MAKERERE UNIVERSITY

BANTU FUND E-PORTAL SYSTEM

By

BSE 17-35

WEB APPLICATION SYSTEM

DEPARTMENT OF NETWORKS

SCHOOL OF COMPUTING AND INFORMATICS TECHNOLOGY

A Project Design Document Submitted to the School of Computing and Informatics Technology

for the Study Leading to a Project in Partial Fulfillment of the

Requirements for the Award of the Degree of Bachelor of

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1. INTRODUCTION

1.1 Purpose

This Software Design Document describes the architecture and system design of Bantu Fund crowd funding E-portal System.

The SDD shows how the application will be structured to satisfy the requirements mentioned in the SRS document. It is the primary reference for the development of the application.

Its intended audience is people directly involved in development of the BantuFund system. Software developers, Software Architects, System Testers, Project Managers and all parties concerned with the development of the application.
It will also serve as a reference to fellow students who are designing their systems.

1.2 Scope

Bantu Fund is a Crowd-Funding E-Portal System is a platform that acts as a matchmaker between funders and likely recipients that enables probable funders to fund projects, ventures or causes they believe in by raising monetary contributions from their large number.
The problem this project will address is the need for a convenient way for people to receive financial assistance in forms of donations from the general public and concerned members of the society

The project geographical scope is initially a prototype released in Kampala, Uganda and it will eventually spread across internationally into other East African countries.

The stakeholders of the proposed system include NGOs, governmental organizations, Cooperate Social Responsibility funders, philanthropists, concerned members of the society, individuals and System developers and Administrators.

The system will be web based. The system has three types of users. The Fund Contributors who are providing the funds, the Callers for Funds and the Site Administrators.

The following are the system limitations;

- Due to financial constraints, the geographic scope will be limited to Kampala initially for the first prototype launch and it will be a while before it is deployed nation-wide.
- Due to time constraints on the project, we had initially decided to make a cross platform web-based and mobile application but now we are first focusing on the web based system.

The main objective is to create a web based application system to provide an E-Portal to connect the funders and all the people needing funding with legitimate causes so as to provide transparency and accountability.

The following are the specific objectives;

- To study crowd funding in the world and Uganda so as to get to know the stakeholders and their interactions by doing requirements elicitation to gather the system and user needs by gathering or collecting information from the stakeholders to get an in-depth understanding of the causes, effects, existing solutions to fund raising problems.
- To do requirements analysis to understand the key requirements so as to understand the key information necessary to be able to derive and build on to lead us to the system design.
- To implement (build on the design) the proposed BantuFund E-Portal Crowdfunding system according to the well analyzed requirements to come up with something to add value and solve the problems.
- To do testing of the system and maintenance to make sure the system is efficient, safe, reliable, and conforms to the requirements for which it is intended hence fitting the purpose it was created for.
- To design a user manual and deployment strategies to ensure that the application is working in its intended environment.

The following are the benefits of the project;

- The project will enable people (startup business owners) to pursue their entrepreneurship dreams that were only being hindered by lack of enough capital through providing them that platform.
- The project will help business owners with minor issues or challenges faced to raise appropriate funding for smooth running of operations.
- The project will provide funder satisfaction by giving them a platform to support their passionate drives that they believe in, putting their money to good use.

- The project will provide funders with accountability for the use of their money providing them with reports and updates of the drives they are funding.
- The project will improve on transparency in the crowd funding business, fighting corruption.

1.3 Overview

The Software Design Document describes the process by which the application requirements are translated into the application components interfaces and data necessary for the implementation phase.

The Software Design Document contains the following sections;

Introduction; This identifies the scope and purpose of the Software Design Document and the product scope.

System Overview; This gives a general description of the functionality, context and design of our project.

System Architecture; This describes a modular program architecture and explains the relationships between modules to achieve the complete functionality of the application, decomposition of subsystems in the architectural design and rationale for selecting the architecture, the architectural design and design rationale.

Data Design; This provides a description of the data and the data dictionary.

Component Design; This describes what each component does in a more specific way.

Human Interface design; Describes the functionality from the user's perspective, contains screenshots showing the interface from the user's perspective. Readers can view this section for a tentative glimpse of what BantuFund's final product will look like.

