing	8	Tester, Developer and user
12	Implementation	7	Tester, Developer and user
13	Critical appraisal	5	Analyst
14	Lesson learned	2	Tester, Developer and user
15	Conclusion	5	Analyst

Figure 14: Resource Allocation Diagram

Time duration:

To estimate accurate time duration it is needed to understand the factors such as how much time will the project take, required resources and cost of the project. A project may fail or can be delivered within timescale without proper time allocation. A diagram for the time allocation of the project is given in the following.

Time Box	Task Name	Duration	Acting Role
Time box -1	Initial Study	7	Analyst
	Feasibility Study	5	Developer and Analyst
	Foundation	10	Developer and Analyst
Time Box 2	Literature Review	5	Analyst
	Introduction	8	Analyst
Time Box 3	Methodology	10	Analyst

	Planning	8	User and Analyst
	Exploration	7	Developer and Analyst
	Engineering Phase	8	Developer and Analyst
Timebox-4	Testing	8	Tester, Developer and user
	Deployment Phase	5	Tester, Developer and user
	Implementation	10	Tester, Developer and user.
TimeBox- 5	Critical appraisal	5	Analyst
	Lesson learned	2	Tester, Developer and user
	Conclusion	7	Analyst

Figure 14: Time Allocation Diagram

Gantt chat:

A Gantt chart is generally used for a project management that illustrate the start and finish days of project activities. In Gantt chart project activities are represented as bar.

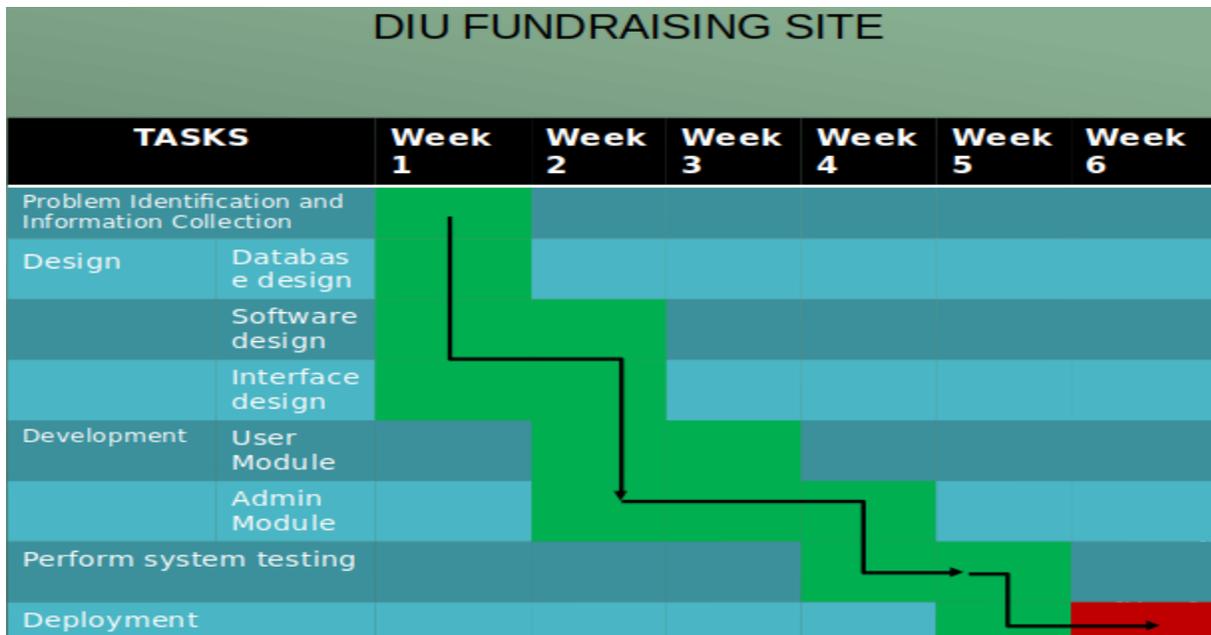


Figure 15: Gantt chart

Test Plan

Test plan is the most important activity for a project. The system is need to be tested in order in order to find the system exactly doing the work it meant to do and all the function of the system also working according to design. It will help to find is there any problem in the system. Test plan describe the scope and risk that need to be tested in order to ensure the accuracy and acceptance of the system.

Testing against time boxes

To get perfect outcome from a system do testing against time box is important. Each testing is needed after each time box. Before delivery the testing of the system against time boxes will help to understand the outcome of the system. The test case against the time boxes are given below:

Time box	Task Name	Resource Allocation
T-1	Introduction	Analyst
	Literature View	
T-2	Initial	Analyst
	Methodology	

	Planning	Analyst and User
T-3	Feasibility	Analyst and Developer
	Foundation	
	Exploration	
T-4	Exploration	Analyst and Developer
	Engineering	
T-5	Engineering	Analyst and Developer
	Deployment	Developer and Tester
T-6	Testing	Developer and Tester
	Implementation	Analyst, Developer and Tester
	Critical Appraisal	Analyst
	Lessons Learned	
	Conclusion	

Figure 16: Time box

Required tests

Testing is essential for a system in order to find out the system limitation. Also there are various type of tests are available, the most important and required tests are chosen for the proposed project.

Unit Testing

Unit testing is defined as a process of testing where the smallest piece of components or unit are tested in order to judge the unit of the system is working accurately. Mainly this unit testing is happen during the development of the system (Guru99, 2019). Unit testing enables developer to rewrite codes or upgrade the system libraries in order to make sure that the unit works correctly. Through the unit testing the quality of codes is improved.

Integration Testing

A system consist of multiple software modules. Integration testing ensures that all components of the system are integrated and working accurately as desired and

according to the requirements. This testing will be performed before module testing and after unit testing. System's components have to integrate together and logically to perform well.

Module Testing

Module testing is defined as a process of testing in which

Test Case

Test case actually used for checking that each functionally is working properly according to the direction of end users. I have provided a test case format for the proposed system so that this system can make non-vulnerable and bug free.

Test Case No			
Test Type			
Test Case Description			
Test Steps	Expected Result	Actual Result	Comment

User acceptance test plan

User acceptance testing basically executed by users. Fundamentally, user acceptance testing is intended for verifying the system that whether the system is meeting all the requirements correctly or not. It mainly takes place before releasing the final product on diverse environment. Black box testing is a widespread user acceptance testing where the system will be checked through providing input. If it appropriately responds, then it's satisfactory. This testing makes without involving the source code of the system.

Test case No.	User Name		
Test type		Acting As	

Test Title			
Pre-Condition of test			
Test Steps	Expected Result	Actual result	Comment

Risk Management

Risk management is about to identify the threats which contain within a system. Likewise, ambiguity of financial data, strategic inaccuracies in management can be harmful due to fail user expectation. Therefore, appropriate risk management is really an indispensable concept as it aids to reduce the possibility of stirring risk as well as save the significant data and intellectual property. Risk management contains a few steps which I have illustrated below:

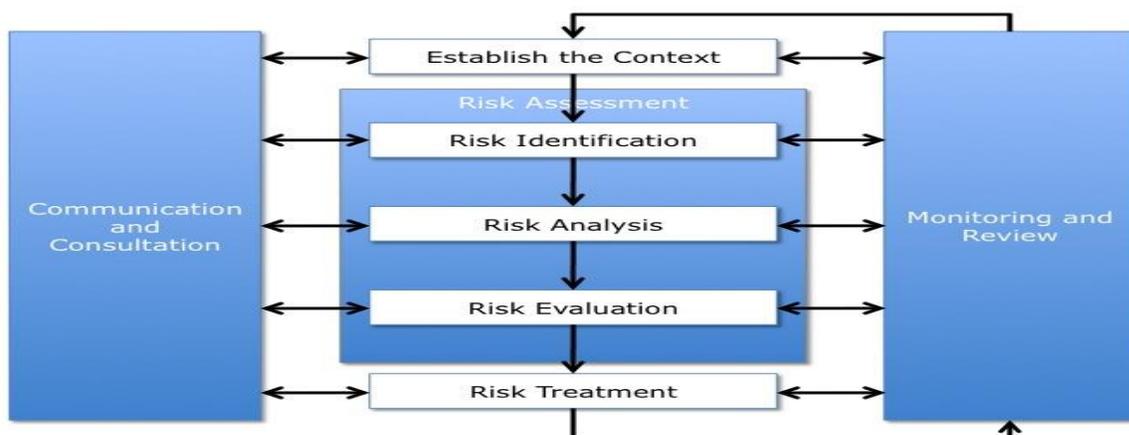


Figure 17: Risk Management Process

Risk Identification

Risk identification refer to detect the threats which are seemed as restraint to reach the preferred destination. Several phases are followed in order to identify the threats. They are-

- Specific risk detection can be an issue of impeding the purpose of the project.
- Documentation of the threat along with possible reason.
- Explanation of threat's influence.

Several types of risks and their influences are described below:

Type of Risk	Description	Objectives
Project Risk	It affects the project objectives	Time, Cost, Performance and Quality
Business Risk	It affects the business objectives	Competitiveness, Profitability, Market Share, Reputation
Safety Risk	It affects the safety objectives	Minimal Lost Days, and Accident Rate Low
Technical Risk	It affects the technical objectives	Functionality, Performance, Maintainability
Security Risk	It affects the security objectives	Security of Information, Personnel, Physical and Asset

Figure 18: Types and influences of risks

Potential Hazard	Who is at risk?	Existing Control Measures	Risk Rating	Preventative Measures	Responsibilities

Figure 19: Risk Identification Form Template

Different methods are followed to detect the threats correctly. For the proposed project I have provided a risk identification template below:

Risk assessment

Risk assessment is a methodical procedure of assessing the prospective threats that may be convoluted in a system. It has several purposes which are given below:

- Purpose of risk's probability
- Detection of required activities in order to regulate the risk.
- Approval of regulating the risk.
- Risk level assessment.
- Marking of the cost intended to control the risk.

A risk assessment matrix has provided below:

RISK ASSESSMENT MATRIX				
SEVERITY \ PROBABILITY	Catastrophic (1)	Critical (2)	Marginal (3)	Negligible (4)
Frequent (A)	High	High	Serious	Medium
Probable (B)	High	High	Serious	Medium
Occasional (C)	High	Serious	Medium	Low
Remote (D)	Serious	Medium	Medium	Low
Improbable (E)	Medium	Medium	Medium	Low
Eliminated (F)	Eliminated			

Figure 20 Risk Assessment Matrix

Risk precaution

Risks have to be evaluated to assume the precautions. This is a procedure of segmenting risks for listing down the risks based on their priority; it can be quantitative

or qualitative relationship between those accompanying risks. (Anon., 2019) Several steps have to be taken for completing the evaluation of risks. Several principals are contained within this section which are enlisted below:

- Less risky alternative trying
- Hazards access prevention
- Establishing tasks for reducing coverage the risk
- Defensive equipment issue
- Deliver welfare facilities
- Including and referring workforces

Steps taken for possible risks

Several steps can be involved for possible risks. They are itemized below:

- The development tasks have to segment into numerous places.
- The changing condition plan has to be followed.
- A strong agreement has to be made with the owner of the system.
- While functioning on a project, a business ambassador has to be involved.
- Cleared requirement.
- Continuous communication with the system end users.

Change Management

During the time of the implementation the change management will take place. This means the change of requirements or the modification within code. For developing an effective application, it is too acute. The DSDM Atern based on Agile methodology can do change management. Adding a new feature, it functions will be considered as a change management.

Factors that might cause change

As this is an academic project this entire project analysis is completed through an individual. This is why, any changes can be required for catching the exact target of the system. Through the analysis of the change management some factors have come out which have to be altered. These are listed below:

- **Changes in time boxes:** Before starting of the project, the time boxes are created. However, those time boxes need to be altered for adjusting with the time schedule after implementing one or two of them.
- **Changes in functions:** At implementation stage, several extra features can be required to join which are excluded. During the development stage these kinds of changes might take place.
- **Allocation of resources:** During the implementation of the project the resources can be altered. For example, damage of the implementation device, switching of the internet connection for improved facility.
- **Integration changes in third party (such as API):** Using the third party facility the system is required to be integrated. During the development stage of the project, these kinds of small deviations can be happened. For instance, Like and sharing post for publicity to the social media from the implemented system.
- **Changes in errors or bugs:** Errors can take place as the system is not going to be implemented faultlessly for the first time. Consequently, at the time of the development stage and the testing stage the bugs and errors have to be fixed. This is why, these kind of changes might take place within the project.
- **Changes in technology:** For making this system I will use the PHP programming language. However, I would have to use the other languages like HTML, CSS, JQuery along with the used programming languages to support the proposed system.

DSDM Atern welcomes change

DSDM Atern under Agile development methodology permits the alteration during the implementation stage. The key purpose of the changes is the iterative development. This permits the alteration through iterative method. However, the modifications have principles to welcome. A big modification is not acceptable within DSDM Atern. The modifications are sustained until the target of the application reached out.

Considering business value / priority

The modifications are followed through the priority. Through the MoSCoW prioritization the requirements are ordered in DSDM Atern. The modifications take places for

considering the priority. The most significant feature modifications take the first place in priority as well as the less vital alterations are goes to the next position of significant ones. This is influenced by the while of the project. The less vital time box modifications won't take place if it doesn't cope with the period.

Change workshop

One of the DSDM's essential thing is facilitated workshop. DSDM Atern allows workshop for communicating with stakeholders and users. the stakeholder can be able to consult effortlessly with the implementing team. This is an academic project. For that reason, this is not completely DSDM Atern. The change workshop cannot take place.

Changes that are allowed

During development of the project, all the modifications are not going to be applicable. The system development will be completed if all alteration is permitted. In a project of software development, eight general alterations are enough to embed. They are:

- Plan
- Resource
- Scope
- Work
- Cost
- Schedule
- Risk
- Quality

Before altering all of these fields are analyzed emphasized on administrative viewpoint and business. Nevertheless, this is a theoretical project. This is why, only the business goal of the system and the intension of the development will be focused to apply the modifications.

Key Decision takers of change

Due to being an academic project there is no development team specifically. All roles are playing through an individual. As a consequent, only one person can be able to make the modifications here from different characters. Likewise, after finding any errors

users might be able to alter the code as a developer as well as analysts might be able to make alters if any of the features or functions requires modification.

Quality Management

This refers to the acceptance level of any system outlined through the system users. This is actually a set of rules which is used by the organization internally. This is actually for assuring that the products and services are delivering to the customers with satisfaction. The method of confirming the quality level is defining by this section as well. The objectives are written below: (Anon., 2019)

- Introduce the process of quality management and the activities of key quality management
- Role of standards explanation
- Quality assurance of product acceptability level
- Quality assuring activities
- System quality controlling activities

Rules applied to maintain quality

It is quite common that the system quality will differ from other system. For the proposed system two rubrics will be applicable for maintaining the product quality. Those are explained below:

Quality Control

Quality control means the set of processes and measures which has to be followed for justifying the product quality according to the requirements. This provides assurance that the system is bug free. It provides assurance of better performance and ensures that the system has followed the requirements accurately.

Product	Physical/Performance Standards	Quality Activities	Assurance	Assessment Intervals

Figure 21: Quality Control Template

Quality Assurance

Quality assurance refers to the method of avoiding errors and flaws in the newly implemented system and assuring that the system is meeting all the predefined requirements according to customer expectation. This also outlines the method of the design of the product during development. In addition, quality assurance contains iterative process which follows during the development of the system lifecycle for assuring better quality according it should be.

Process Action	Acceptable Standards	Process	Process Phase	Assessment Intervals

Figure 22: Quality Assurance Template

DSDM Atern standard quality measures

DSDM Atern maintains the “Never Compromising Quality” principle very strictly. It allows two rules which are different from each other. They are the solution quality and the process quality. I have discussed them below:

Solution Quality

Solution quality permits the way of relocating any solution which is on a basis of the satisfaction of the clients and by accomplishing the requirements of business. It assists to draw attention to prioritize the deliverables as well. Timeboxing is rigorously followed within DSDM Atern. As it maintains timboxing the implementation phase is completed within the time limit along quality. Several strategies are followed for delivering a solution along with quality in DSDM Atern. Such as, incorporating timboxing, MoSCoW prioritization and so on.

Process Quality

The standard of quality of an association is assured by the process quality. This regulates the solution level which defined and assessed through the CMMI process. Several key inquiries are completed at the project lifecycle continuance for the development team in order to make inquiries that the project is going towards the

correct way. The iterative method helps to the evolution of the procedure for being correct.

Quality Plan and measuring meter

Quality plan represents more than one documents which are interrelated to different kinds of serialized activities that are linked with a specific project. Various documents are also related to standards and specifications as well as quality assurance and policies. Here, I have attached several plans that should be applied in the quality plan.

They are listed below:

- Required objectives are having to be appropriately accomplished.
- Resources, Responsibility and the authority have to be allocated.
- Confirmed particular procedures, work flows, practices and strategies are required to be executed.
- Suitable testing is required in accurate stages.
- Documentations and appropriate guiding principles are ought to be submitted during making changes.

Chapter – 6 Feasibility

Feasibility study determines whether a project is technically, economically and Operational feasible or not. Before investing a considerable amount of time and money for a project, the project manager use feasibility studies to determine potential and negative outcomes of the project. It is an analyzing process of successful project which can be previously identified.

All possible type of feasibility

There are different types of feasibility study those are- technical feasibility, operational feasibility and economic feasibility are described below:

Technical feasibility:

Technical feasibility focuses to specify the equipment of a project and review whether the project is meeting the user requirements or not. Technical feasibility is needed to ensure that the system will not face any technical difficulties as per its range the technical requirements of a system. And to facing the competitive market it's necessary for a system to be upgraded with new technology as well. For running this system we need a web server to store data and use them in system also need a PC for admin to monitoring the website. And user will need a PC for use the system with high speed internet connection although now in Bangladesh high speed submarine cable is available so it's pretty much easy to get good speed internet connection.

Operational feasibility:

If a system cannot fulfill the requirement of the system it will not gain the acceptance of the system. And acceptance is the major determined of operational feasibility. How well a system solve the issues and fits with the existing business environment that's all be measured in operational feasibility. Preparing for an event can be expensive when factoring in printing and manpower cost and also time cost but in online funding process cost effective in both out of pocket costs and time. And the system will be related with the university so the authentication of the camping are ensured here. User can easily

visit the website without login or register. Donors can help from any part of the country it allows them to surpass geographical limitations. Only the university students can seek for fund and donors will have their university identity so purchasing of funds will be more secure.

Economic feasibility:

Economic feasibility is another important thing for a system. For any system if the expected benefits equal or exceed the expected costs, the system can be judged to be economically feasible. In economic feasibility, cost benefit analysis is done in which expected costs and benefits are evaluated. Economic analysis is used for evaluating the effectiveness of the proposed system. For this, it is essential to consider expenses made on purchases (such as hardware purchase) and activities required to carry out software development. In addition, it is necessary to consider the benefits that can be achieved by developing this web based site. My system will work on web server so that for this system I have chosen web server solution to run this system in my region. The cost per month of web application domain and hosting will be nearly \$16.75 which is much cheaper for a web application (DOMAIN.COM, n.d.). The costing for web server is given below:

No	Name	Cost
1	Hardware	\$1000.00
2	Software	\$230.00
3	Web hosting	\$100.00
4	Others	\$500.00
Total cost with VAT=		\$1700.00

Hardware cost:

All the cost of hardware which is require for the system is given below:

Model	Cost	Total Cost
Inspiration 15 5000 for database designer	\$500.00 x 1	\$1400.00
Inspiration 15 3000 for system architecture	\$300.00 x 1	
Inspiration 15 3000 for developer	\$300.00 x 1	
Inspiration 15 3000 for tester	\$300.00 x 1	

Software Cost:

During the developed of the system using PHP 5.7 for implementation and for managing database used phpmyadmin. And PHP package is free of cost and phpmyadmin is an application for MySQL database control.

Cost Benefit Analysis

Cost benefit analysis is done in which expected costs and benefits are evaluated. To know the profit of the system cost benefit analysis will measure the cost of the system and will also give an estimate whether the system make benefits within the cost is happening on the system for maintain it. Some figures re given below:

Quantitative analysis	Year 1	Year2	total
hardware	\$1400.00	\$500	\$1900.00
server	\$100	\$130	\$230
software	\$225.25	\$100	\$325.25
development	\$2000	\$500	\$2500
management	\$300	\$200	\$500
others	\$1500	\$1000	\$2500
Total costs	\$5525.25	\$2330.00	\$7955.25

Quantitative analysis	Year 1	Year2	total
Productivity gains	\$1000.00	\$2000	\$3000.00
Saving from structural changes	\$500.00	\$800.00	\$1300.00
Saving from business process improvements	\$2000.00	\$2500.00	\$4500.00
Total costs	\$1600.00	\$2600.00	\$8800.00

Figure 23:estimation of the cost for proposed system

DSDM – good or not for this project –PAQ

DSDM is a perfect agile development process for any project. DSDM maintain some specific technique which helps to get the project done very easily. DSDM priorities all the requirements so that it become easy to know which work should have done earlier. It follow independent procedure. Through collaborate with the system properly this terms improve the performance of the system. And timeboxing process will make sure the project will be deliver on time. So I think DSDM Atern will be the best choice for this project.

Chapter – 7 Foundation

The foundation phase of a project includes the analysis of user requirements in the project, identification of specific problem areas of project domain and find possible solutions for the problems. It evaluates the implementation of project and defines which impacts will be on the project. This section of the document outlines the requirement gathering techniques for identifying problem areas, possible problem solutions, etc.

Problem Area Identification:

Identifying problem area one of the important parts for developing a successful project. To find actual solution problem works like a key factor. There are no way of get the solutions of problems if it's not find out first. Users of the system can find out the problems. If the problems can be identified during project development that can reduce the risk factor of a successful project. There are various techniques and tools are available for identifying problems. Those techniques are described below:

Interview:

Interview is one of the easiest and initial ways to gather required things on a system by the user of that system. It lets the users to say how they are intended to use the system. Without knowing user's expectations and goals, a system may fail. Taking interview of the actual users of the system may help to identify the problems of the system. Understanding the perspective of every interviewee is essential in order to address their requirements into the solution (Ravi, 2018). It's a very well-known way to find problems of a system through the users. Through the interview the following aspects are identified for the proposed system:

- Different requirements and issues of different users are listed.
- Interests of users are recorded for the proposed system.
- Stakeholder's satisfactions for interacting with the system are listed.
- Major problems of users in getting donations are identified.
- What types of payment method user want to donate?

- What should be the authentication process?
- Appropriate users are listed.

Summary of the interviews:

According to students opinions who seeks for donations most of the time they have to go public in a person or have to contact with different people physically. It takes a lot of time to organize and make contact with them. They always don't get the right people who are actually wanted to help. It is very hard to them to get those public in a one place who are actually want to help people and make some donations. It is also difficult to them go to appropriate people for their problems. They have to waste much time for getting a solution. Sometimes they have to spend money for organize and to reach as many as people they can but get a very little amount of money instead the effort they gave for the event. Sometimes it's very hard for them to find any helping hand for doing these events. And don't always get the people who actually trust them and have non profitable intentions.

From donors point of view they always want to help the people who actually need help for their any kind of circumstance. But most of times they get fake people and don't get much authentic information from them which will make them interest to help them. They want an easy platform where they can communicate with people directly who needs help with proper authentication and information which will make them interest to help those people. Also they wants to know the method of payments through which they will give donations to those people.

Observation:

Observation is one of the ways to gather requirements and problem areas for a project. Observation involves the performance of user in their activities. Through observation a flow of process, pain points, awkward steps of current system are identified. The following issues will be identified for the proposed system through observation. Observation should be planned to ensure that all the required data elements are pre-determined beforehand. This will reduce uncertainty during the observation session and ensure that the analyst can focus on the task of observing without wondering which event should be recorded and which should not. The more the information collected

during the observation session, the more time the analyst has to set aside afterwards to make sense of all the information. Consequently, the level of detail and relevant events to look out for should be determined before observation begins. Through observation I have found what does an effective project looks like. Of course, the answer is as varied as the number of effective conservation-related work. Listed below are five types of organizational characteristics that directly impact effectiveness in this particular campus oriented project. I have reviewed the following list of characteristics that describe each category and add details or modify those characteristics that describe my proposed project requirements.

- Management and Leadership
 1. Dedicated
 2. Influential
 3. Team oriented
 4. Long-term planners
- Staff, technical experts, and volunteers qualified
 1. Motivated
 2. Dedicated
 3. Influential
 4. Team oriented
 5. Specialized expertise in:
 - Science, policy planning, evaluation, fund-raising, education, Media, and law
- Physical assets
 1. Office space at campus
 2. Computers
 3. Database
 4. Audio equipment
 5. Communication equipment
 6. Field equipment

Summary of the observations

Through the observation outcome it can be measured that the data gathered during observation sessions are quite reliable. It can often used to confirm the data extracted using other techniques. We can extract information on the physical environment where the task is performed. For example, the equipment's like audio, communications and database server can led to the study of budgeting of this fundraising project at Daffodil International University.

Proposed System:

Proposed system in a web-based fund raising system within the campus. The goal of the Fundraising Project is to help our peers to increase their solvency in faster pace. This site pursues this goal by providing students with charitable money to help them get better solvency. Nonprofits raise more money by investing more money in growth-oriented fundraising strategies that both increase gains and reduce losses. The proposed site is focused on "effectiveness" (maximizing growth in giving) rather than "efficiency" (minimizing costs). The people attached to this site will conducts an annual survey, provides useful growth in giving performance measurement tools and publishes gain(loss) statistics in a yearly report through a partnership with all the donors and volunteers within our university. There will be a system that will support growth-oriented fundraising programs and make fundraising faster and efficiently.