Requirements Matrix; Describes a cross reference that traces components and data structures to the requirements in the Software Requirements Specification document.

1.4 Reference material

[1] S.Caramela, "Corporate Social Responsibility," Business News Daily, 2017. [Online]. Available: http://www.businessnewsdaily.com/4679-corporate-social-responsibility.html. [Accessed 1 April 2017].

[2] "Merriam Webster: DIctionary," Merriam Webster Incorporated, 2017. [Online]. Available: https://www.merriam-webster.com/dictionary/philanthropist. [Accessed 1 April 2017].

[3] Farlex, "The Free Dictionary," Houghton Mifflin Harcoutt, 2016. [Online]. Available: http://www.thefreedictionary.com/Bantu. [Accessed 1 April 2017].

[4]Roger.S.Pressman, Software Engineering: A Practitioner's Approach, 5th ed., New York: McGraw-Hill, 2001.

[5] C. B. Thomas Connolly, Database Systems, A practical approach to Design, Implementation and Management, 4th ed., London: Pearson Education, 2005.

[6] H. J. R. Gary B. Shelly, Systems Analysis and Design, 9th ed., London: Cengage Learning, 2012.

1.5 Definitions and key terms

Table of definitions of key terms

Key Term	Definition
Callers	The people seeking financial assistance
Funders	Those willing to offer financial aid for example Non-Governmental Organizations, Philanthropists, Cooperate Social Responsibility funders and individuals.
Cooperate Social Responsibility	It refers to business practices involving initiatives that benefit society. A business's CSR can encompass a wide variety of tactics, from giving away a portion of a company's proceeds to charity, to implementing "greener" business operations.[1]
Philanthropists	A very generous person or institution. One who makes an active effort to promote human welfare. [2]
BANTU	It literally means our people. The word 'ntu' means people. A member of any of a large number of linguistically related peoples of East, West, Central and Southern Africa[3]

Table 1 key terms

Table of Acronyms

Acronym	Meaning
UML	Unified Modeling Language
NGO	Non-Governmental Organization
UCF	Uganda Crowdfunding Network
JDO	Java Data Object
IT	Information Technology
ERD	Entity Relationship Diagram
PK	Primary Key
FK	Foreign Key
HTTP	Hypertext Transfer Protocol
API	Application Program Interface
SSL	Secure Socket Layer

Table 2 Table of Acronyms

2. SYSTEM OVERVIEW

Crowd funding is a method of collecting many small contributions, by means of an online funding platform, to finance or capitalize a popular enterprise.

Many companies in the world have come up with this idea of crowd funding portals most not around Africa for example Kickstarter, Indiegogo which are international while Uganda Investment Authority and Uganda Crowdfunding Network(UCN) are local. These systems are not non-profit and very complex focusing on investment. We intend to simplify similar operations to theirs in a non-profit way to cater for the everyday needs of the people.

The issue is that our local Crowdfunding E-portals are mainly focused on investment in small start-ups and entrepreneurial ventures. BantuFund, however, is the exception.

There is also a trust issue we intend to solve with accountability and transparency reports we intend to solve through

It intends to raise money for genuine causes in the categories of;

- The people in need of money to further their studies and Sports scholarships (Education and Sports)
- The sick in hospitals and health centers around Uganda (Food and medical care)
- The community concerns such as roads, bridges and many others (Community Projects)
- Women leading their own businesses that need some financial assistance (Women Entrepreneurs).

The system design will follow an Object-Oriented approach using the Unified Modelling language. The architecture will be a 3-tier client server architecture with the presentation layer, business layer and data layer described as follows;

- Presentation Layer is responsible for the presentation of system information objects to the user or to software components within the system.
- Business Layer is responsible for the implementation of the Business Rules of the system. This tier is used to manage the system objects and their interactions with the Data Layer.
- Data Layer is responsible for the storage of data into a persistent store

Below is an overview of the System Architecture;