Summary of Foundation

This chapter thoroughly describes regarding the requirements gathering techniques that has been done through the timeline of project building. Moreover, talks about the optimum method to pursue targeted goal to help the under privileged students in our campus. Organizational backbones like management and leadership, staff, technical experts, and volunteers qualified, Physical assets has been pointed in the course of the chapter which follows the following chapter where the diagrams and structural behavior of the system are stated.

Chapter 8 – Exploration

This part of the document is for understanding the particular requirements of the project. Some significant part of the system also needs to be discovered which is important for the project. Business methods are also need to be identified. This part has segmented into small parts to implement in an iterative method through analysis. To understand the system properly some diagrams are required those are given below:

Old System Use Case

This basically follows the workflow of the system and represents the process of working in an organization.

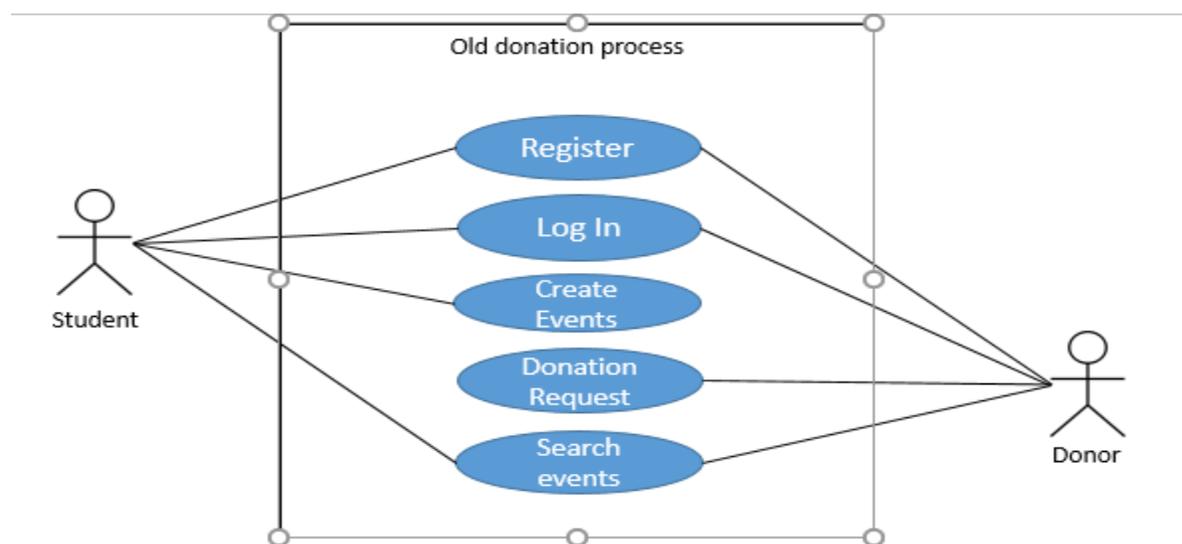


Figure 24: Old System donation Process

Activity Diagram:

Activity diagram mainly shows the tasks activity which has been involved within the system. The flow of data can be understood without no difficulties. I have provided the admin working process diagram below:

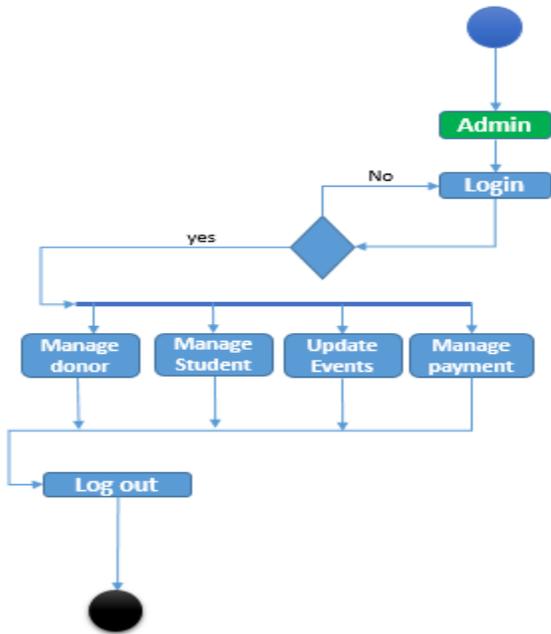


Figure 25: Activity Diagrams

Full System Use case:

This is the use case based on the existing system that I have generated below:

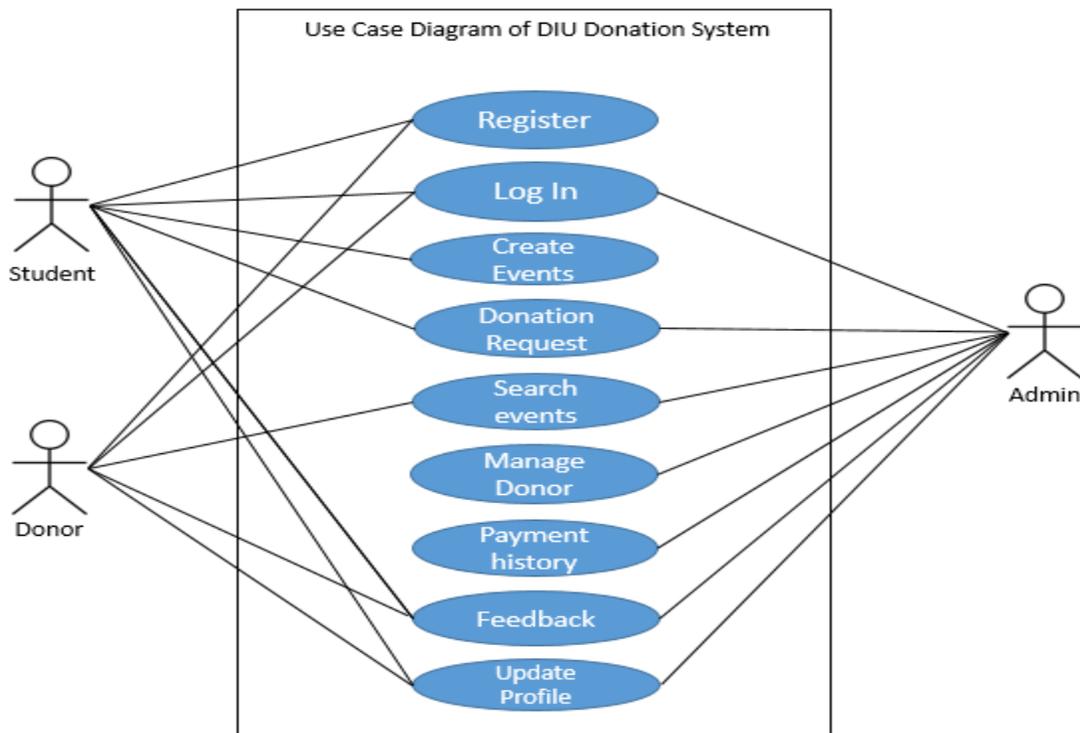


Figure 26: Full System Use Case

Full System Activity Diagram:

Actually this is the diagram which will display the whole activities within a system at a glance and I have generated it below:

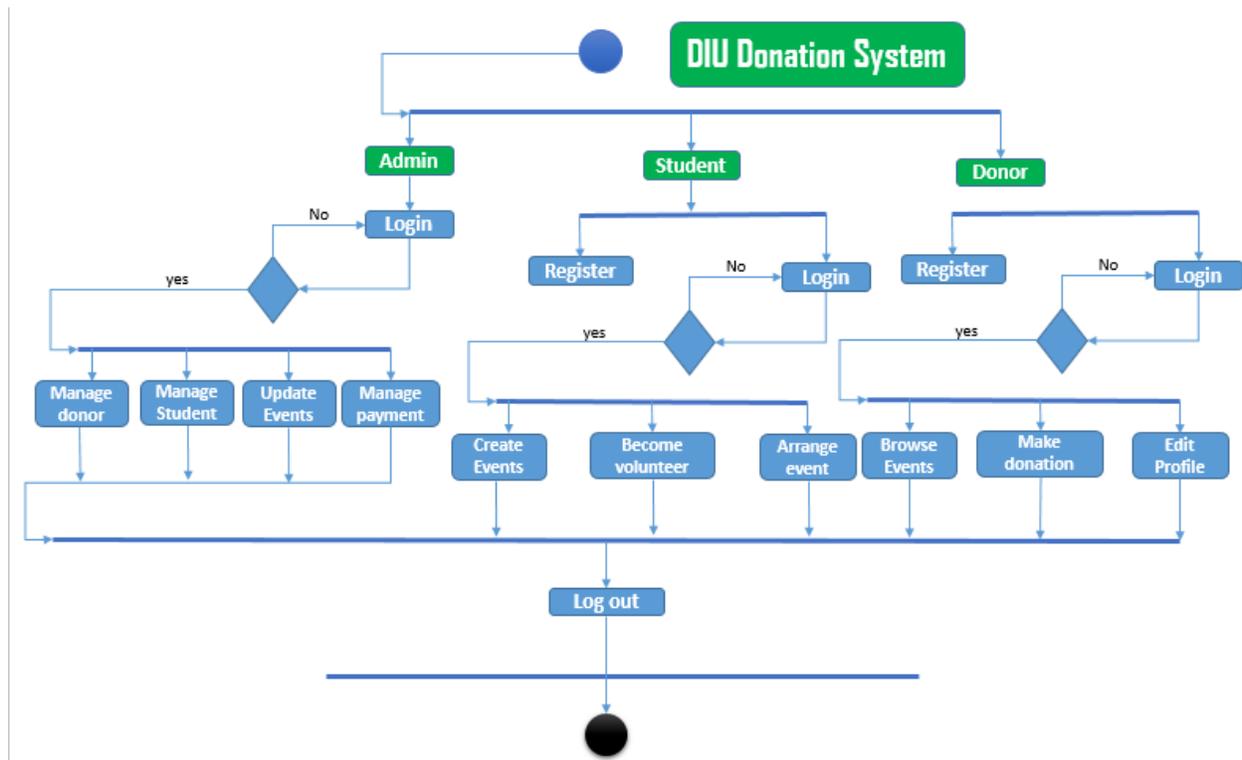


Figure 27: Full System Activity Diagram

Prioritized Requirement List (PRL)

Actually the methodology here has been used named hybrid methodology. This is a combination of both DSM Atern and waterfall model. DSDM is used to prioritize the requirements as a technique. Several prioritization techniques are available in DSDM however I have used MoSCoW Prioritization technique for prioritizing the requirements within the categories. The parameters are:

- Must have
- Should have
- Could have
- Would have

The following things I have kept on my mind when I prioritizing them. They are the quality of the project, early deliverables, resource availability, perplexity of effort and finally the size of the task.

Must Have Requirements:

ID	Requirement Name
SH-M1	User should log into the system
SH-M2	Add donor
SH-M3	Add donor Details
SH-M4	View events availability
SH-M5	Manage payment
SH-M6	Student management

Should Have Requirements:

ID	Requirement Name
SH-S1	Feedback system for donor
SH-S2	E-Payment system
SH-S3	More facilities inclusion when donate

Could Have Requirements:

ID	Requirement Name
SH-C1	Password update
SH-C2	User feedback
SH-C3	Profile edit

Would Have Requirements:

ID	Requirement Name
SH-W1	Live chatting

Chapter 9 – Engineering

In this section of the system development, a model of the proposed system is defined and converted the model of the proposed system into computerized system. This section of the documents outlines the details of use case of the proposed system, entity relationship diagram for the proposed system, activity diagram and the user interface design of the proposed system.

New System Modules

The working process of proposed system will be easy to understand through a brief explanation which I have provider in this part.

Use Case

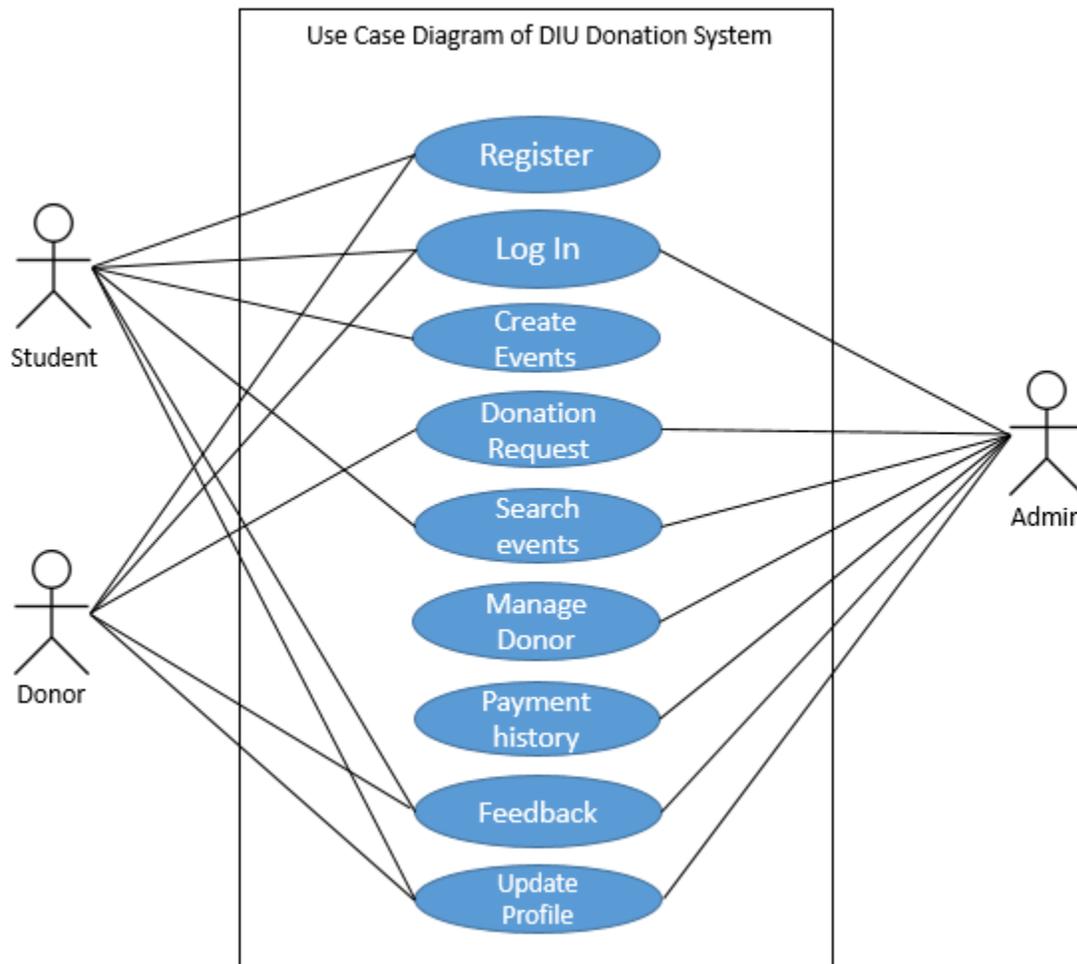
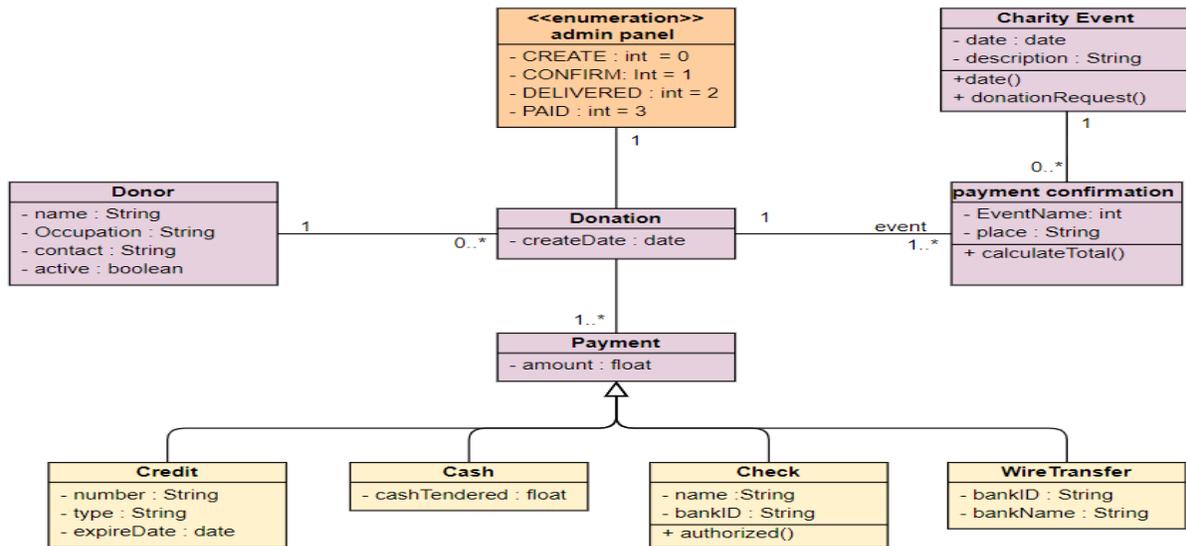


Figure 28: Full System Use Case

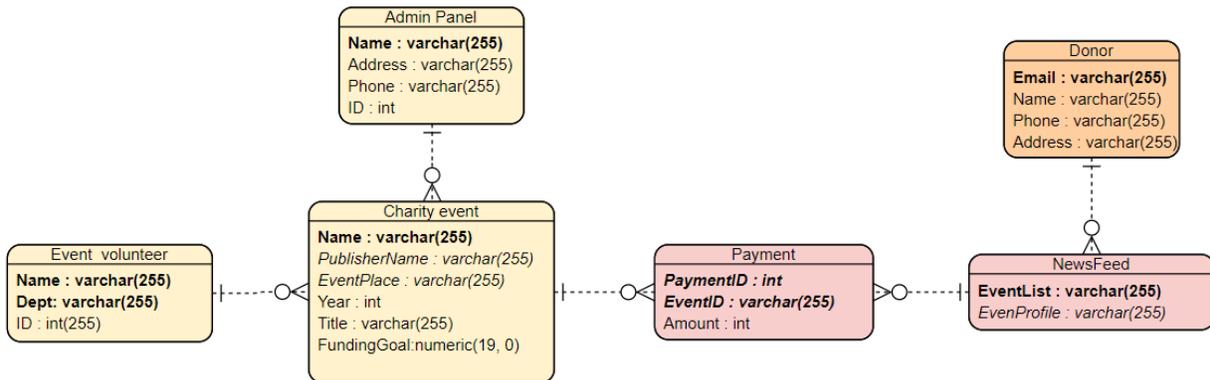
Class Diagram



Class Diagram of DIU Donation Site

Figure 29: Class Diagram for the proposed system

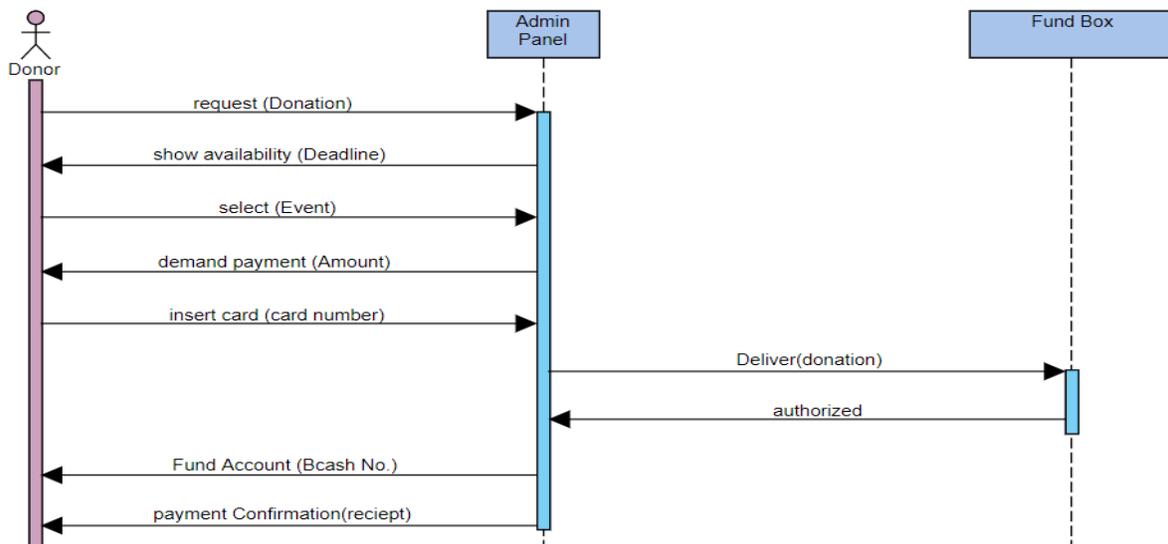
EERD Diagram



ER Diagram of DIU Donation Site

Figure 30: EERD Diagram for the proposed system

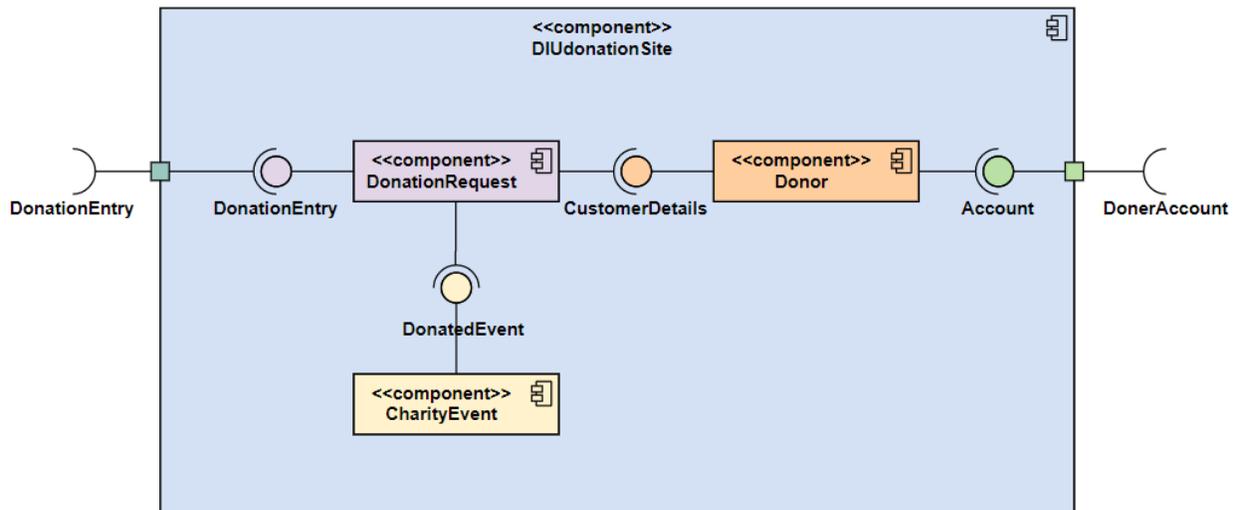
Sequence Diagram



Sequence Diagram of DIU Donation Site

Figure 31: Sequence Diagram for the proposed system

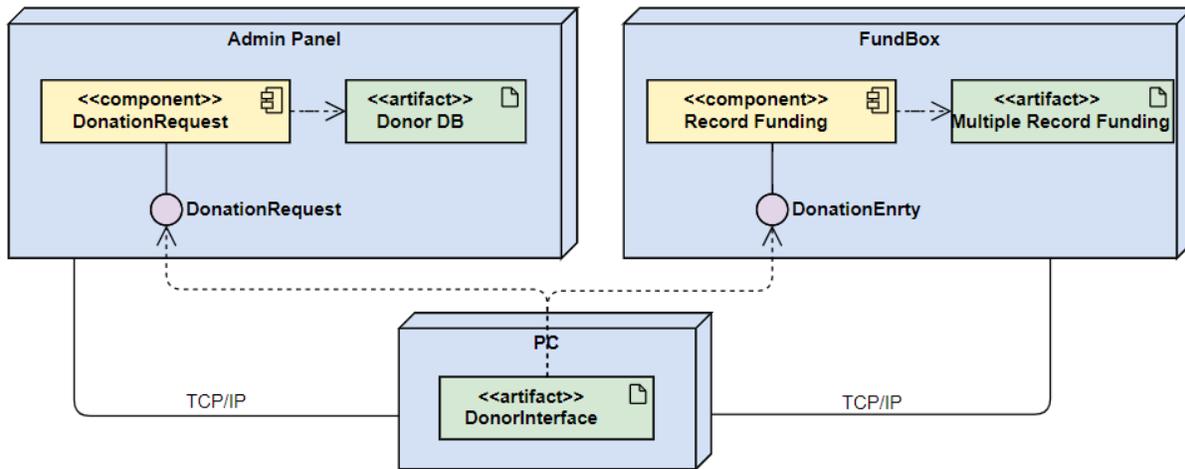
Component Diagram



Component Diagram of DIU Donation Site

Figure 32: Component Diagram for the proposed system

Deployment Diagram



Deployment Diagram of DIU Donation Site

Figure 33: Deployment Diagram for the proposed system

Registration Page

Donor Registration Form

First Name

Last Name:

Email:

Password:

Confirm Password:

Upload Image
 No file chosen

Already Registered ? [Click Login](#)

Figure 34: Registration Page Interface

Login Page

Donor Login

Email

Password

[Login](#) [Cancel](#)

[Not Registered ? Click Register](#)