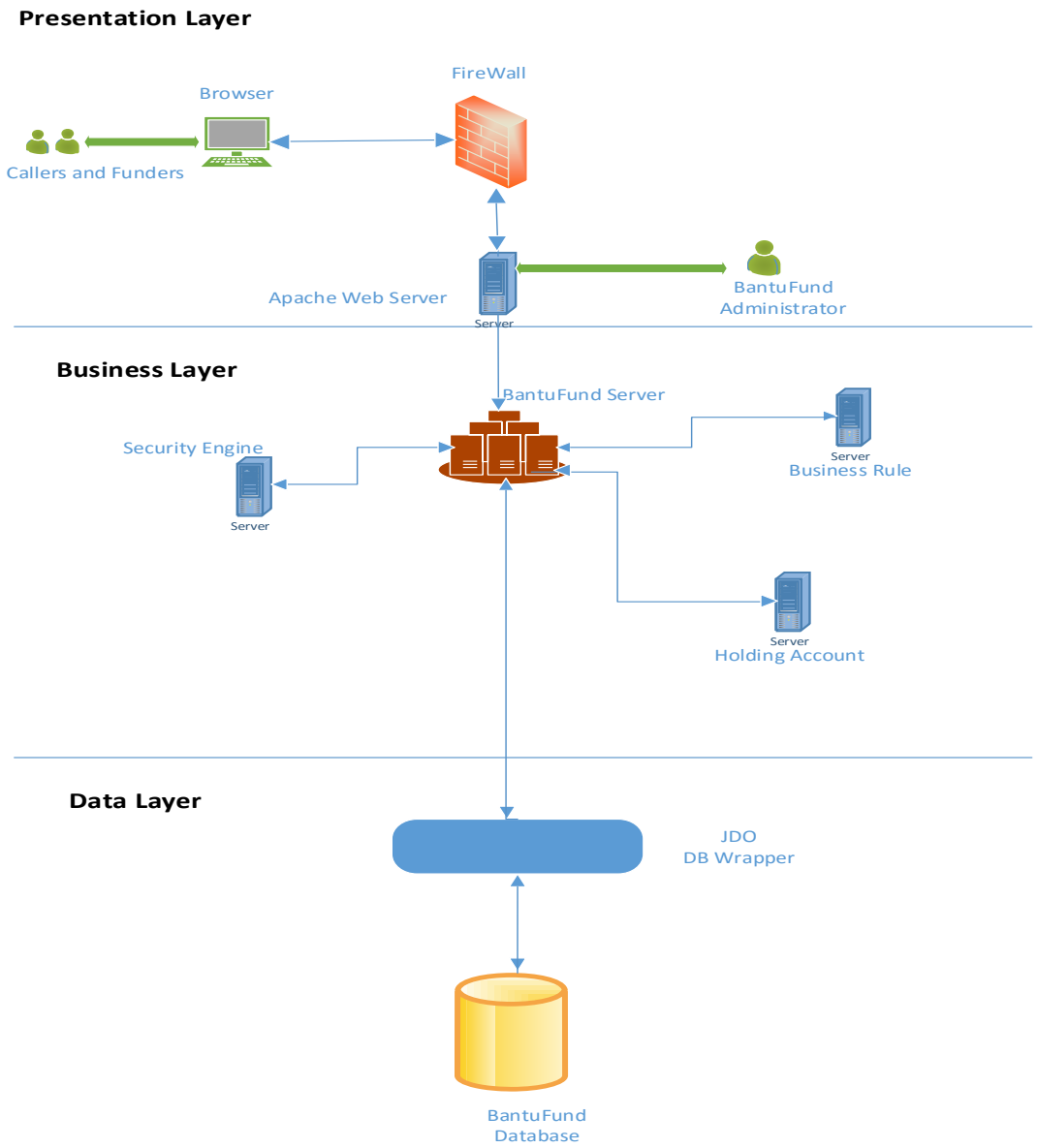

Figure 1 System Overview

3. SYSTEM ARCHITECTURE

3.1 Architectural Design

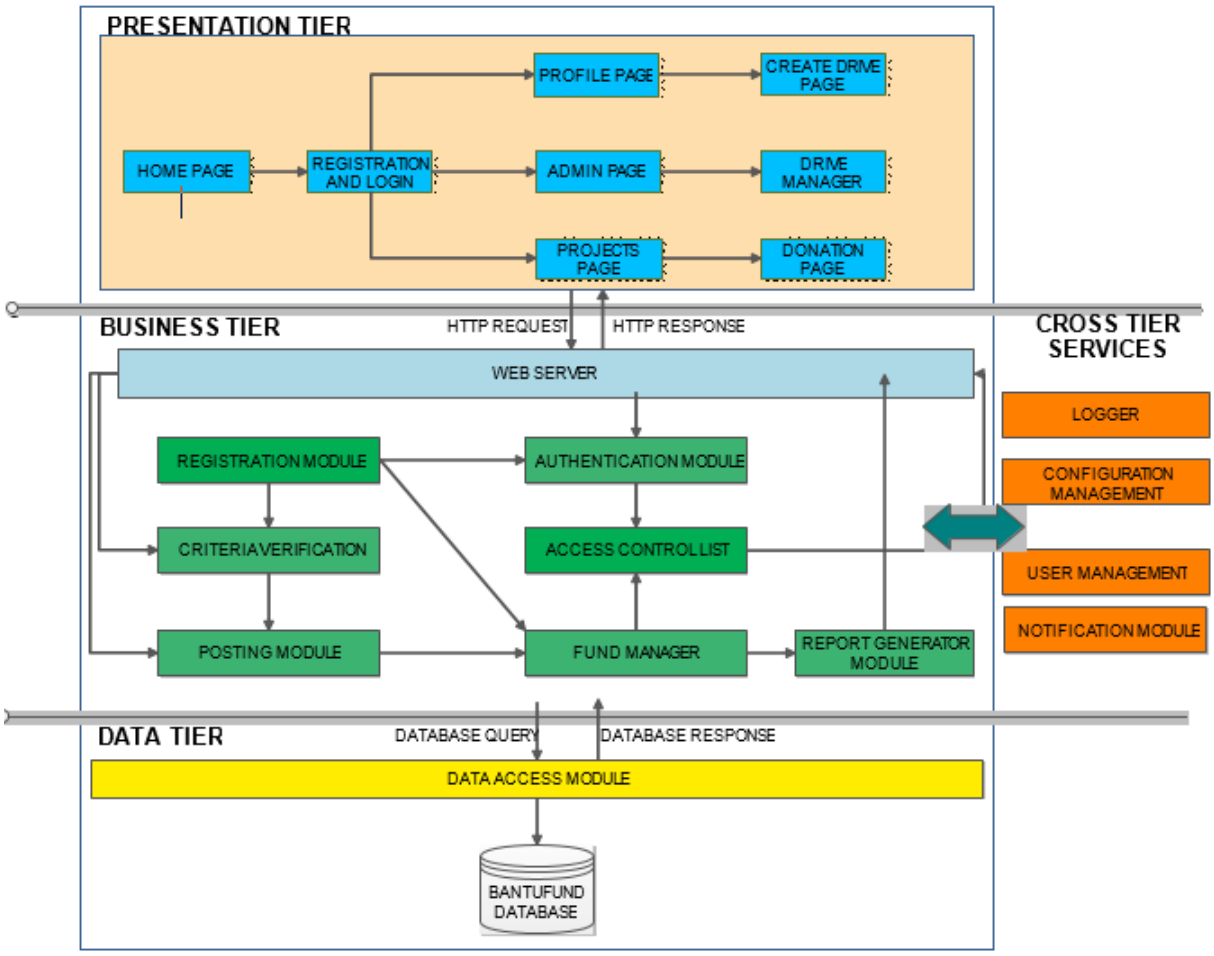

Figure 2 System Architecture

3.2 Decomposition Diagram

Use Case Diagram

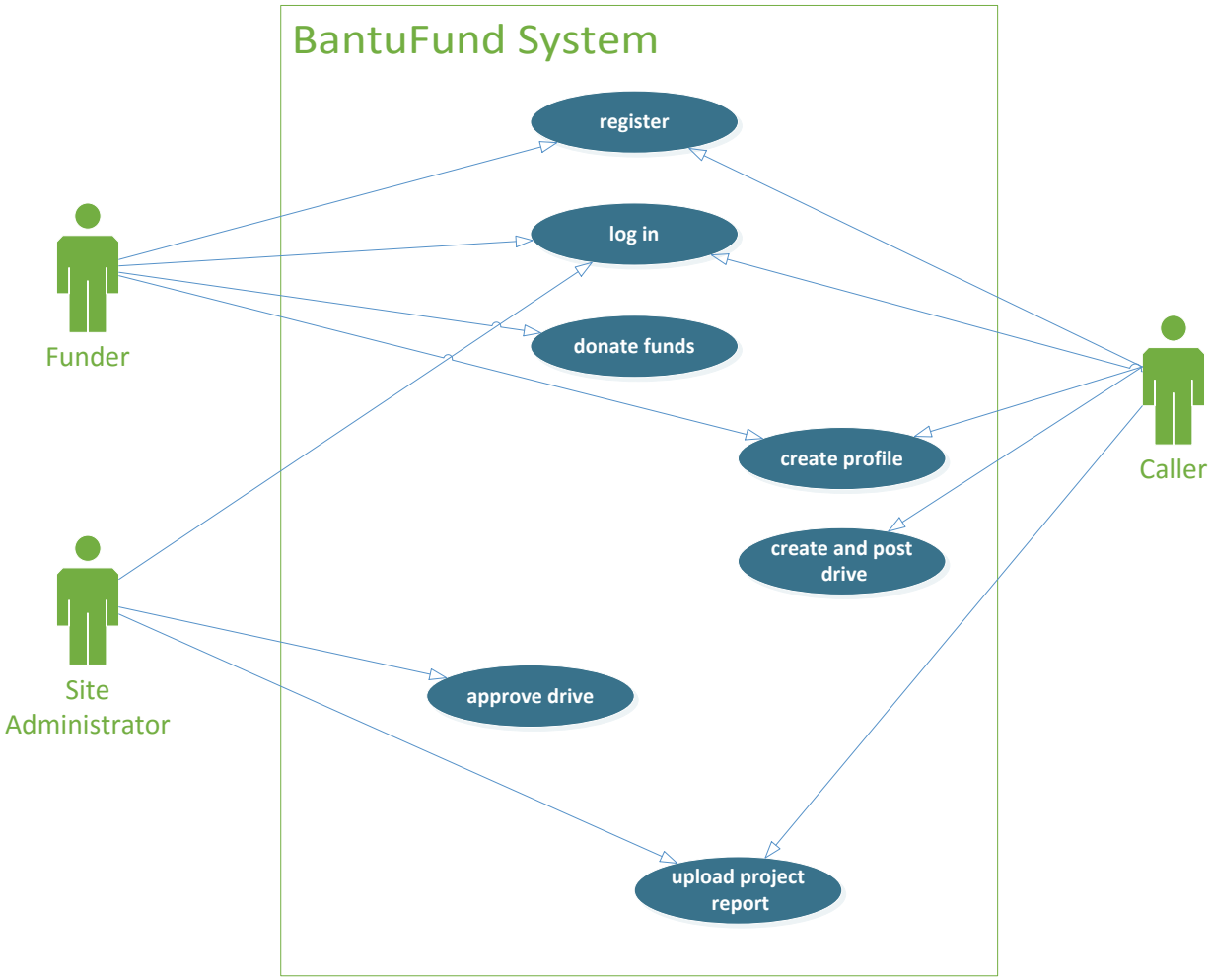

Figure 3 Use case diagram

Use Case Descriptions

REGISTER	
NAME	Register
ACTOR	Funder/Caller
DESCRIPTION	Describes the process of a new user registering
PRE-CONDITION	Funder/caller requests registration
STEPS TO SUCCESSFUL COMPLETION	1. Caller/funder enters details in the registration page then submits. 2. System checks database for availability 3. Funder/caller is registered 4. System notifies funder/caller of successful registration.
ALTERNATIVE STEPS	1. Caller/funder enters details in the registration page then submits. 2. System checks database for availability 3. Funder/caller isn't registered 4. System notifies funder/caller that he hasn't been registered
POST-CONDITION	Funder/caller is registered
ASSUMPTION	None