Figure 35: Login Page Interface

Home Page

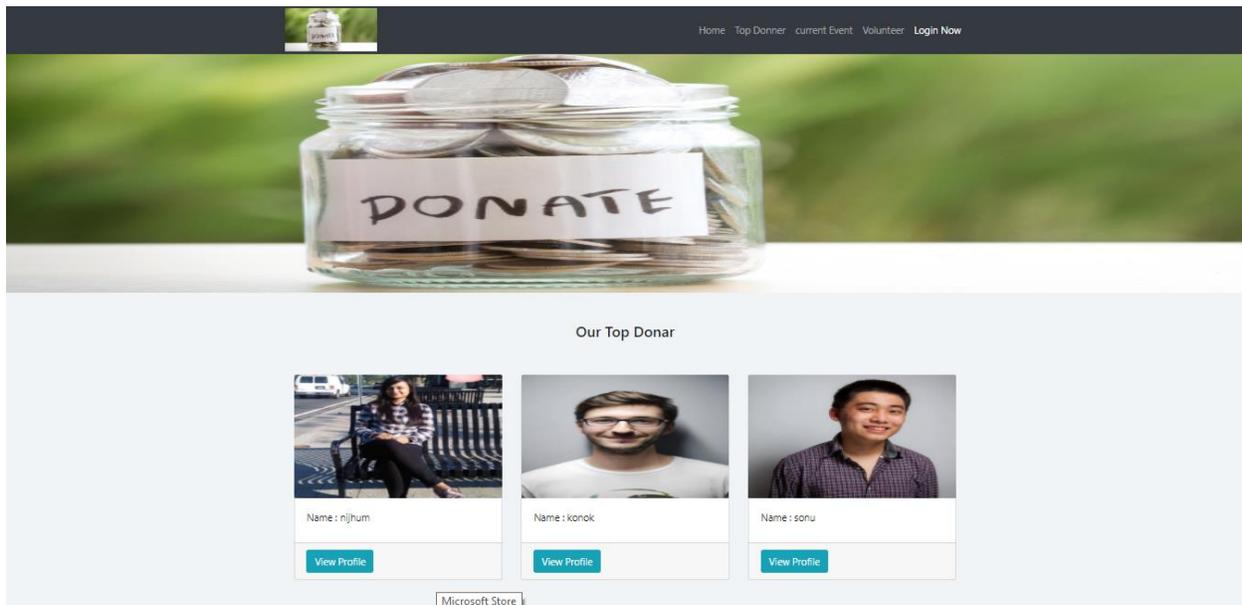


Figure 36: Home Page Interface

Admin Dashboard

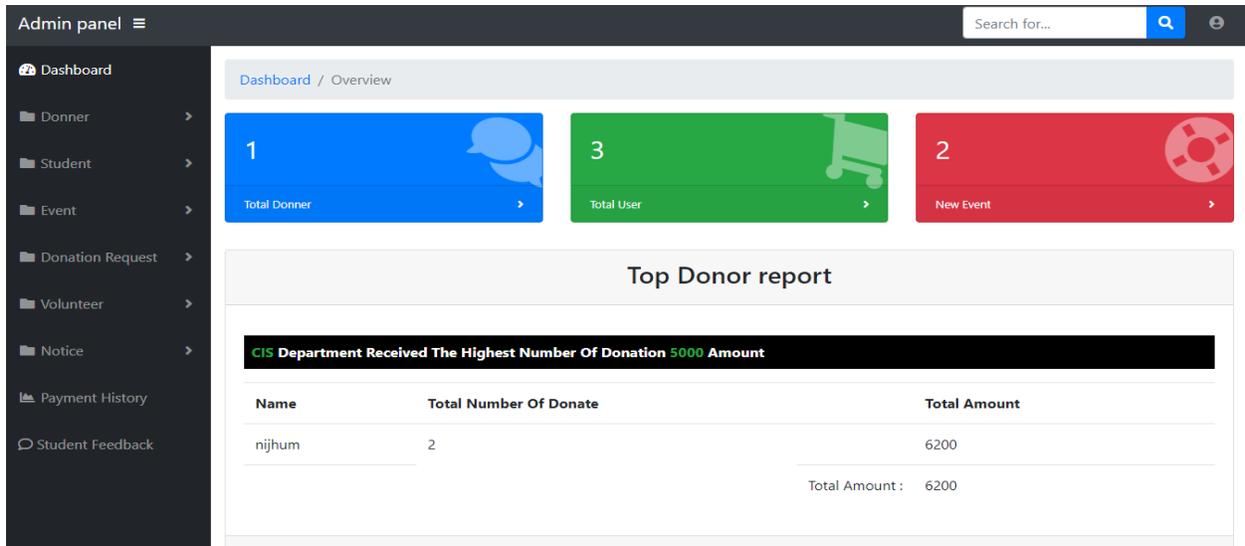


Figure 37: Admin Dashboard Interface

Chapter 10 – Deployment

The creation process of database and all the query with it will be describe in this stage. I have break down all the task into small part to make the work easier.

Core Module Coding Samples

Login system based on roles

Student Login interface

Figure 37: Student Login Interface

Codes of login system

```

1  <!doctype html>
2  <html lang="en">
3  <head>
4    <meta charset="UTF-8">
5    <meta name="viewport"
6      content="width=device-width, user-scalable=no, initial-scale=1.0, maximum-scale=1.0, minimum-scale=1.0">
7    <meta http-equiv="X-UA-Compatible" content="ie=edge">
8    <title>Admin Login</title>
9    <link rel="stylesheet" href="../assets/style/bootstrap.css" type="text/css" />
10   <link rel="stylesheet" href="../assets/style/style.css" type="text/css" />
11   <link rel="icon" href="../images/fund-raiser.jpg">
12 </head>
13 <body>
14 <div class="container">
15   <div class="row">
16     <div class="col-md-8 mx-auto">
17       <div class="card mt-5">
18         <div class="card-header">
19           <h1 class="text-center">Admin Login</h1>
20           <?php
21
22             session_start();
23             if (isset($_SESSION['email'])){
24               header('Location: admin_dashboard.php');
25             }
26
27             require_once '../donor_php/db_connect.php';
28             global $connect;
29
30
31             if (isset($_POST['btn'])){
32               $email = $_POST['email'];
33               $pass = $_POST['pass'];

```

```

34     $sql = "SELECT * FROM admin WHERE email = '$email' AND pass = '$pass'";
35
36     $result = mysqli_query($connect, $sql);
37
38     $row = mysqli_num_rows($result);
39     if ($row == 1){
40         echo "Login Done";
41         $_SESSION['email'] = $email;
42         header('Location: admin_dashboard.php');
43     }else{
44         echo "<span class='text-danger'>User Name Or Password Doesn't match</span>";
45         //header('Location: admin_login.donor_php');
46     }
47 }
48 }
49 }
50 }
51 }
52 }
53 }
54 </div>
55 <div class="card-body">
56 <form action="admin_login.php" method="POST">
57 <div class="form-group">
58 <label for="username">Email</label>
59 <input type="email" name="email" id="email" autocomplete="off" placeholder="Email" class="
60 form-control"/>
61 </div>
62 <div class="form-group">
63 <label for="password">Password</label>
64 <input type="password" name="pass" id="password" autocomplete="off" placeholder="Password"
65 class="form-control"/>
66 </div>
67 <br />
68 <div>
69 <button class="btn btn-success col-4" name="btn" type="submit">Login</button>

```

```

54 </div>
55 <div class="card-body">
56 <form action="admin_login.php" method="POST">
57 <div class="form-group">
58 <label for="username">Email</label>
59 <input type="email" name="email" id="email" autocomplete="off" placeholder="Email" class="
60 form-control"/>
61 </div>
62 <div class="form-group">
63 <label for="password">Password</label>
64 <input type="password" name="pass" id="password" autocomplete="off" placeholder="Password"
65 class="form-control"/>
66 </div>
67 <br />
68 <div>
69 <button class="btn btn-success col-4" name="btn" type="submit">Login</button>
70 <button class="btn btn-danger col-4" type="reset">Cancel</button>
71 </div>
72 </form>
73 </div>
74 </div>
75 </body>
76 </html>

```

[Student register page](#)

Student registration interface

Student Registration Form

First Name

Last Name:

Email:

Select Department

Password:

Conform Password:

Upload Image
 No file chosen

[Already Registered ? Click Login](#)

Figure 38: Student registration Interface

Codes of registration system

```

3 <!doctype html>
4 <html lang="en">
5 <head>
6   <meta charset="UTF-8">
7   <meta name="viewport"
8     content="width=device-width, user-scalable=no, initial-scale=1.0, maximum-scale=1.0, minimum-scale=1.0">
9   <meta http-equiv="X-UA-Compatible" content="ie=edge">
10  <title>Student Registration</title>
11  <link rel="stylesheet" href="../assets/style/bootstrap.css" type="text/css" />
12  <link rel="stylesheet" href="../assets/style/style.css" type="text/css" />
13  <link rel="icon" href="../images/fund-raiser.jpg" />
14 </head>
15 <body>
16   <div class="container">
17     <div class="row">
18       <div class="col-8 mx-auto mt-5">
19         <div class="card mt-5">
20           <div class="card-header">
21             <h1 class="text-center">Student Registration Form</h1>
22           </div>
23           <!-- start php code-->
24           <?php
25
26             //connect with database
27             require_once '../student_php/config.php';
28
29             //check login
30             if(logged_in() === TRUE) {
31               header('location: student_dashboard.php'); //redirect page
32             }
33
34             // form is submitted
35             if($_POST) {

```

```

36 $fname = $_POST['fname']; //declare variable fname and put it into post method
37 $lname = $_POST['lname']; //declare variable lname and put it into post method
38 $username = $_POST['username']; //declare variable username and put it into post method
39 $password = $_POST['password']; //declare variable password and put it into post method
40 $dept = $_POST['dept']; //declare variable password and put it into post method
41 $cpassword = $_POST['cpassword']; //declare variable cpassword and put it into post method
42 // $image = $_POST['image'];
43
44
45
46 //check error
47
48 //check first name is required
49 if($fname == "") {
50     echo "<br/><br/><span class='text-danger'* First Name is Required</span> <br/>";
51 }else if($lname == ""){
52
53     echo "<br/><br/><span class='text-danger'* Last Name is Required</span> <br/>";
54
55 }else if($dept == ""){
56
57     echo "<br/><br/><span class='text-danger'* Department Field is Required</span> <br/>";
58
59
60
61 }else if($username == ""){
62     echo "<br/><br/><span class='text-danger'* Username is Required</span> <br/>";
63 }else if($password == ""){
64     echo "<br/><br/><span class='text-danger'* Password is Required</span> <br/>";
65 }else if($cpassword == ""){
66     echo "<br/><br/><span class='text-danger'* Password is Required</span> <br/>";
67
68 }else if(!strstr($username,"diu.edu.bd")){
69     echo "<br/><br/><span class='text-danger'* Registered with DIU email is Required</span> <
70
71
72 }else{
73
74
75
76 //check error
77
78 if($password == $cpassword) {
79     if(userExists($username) === TRUE) {
80         echo $_POST['username'] . "<span class='text-danger'* already exists !!</span>";
81     } else {
82         if(registerUser() === TRUE) {
83             echo "<h5 style='text-align:center;' class='text-success'* Successfully
84                 Registered</h5>";
85         } else {
86             echo "Error";
87         }
88     }
89 } else {
90     echo "<span class='text-danger'* Password does not match with Conform Password</span>"
91     ;
92 }
93 }
94
95 ?>
96 <!-- End php code-->
97 </div>
98 <div class="card-body">
99 <form action="<?php echo $_SERVER['PHP_SELF']; ?>" method="POST" enctype="multipart/form-data">
100 <div class="form-group">
101 <label for="fname">First Name </label>

```

```

102         <input type="text" name="fname" placeholder="First Name" autocomplete="off" class="
103         form-control" value="<?php if($_POST) {
104             echo $_POST['fname'];
105         } ?>" />
106     </div>
107     <div class="form-group">
108         <label for="lname">Last Name: </label>
109         <input type="text" name="lname" placeholder="Last Name" autocomplete="off" class="
110         form-control" value="<?php if($_POST) {
111             echo $_POST['lname'];
112         } ?>" />
113     </div>
114     <div class="form-group">
115         <label for="username">Email: </label>
116         <input type="email" name="username" placeholder="Email" autocomplete="off" class="
117         form-control" value="<?php if($_POST) {
118             echo $_POST['username'];
119         } ?>" />
120     </div>
121     <div class="form-group">
122         <label for="exampleFormControlSelect1">Select Department</label>
123         <select class="form-control" id="exampleFormControlSelect1" name="dept">
124             <option selected>-----Select Department-----</option>
125             <option value="CSE">CSE</option>
126             <option value="CIS">CIS</option>
127             <option value="BBA">BBA</option>
128             <option value="SOFTWARE">SOFTWARE</option>
129             <option value="English">English</option>
130             <option value="pharmacy">pharmacy</option>
131         </select>
132     </div>
133     <div class="form-group">
134         <label for="password">Password: </label>
135         <input type="password" name="password" placeholder="Password" class="form-control"
136         autocomplete="off" />

```

```

137         <input type="password" name="password" placeholder="Password" class="form-control"
138         autocomplete="off" />
139     </div>
140     <div class="form-group">
141         <label for="cpasswrd">Conform Password: </label>
142         <input type="password" name="cpasswrd" placeholder="Confirm Password" class="form-control"
143         autocomplete="off" />
144     </div>
145     <div class="form-group">
146         <label>Upload Image</label>
147         <input type="file" name="image" class="form-control">
148     </div>
149     <div class="form-group">
150         <button class="btn btn-success col-4" type="submit">Submit</button>
151         <button class="btn btn-danger col-4" type="reset">Cancel</button>
152     </div>
153 </form>
154 </div>
155 <div class="card-footer">
156     <p class="float-right">Already Registered ? Click <a href="student_login.php"><span class="text-info
157     ">Login</span></a></p>
158 </div>
159 </div>
160 </div>
161 </div>
162 </body>
163 </html>

```

Possible problem break down

The proposed system have many features which will take so much time to develop. In order to make each feature work easy all project work needed to be breakdown in small tasks. Possible problem break down is described below:

Developing and Designing the database:

- Find accurate attributes.
- Create relation between attributes.
- Database implementation

Font end interface:

- Create navigation bar.
- Design all pages.
- Design interface

Development Back end interface:

- Make collaboration with the font end interface.
- Make collaboration with the database system.
- Technology implementation.
- Testing

Login into system based on user role:

- Implementation log in based on user role.
- Design the interface.
- Testing them.

Prioritization while developing

Breaking down all the tasks into small task is beneficial but it's not enough to get error free system. All those requirements should be prioritize according to which tsk is most important without it the system will not work then the less one and so on. The way I prioritize all the retirements are given below:

- Font end design.

- Crating database.
- Ensure security.
- System will be available for 24 hours.
- Create Events.
- User portfolio
- Promote campaign.
- Give feedback about campaign.
- Enrolment number.
- Donor retention rate.
- Make donations.
- Content management.

Chapter 11 – Testing

To ensure the quality and error free system testing is essential. It is one of the most important part of the development process. In order to find the limitation of a system testing is mandatory. Through validation and verification testing ensure the system meets the user requirements. At the completion of the each time box it requires testing in DSDM.

Test Plan Acceptance

To create a successful project test plan is necessary. Test plan will ensure that the system meets all the requirements so that any work can be done if the system not fulfilling all the requirements. There are two kinds of requirements testing, they are the functional requirements and the non-functional requirements.

Test case

Unit Testing

Test case No.	Unit Testing 1		
Test Type	Login page		
Test case Description	Login page testing with no password		
Test Steps	Expected Result	Actual result	Comment
Student Entry	User cannot log in	Expected result has come "Password Field is required."	As expected

Actual Result

Student Login

* Password Field is Required

Email

Password

Login
Cancel

[Not Registered ? Click Register](#)

Figure 39: Login page without password

Test case No.	Unit Testing 2		
Test Type	Register Controller		
Test case Description	Cannot be register with similar Emil id.		
Test Steps	Expected Result	Actual result	Comment
Student Registration	User cannot register.	Expected result has come "already exist."	As expected

Actual Result

Student Registration Form

chitra@diu.edu.bd already exists !!

First Name

Last Name:

Email:

Select Department

Password:

Figure 40: Registration page with same Email.

Module Testing

Test case No.	Module Testing 1			
Test Class	Registration			
Objectives	Registration with empty fields.			
Data Source	Task Description	Task Steps	Expected result	Expected result

Donor Registration	Test for blank registration	Please Register using account detail: 1. Username: 2. Email: 3. Password: 4. Confirm password:	Error message will be provided.	As expected
---------------------------	-----------------------------	------------------------------------------------------------------------------------------------------------	---------------------------------	-------------

Actual Result

Donor Registration Form

* First Name is Required

First Name

Last Name:

Email:

Password:

Confirm Password:

Upload Image
 No file chosen

Already Registered ? Click [Login](#)

Figure 41: Blank registration

Test case No.	Module Testing 2
Test Class	Registration
Objectives	Successful Registration.

Data Source	Task Description	Task Steps	Expected result	Expected result
Donor Registration	Test for successful registration	Please Register using account detail: 1. Username: nijhum 2. Email: nijhum@diu.edu.bd. 3. Password: **** 4. Confirm password: **** 5. Upload image:	Successfully regestered.	As expected

Actual Result

Donor Registration Form

Successfully Registered

First Name

Last Name:

Email:

Password:

Confirm Password:

Upload Image
 No file chosen

Already Registered ? Click [Login](#)

Figure 42: Successfully register.

Integration Testing

Test case No.	IntegrationTesting 1			
Test Class	Login page			
Objectives	Successful Login.			
Data Source	Task Description	Task Steps	Expected result	Expected result
Amin Login	Login	Login account detail: 1.Username:admin@gmail.com 2.Password: ***	Login to the home page.	As expected

Actual Result

Admin Login

Email

Password

Login
Cancel

Figure 43: Admin login

Actual Result

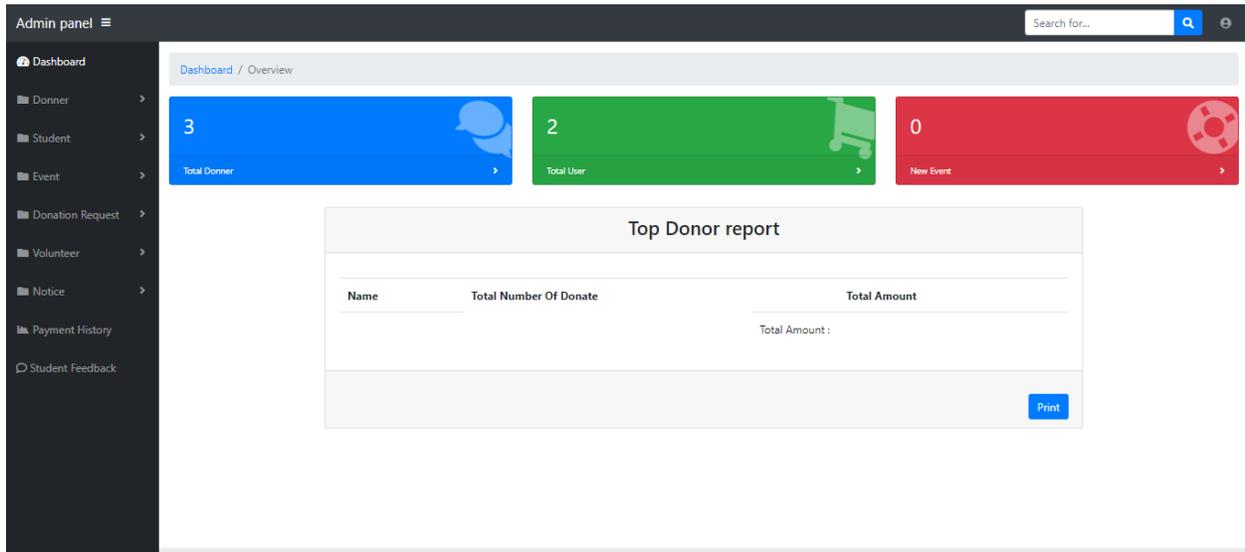


Figure 44: After admin login to dashboard

Test case No.	IntegrationTesting 2			
Test Class	Create new event			
Objectives	Successfully Create new event.			
Data Source	Task Description	Task Steps	Expected result	Expected result
Student Entry	Create new event.	Add listing Form 1. Event title:Awesome venue 2. Event	Information insertion into the database in event table and show it in the home page.	As expected

		<p>Description:My father have heart disease</p> <p>3. Start date: 17 dec 2019</p> <p>4. End date: 31 dec 2019</p> <p>5. Expected amount: 2000</p> <p>6. Selectimage: image.png</p> <p>7. Select confirmation file:222.docs</p>		
--	--	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	--

Actual Result

Wellcome **mim**

- View Profile
- Update Profile
- Change Password
- Notice
- Received Donation
- Create New Event
- Student Feedback

Create New Event

*Event Title:

*Event Description:

*Start Date:

*End Date:

*Expected Amount:

Student ID

Student Name

Student Department

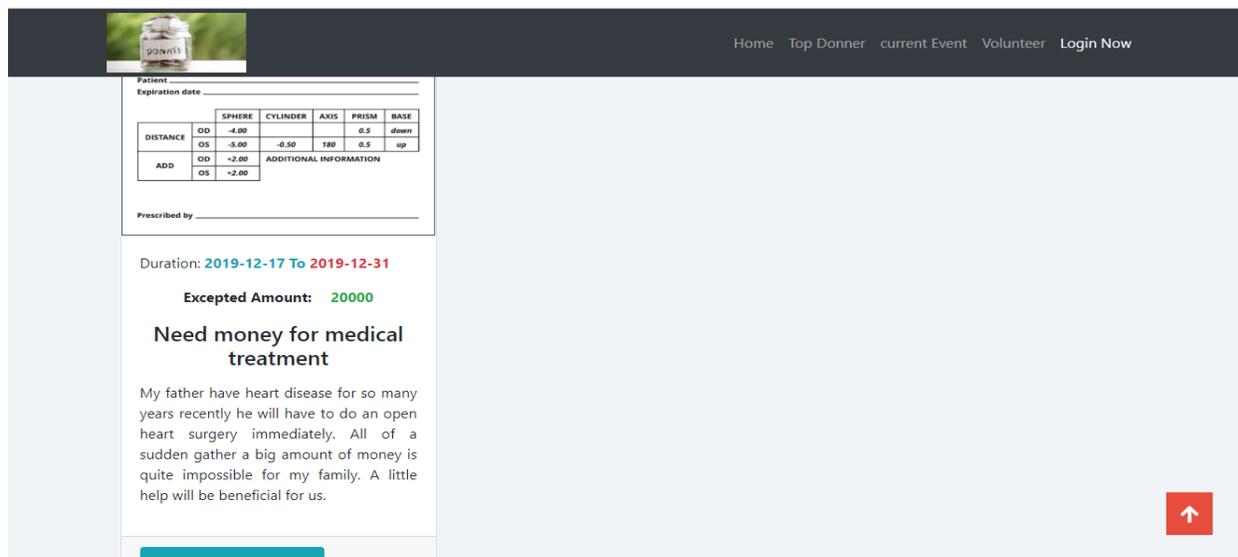
Request Type

*Select an Image:

*Select Confirmation File

Figure 45: place information to create new event.

Actual Result



Home Top Donner current Event Volunteer Login Now

Patient _____
Expiration date _____

	SPHERE	CYLINDER	AXIS	PRISM	BASE
DISTANCE	OD	-4.00		0.5	down
	OS	-5.00	-0.50	180	0.5
ADD	OD	+2.00	ADDITIONAL INFORMATION		
	OS	+2.00			

Prescribed by _____

Duration: **2019-12-17 To 2019-12-31**

Excepted Amount: 20000

Need money for medical treatment

My father have heart disease for so many years recently he will have to do an open heart surgery immediately. All of a sudden gather a big amount of money is quite impossible for my family. A little help will be beneficial for us.

Donate Now

Figure 46: new event in homepage.

Acceptance Testing

Test case No.		Acceptance testing 1		
Test class		User Controller		
Data source		Receive payment		
Objectives	Test Steps	Test Steps	Expected Result	Actual result
User entry	Test for Receive payment	Student profile page: 1.Click on favorite pending icon	The pending icon color will be change after successfully Receive payment.	As expected

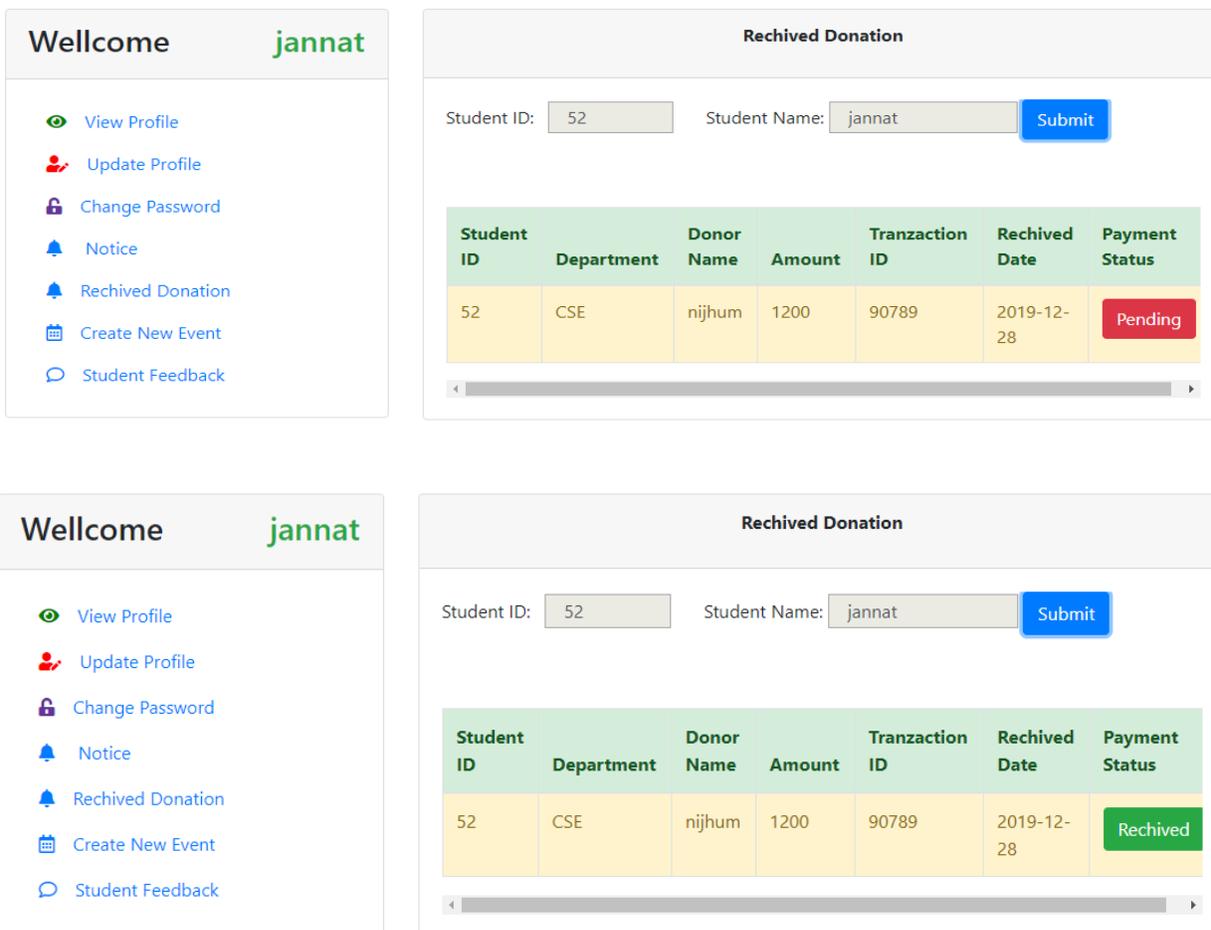


Figure 47: Received donation

Acceptance testing

Test case No.		Acceptance testing 2		
Test class		Admin Controller		
Data source		Add new donor		
Objectives	Test Steps	Test Steps	Expected Result	Actual result

admin entry	Test for add new donor	<p>Add new donor Form</p> <ol style="list-style-type: none"> 1. First name :Yousuf 2. First name : nil 3. Email:nil@diu.edu.bd 4. Contact number : 0178312019 5. address:motijhil,dhaka 6. Selectimage: image9.png 	After successfully the added the donor, system will give a message so that admin can understand donor was added successfully.	As expected
-------------	------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------	-------------

Actual Result

The screenshot shows a web form titled "Add New Donor" with a teal header. The form contains the following fields and values:

- *First Name:** Yousuf
- *Last Name:** nil
- *Email:** nil@diu.edu.bd
- *Contact Number:** 07894639397
- *Address:** motijhil,dhaka
- *Password:** ***
- *Profile Picture:** Choose File images (9).jpg

At the bottom of the form, there are two buttons: a green "Add" button and a red "Cancel" button. Below the form, there is a link labeled "Manage Donor".

Figure 48: Add new donar

Add New Donor

New Donor Add Successful

*First Name:

*Last Name:

*Email:

*Contact Number:

*Address:

*Password:

*Profile Picture:

 No file chosen

Add
Cancel

[Manage Donor](#)

Figure 49: admin add new donation

Security Testing

Test case No.	Security Testing 1			
Test Class	Validation			
Objectives	Registered users only can log in.			
Data Source	Task Description	Task Steps	Expected result	Expected result
Amin Login	Specific user can Login	Only registered users can log in	Will give Message.	As expected

Actual Result

Student Login

username does not exists

Email

Password

Not Registered ? Click [Register](#)

Figure 50: Unregistered users cannot login

Performance Testing

Test case No.	Performance Testing 1			
Test Class	Running on different browser			
Objectives	This site will run on Google Chrome			
Data Source	Task Description	Task Steps	Expected result	Expected result
User	Site will run on different browser	This site will run on Google chrome	Support on Google chrome	As expected

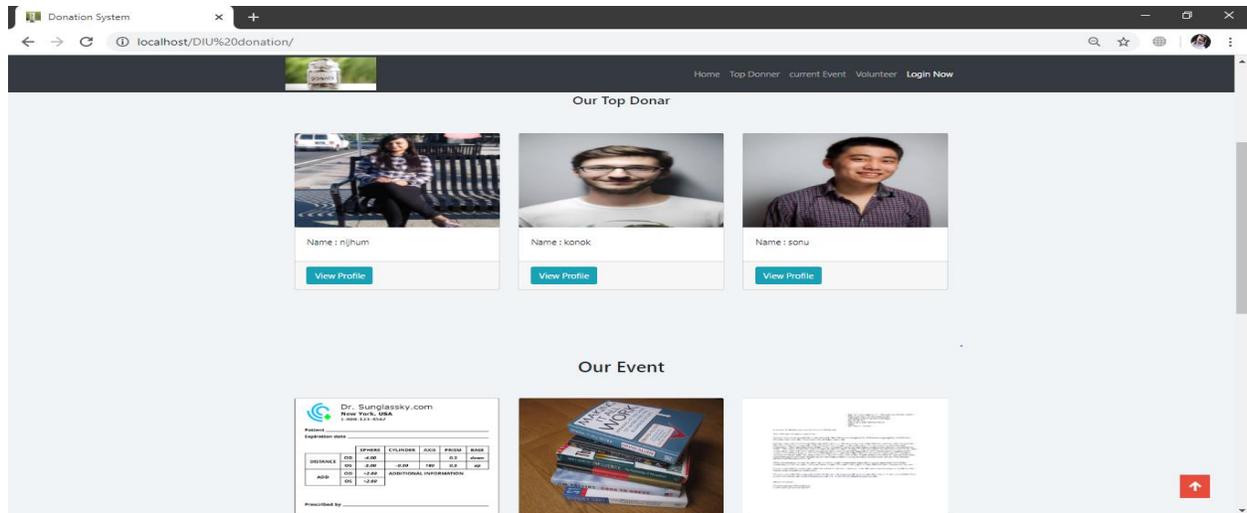


Figure : Able to run on Google Chrome

Test case No.	Performance Testing 2			
Test Class	Running on different browser			
Objectives	This site will run on Internet Explorer			
Data Source	Task Description	Task Steps	Expected result	Expected result
User	Site will run on different browser	This site will run on Internet Explorer	Support on Internet Explorer	As expected

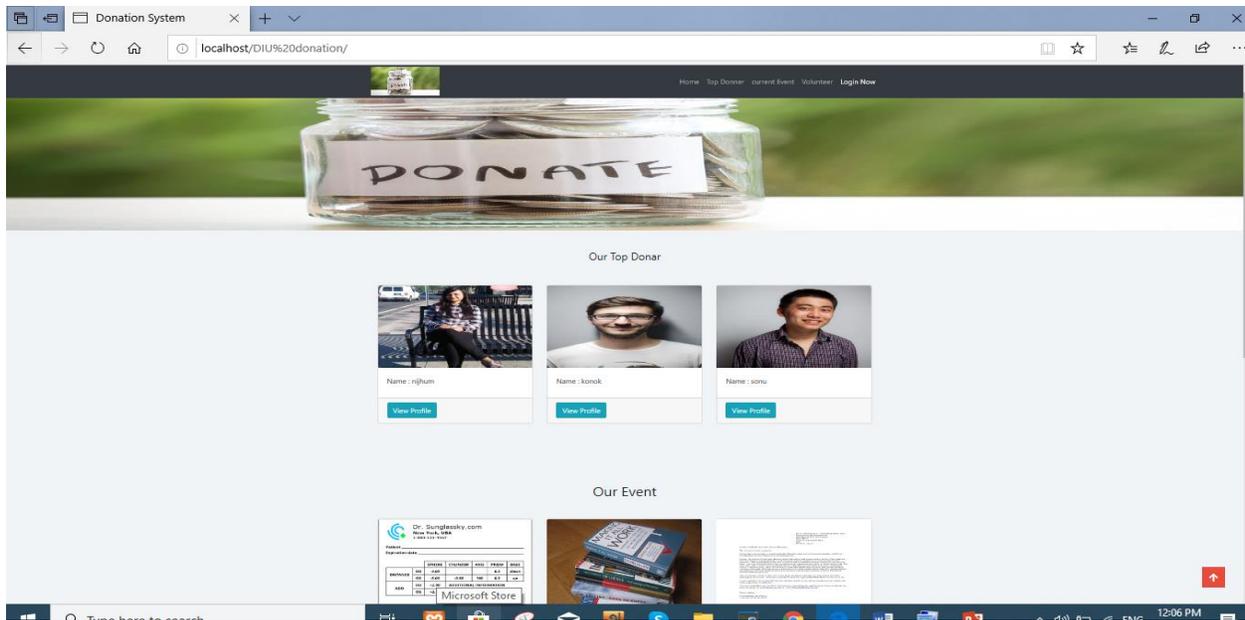


Figure: Able to run on Internet Explorer.

Usability testing

Test case No.	Usability Testing 2			
Test Class	Student profile			
Objectives	Update student profile			
Data Source	Task Description	Task Steps	Expected result	Expected result
Student	Student can update own profile.	Student can update own profile	Updating own profile	As expected

Wellcome jannat

- [View Profile](#)
- [Update Profile](#)
- [Change Password](#)
- [Notice](#)
- [Rechived Donation](#)
- [Create New Event](#)
- [Student Feedback](#)

Update Your Information

Email

Department

First Name

Last Name

Contact

Address

Date of Birth

Gender :
 Male Female

Gurdian Information

Figure 51: Update information

Wellcome jannat

- [View Profile](#)
- [Update Profile](#)
- [Change Password](#)
- [Notice](#)
- [Rechived Donation](#)
- [Create New Event](#)
- [Student Feedback](#)

Update Your Information

Successfully Updated

Email

Department

First Name

Last Name

Contact

Address

Date of Birth

Gender :
 Male Female

Figure 52: Student profile is updating easily

Chapter 12 – Implementation

Implementation of a product or solution refers to the method that is a systematically structured approach in order to effectively integrate the workflow of an organization or end users. There are various methods are used to implement a software or products. In this section it is outlined what implementation scheme will be used for the proposed system is provided with proper evaluation.

Training

Before implementing a solution or products it is essential to provide training to the end users who will use the system. The main goal of providing training is to help users to be familiar with the new product or solution. In the following a training plan is listed that will be required for proving training to users.

Big bang implementation

After completing tested and if the system is accepted by end users then the implementation stage starts. There are various implementation scheme are available to implementation for a system. Big bang implementation is one of those implementation. Big bang implantation is the process of hardware of software migration method that involves removing existing system and applying hole new system all at once (Rouse, 2014). After testing the system properly all there had to do implement the system and big bang implantation is faster than other methods. With lower cost it affects smaller groups of users. But it can create a little risk if the new system get crush and data can be lost permanently for that crush.

Scaling

Scaling is the strategy of estimating and measuring out the items to the numbers as indicated by the predetermined guidelines. In other way it can be said like, the way toward finding the deliberate articles on the continuum, a continuous succession of numbers to which the items are assigned is called as scaling (Business Jargons, n.d.) .

Load Balancing

Internet traffic is a common issue in this distributing processing network and faster communication activity. Load balancing in control that load in a web system. This load means how many people are accessing the system at a same time. Load balancing is important for those web system where the number of request that will be issued for a server is unpredictable. In a load balancing scheme a busy system typically have two or more servers. Incoming loads or request to a server will be shared across all other servers. In this way the process of load balancing are handles (Techopedia, n.d.). The system can be slow at the time users want to access the system, if the load balancer does not distribute the loads on several servers.

As it is my academic project, so I did not show how to divide the loads into several servers. But the core concepts are given above.

Chapter 13 – Critical Appraisal and Evaluation

The overview of the whole project will be explained in this part of the document from the beginning to the end. In this chapter the success and the failure of the project will also be described. To gain all the success factor of the project, the experience I get form the start to end of the project will also be discussed. How many objectives are met, how many are not and the reasons of not meeting the objectives will be justified in this part.

Objective that could be made

The proposed project has met several objectives that are mentioned below:

- Following and adopting a specific methodology for the developing of the project.
- Implanting a platform for DIU student from where they can get service.
- Establishing a standard documentation of the project.
- Creating feasibility and risk analysis report.
- This is a site for DIU students where they can seek for donation and also can give donation to others.
- This is a mutual platform where both people who needs help and people who wants to help them can communicate.
- Has to make an error free system.
- A dashboard is created so that admin can manage the system fluently.
- Establishing a better system analysis documentation.
- Designing and developing a proper database.
- Producing a proper workable system.
- Performing several testing and implementation methods.

Objective- Following and adopting a specific methodology for the developing of the project:

To develop my system I have chosen DSDM atern methodology which key process and techniques are discussed briefly in the methodology part of the document. In this stage there are also discuss the success rate of particular objectives. During development

which problems are faced and how to overcome those problems are also describe in this part of the project.

Success Rate:

At the starting of the project, DSDM atern helps to identify the core requirements of the project. Using MoSCoW prioritization to prioritize them which helps to identify which requirements is really needed to be developed first. The incremental firm foundation of DSDM helps to complete the project as soon as possible by splitting up the tasks into several sub tasks as it is my academic project and it has limited time to finish this project on time. To develop and test the project iteratively the iterative features of DSDM are used properly.

How much better it could be done

Though DSDM helps on many particular things to complete this project it could have been better if I can have more time to use more features of DSDM atern.

Why those aspects cloud not be done

As this whole project is done by only one person so it's very much difficult to complete whole system on required time.

Objective- Implanting a platform for DIU student from where they can get service:

This is an online fundraising system where DIU student can gather funds and also can give donations to other students. All general information can be gather from the website as the students need to know information about the events on the website and also need to know the information about the student's profile.

Success Rate:

Success Rate are quite positive for this objective. Because all the information of all student who either a donor who wants to donate or students who wants donations are available within the system. All information related with the facilities and services are also available to users.

How much better it could be done

The design of the website could be more user friendly to the user. For example, all user of the system have to complete their registration only after that they can they can either give any donation or can create any event seek for donations.

Why those aspects cloud not be done

This particular aspects could not be done for some particular reason. To avoid any kind of fake or dishonest user there is a registration process. So that the authentication process could be strong.

Objective- Establishing a standard documentation of the project:

A standard documentation is very important for a system as the documents quality measure the project quality. A proper documentation is mandatory and it's clear the concept of the project.

Success Rate:

First I have made a plan and gather all important information about the system for making a clear and standard documentation. I have to collect some information from other sources for that I have use references. To make my documentation standard I have been analyzed several different types of documentation to get the idea from it.

How much better it could be done

Though the documentation is way much standard but it could have been better if I get more time to customize it and can get more time to analyze other documents as well.

Why those aspects cloud not be done

As it has a limited time so it was so difficult to complete all the 15 chapter of documentation on my own.

Objective- Creating feasibility and risk analysis report:

During the development of the project to ensure the weather the system is feasible with the economical, legal and social environment feasibility study is very much important.

Success Rate:

All types of feasibility like economical, technical, social are described properly to determine the suitable parts of the project. To ensure the economic feasibility cost benefit analysis is also given.

How much better it could be done:

It is might the hardest chapter for me of making the cost benefits analysis of the system as it needs to estimate the individual requires equipment for using the system and compare it to the estimated benefits. If it was easy for me that could have been better.

Why those aspects cloud not be done

That aspects have been done but it takes many time to analyze data properly.

Objective- Performing several testing and implementation methods

Success Rate:

The testing of the system was performed after developing each and every requirements. This process helps to solve the errors in the system easily and also take less time rather than solving a problem in a long process.

How much better it could be done:

If I did not face lots of trouble before completing each and every testing it could have been better.

Why those aspects cloud not be done

Create a test plan which is based on the relation between the tables to reduce the problems. But it takes many time to complete each and every test properly.

Objective totally not met / touched

I have not met a critical feature for the system which is I could not make a payment system through which student can give financial donation with bank account or using any card. I could not be able to touch that feature.

Why these features could not be touched:

As it is an academic project and I get limited time to submit this project. As I don't get enough time that's why I could not be able to touch that feature at all. Also I had lack of knowledge how to do that work and I had not enough time to learn that. Students can

give donation through BKsh or volunteer will give them the service. In future when I will place this project on market this feature will be available.

What could be done to touch the feature:

Make payment through online is a sensitive issue it has to be protective. Because if the security of the payment gateway is not ensure whole system can goes in vain. It can cause a great loss to a user. To touch that feature I needed more knowledge on security.

Chapter 14 – Lessons Learned

This part of the project is normally held during the close out or near the completion of the project. This section means what I learn to developing this project. It's resemble all the efforts and work to get to the goal of this project and ensure all the functionality of the project. Also outlines the problems faces during development of this project and the ways of solving those problems.

Pre project – review – closing

Firstly I needed some financial help for my education purpose last year and I saw gather fund through online is how much helpful and efficient that time I got the idea of making this type of system. Therefore there is no such type of online donation system for any particular university so I was desperate to make this kind of a system for my university students where manipulating all the operations will be easy based on different user roles. So, I have submitted this project for my educational purpose of the final year project.

What I have learned

Form the beginning of the development of the project I have learn so many things. The proposed system contains several stages and all stages have delivered different knowledge and experiences. Most important few are discussed below:

- First come the literature review chapter on the document. In order to writing this chapter, I have to research on so many websites and articles about fundraising, online fundraising and also about the crowdfunding. I gain a vast knowledge on online fundraising process rather than I knew before.
- To understand the project goal and objectives I have to choose a right methodology which will appropriate with the nature of the project. And for this first I have to gain knowledge on various methodology and analyze them to compare them with my proposed system. Then I choose a methodology to use on the project.

- Various existing systems were critically analyzed in order to get a proper system. That helps to understand the lacking on the project and also help to understand the success factor of the system.
- I have less idea about diagrams, but on the development of the project to make the works more understandable and to choosing the features and functions of the project I have use several diagrams like use case, activity diagram, ERD diagram, sequence diagram and class diagram.
- The business process of the system are being analyzed through Business Process Modeling and Notation(BPMN) diagram which help me to understand all the business process lies within the system.

What problem I have faced

Developing a system on online fundraising is really very challenging this is not much familiar to people in our country. During the development of this project there are various problems were faced which are given below:

- In order gather requirement analysis form the students and others peoples it was not that much easy. Some people don't want to cooperate with me and don't listen well and also they don't have any idea about this topic.
- When the requirements of the project is categorized on a basis of their priority. It was a little bit confusing which requirement is most important than others.
- Developing a time allocation for all the tasks in the project was a difficult part. The delivery time was fixed and it was very difficult to maintain the tightly schedule.
- During the development of the project I get some errors on my coding. To solve those it takes more time and create a pressure upon me.
- As it is an academic project and all required task of the project are done by a single hand with a limited time scale. Seriously it was so much pressure to maintain the schedule.

What solutions occurred

After find out some problems which I mentioned earlier, I used some technique to solve those problems. Those are described below:

- To gather requirements for students, interview requirement gathering technique is used where a set of question were organized for them and where student just shared their opinion and answer for the question.
- Make the proper choice of important work and doing them first I maintain the time scheduling during the project.
- For manage the time limitation time box were designed for the each section of the project. And those time boxes were strictly followed by me during the project.
- In order to solve the coding errors in my system, I took help form internet and also take some advice and help form my teachers.

Chapter 15 – Conclusion

In this part of the document here describes the overall summary of the project. This section describes the overall planning, design of the proposed system, critical analysis and development of the system. The main purpose and success factor of the project also describes in this part.

Summary of the project

The proposed project is designed in order to DIU students by providing them a platform of gathering financial or other types of donations for their needs. Students can create events and get direct communicate with donors easily and efficiently for their any financial problem through the system. Any person who is interested to donate can have authentic information about the events through the system and can communicate with the students who create events to get donations from people. Still now, people are not much aware about online fundraising in Bangladesh. Not only it will be a suitable platform for raising fund and can have all authentication process which can be given through online.

The proposed project has 15 chapter and it is completed within a limited timescale which is around three months. According to pay attention on all the task the project was divided into time boxes. The background, purpose and challenge of the project was studied at the initial phase. Though all the objectives of the subject is not developed but contain the core function of the project. Relating existing systems are critically analyzed which are related to my project helped me to implement right features and functions into the system. And in methodology part an appropriate framework is designed in order to fit properly with the project.

In the foundation stage, many kinds of requirements and business processes are identified to understand the systems function work properly. Through rich picture the whole process of the system are described and also shows the limitation of the currents systems have which are accomplished by that proposed system. BPNM diagrams also

describes the business process of the system. According to business needs all the requirements of the system are categorized effectively. Interaction between the user and the system acknowledged by using several diagrams. To ensure an error free system along with proper validation, exception handling and minimum security, some test were done successfully.

Goal of the project

The main goal of the project is establish a online fundraising website for the students of DIU. There are also some goals in the project which are described below:

- Reduce the hassle of students to go person to person in order to collect money.
- Facilitate students to communicate with donors directly.
- To set up easy communication way for donors with event creators.
- To support in developing sustainable and authentic fundraising system.
- Make a believable system for online fundraising.
- To encourage people who wants to donate for raising funds.
- To support students to gather donation through the system

Success of the project

The main purpose of the projects are fulfilled. All the objectives of the projects are not all gained but the main objectives are ensured through the project and that's can be considered as a great success. Now the students can create events on the page with related information. They can create their own profile and can manage that. Donors will also can view all the events on the website and can choose where they wants to donate and also how much amount they wants to donate they can set that. The events the students create will be shared in various social media sites. They will get reliable source for gathering funds and they don't need to go to many people in a person.

What I have done in the documentation

I have implemented the whole system along with the documentations. Before finish my implementation parts on the system I have written the general topics of the project. Also I have created diagrams for the project like activity diagram, class diagram and so on

because they are depended on the system works. For completing the testing requirements I have made the screenshots from the system.

Value of the project

The value of this project is very much. Because online fundraising is not very much common and well known in our country. People still don't fully believe that those helps were really taken place for any real event. And people also familiar with the manual way of fundraising. So those who seeks for help also interest in collect help form people in a person. And also all people don't believe that also. So sometimes they don't get what they need. Nowadays through Facebook people create events to get help but the questions of authentication still lies within it also. So this project will help for those people who wants to get away from those obstacle. Though this system is for students of DIU but the donors don't have to worry about their donations may go in vain or can be gone in a wrong hand. They can donate from any place that will helps the students to reach to so many people. It is an effective platforms for making these things happen.

My experience

In order to gather the requirements for developing the new system it was needed to meet with students and various people who wants to help people through an online platform like this and that was a great experience. As the project had to complete within the limited timeframe, it was a great responsibility to deliver the system within the time frame and how to handle problems that may be faced during the project development. These experiences will help me in future.

References

Business Jargons, [Online], Available: <https://businessjargons.com/scaling-in-research.html> [28 December 2019].

DOMAIN.COM, [Online], Available: https://www.domain.com/domain-name?utm_source=google&utm_medium=genericsearch&kclicid=773d46db-2239-4a72-bd41-035038ca9057&kenshoo_ida=Domain.com%20IDA&qclid=Cj0KCQiAI5zwBRCTARIsAIrukdnJC93evT8p_RWPDfPKWUkuqKYyP4BRjahJBnFGRuMVhnYW3yILQSgaAnbaEALw_wcB [3 november 2019].

GeeksforGeeks, [Online], Available: <https://www.geeksforgeeks.org/software-engineering-classical-waterfall-model/> [04 July 2019].

Guru99 (2019), [Online], Available: <https://www.guru99.com/unit-testing-guide.html> [18 August 2019].

ProductPlan, [Online], Available: <https://www.productplan.com/glossary/moscow-prioritization/> [20 November 2019].

Ravi (2018) *Scholar99*, 4 September, [Online], Available: <https://www.scholar99.com/requirements-gathering-techniques/> [6 September 2019].

Rouse, M. (2007) *TeachTarget*, March, [Online], Available: <https://searchcio.techtarget.com/definition/project-planning> [20 July 2019].

Rouse, M. (2014) *Whats.com*, February, [Online], Available: <https://whatis.techtarget.com/definition/big-bang-adoption> [18 August 2019].

Techopedia, [Online], Available: <https://www.techopedia.com/definition/31290/load-balancing-methods>. [6 August 2019].

Appendix

Unit Testing

Test Case No.		Unit testing 1		
Test Type		Login page		
Test Case Description		Login page testing with no password		
Test Steps		Expected Result	Actual Result	Comment
Admin entry		Users cannot log in	Expected result has come "Password field is empty."	As expected

Module Testing

Test Case No.		Module testing 1		
Test Class		Registration		
Objectives		Registration with empty fields		
Data Source	Task Description	Task Steps	Expected Result	Actual Result
User Entry	Test for blank registration	Please Register using account detail: 1. Username: 2. Email: 3. Password:	Error message will be provided	As expected

		4. Confirm password:		
--	--	----------------------	--	--

Integration Testing

Test Case No.		Integration testing 1		
Test Class		Login page		
Objectives		Successful login		
Data Source	Task Description	Task Steps	Expected Result	Actual Result
Admin	Login	Login account detail: 1.Username: admin@gmail.com 2.Password: ****	Login to the home page	As expected

Acceptance Testing

Test Case No.		Acceptance testing 1		
Test Class		Add donor		
Objectives		Customer is booking room		
Data Source	Task Description	Task Steps	Expected Result	Actual Result
Donor	Admin will add donor	Admin will add donor	Admin will add donor at dashboard	As expected

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