Table 3 Register UseCase Description

LOGIN	
NAME	Log in
ACTOR	Funder/site admin/caller
DESCRIPTION	Describes the process used to login
PRE-CONDITION	Funder/caller/site administrator requests log in page
STEPS TO SUCCESSFUL COMPLETION	1. Funder/caller/site admin requests login page and enters credentials. 2. System verifies credentials and grants access to the funder/caller/site admin 3. System notifies Funder/caller/site admin on successful log in
ALTERNATIVE STEPS	1. Funder/caller/site admin requests login page and enters credentials. 2. System verifies credentials and rejects access to the funder/caller/site admin 3. System notifies Funder/caller/site admin on unsuccessful log in and requests try again

POST-CONDITION	Funder/caller/site administrator is granted access
ASSUMPTION	None

Table 4 Login UseCase description

DONATE FUNDS	
NAME	Donate funds
ACTOR	Funder
DESCRIPTION	The funder donates funds to a cause
PRE-CONDITION	The funder needs to be registered into the system The funder needs to input all proper payment credentials that is the mobile money number or bank account information. The funder needs to select a drive from the available drives in the system that have been approved by the Site Admin.
STEPS TO SUCCESSFUL COMPLETION	1. Select drive to fund 2. Click donate button 3. Fill form 4. Submit payment credentials
ALTERNATIVE STEPS	None
POST-CONDITION	The funder receives a notification. The funds go to the Escrow virtual holding account.
ASSUMPTION	None

Table 5 Donate Funds Use Case description

CREATE PROFILE	
NAME	Create profile
ACTOR	Funder/Caller
DESCRIPTION	Describes how to create profile
PRE-CONDITION	Funder/caller request's "create profile" page
STEPS TO SUCCESSFUL COMPLETION	1. Funder/Caller enters details in the profile form then submits. 2. System checks for completeness then creates the profile 3. System notifies the funder/caller on the success of the creation profile
ALTERNATIVE STEPS	1. Funder/Caller enters details in the profile form then submits. 2. Profile details aren't complete 3. System notifies the funder/caller to fill in the profile details completely
POST-CONDITION	Profile for Funder/caller is created
ASSUMPTION	None

Table 6 Create Profile Use Case description

CREATE AND POST DRIVE	
NAME	Create and post drive
ACTOR	Caller
DESCRIPTION	Describes the process to create and post a drive
PRE-CONDITION	Caller requests create drive page
STEPS TO SUCCESSFUL COMPLETION	1. Caller requests create drive page 2. Caller selects drive category enters necessary details about the drive then submits. 3. System notifies caller that drive has been created and sent to the Site administrator for approval
ALTERNATIVE STEPS	1. Caller requests create drive page 2. Caller selects drive category enters necessary details about the drive then submits. 3. System notifies caller that drive has been created and sent to the Site administrator for approval
POST-CONDITION	Drive created and sent to the site administrator
ASSUMPTION	None

Table 7 Create and Post Drive Use Case description

UPLOAD PROJECT REPORT	
NAME	Upload project report
ACTOR	Caller/Site Administrator
DESCRIPTION	Describes the process of posting project reports
PRE-CONDITION	Caller creates project report
STEPS TO SUCCESSFUL COMPLETION	1. Caller requests project page 2. Caller uploads project report 3. Site Administrator receives notification from system about new report uploaded. 4. Site Administrator views report then approves it for posting. 5. Caller is notified about approval and posting of the project report.
ALTERNATIVE STEPS	1. Caller requests project page 2. Caller uploads project report 3. Site Administrator receives notification from system about new report uploaded. 4. Site Administrator views report then doesn't approve.

	5. Caller is notified about rejection of the project report.
POST-CONDITION	Project report uploaded
ASSUMPTION	None

Table 8 Upload Project Report Use Case description

APPROVE DRIVE	
NAME	Approve drive
ACTOR	Site Administrator
DESCRIPTION	
PRE-CONDITION	Site Administrator a requests profile page
STEPS TO SUCCESSFUL COMPLETION	1. Site Administrator receives notification about a new uploaded drive. 2. Site Administrator checks and verifies the legitimacy of the drive and the caller 3. Site administrator approves drive and system notifies the caller about the approval.
ALTERNATIVE STEPS	1. Site Administrator receives notification about a new uploaded drive. 2. Site administrator rejects drive and system notifies the caller about the rejection.
POST-CONDITION	Drive Uploaded
ASSUMPTION	None

Table 9 Approve Drive Use Case Description

[4]

CLASS DIAGRAM

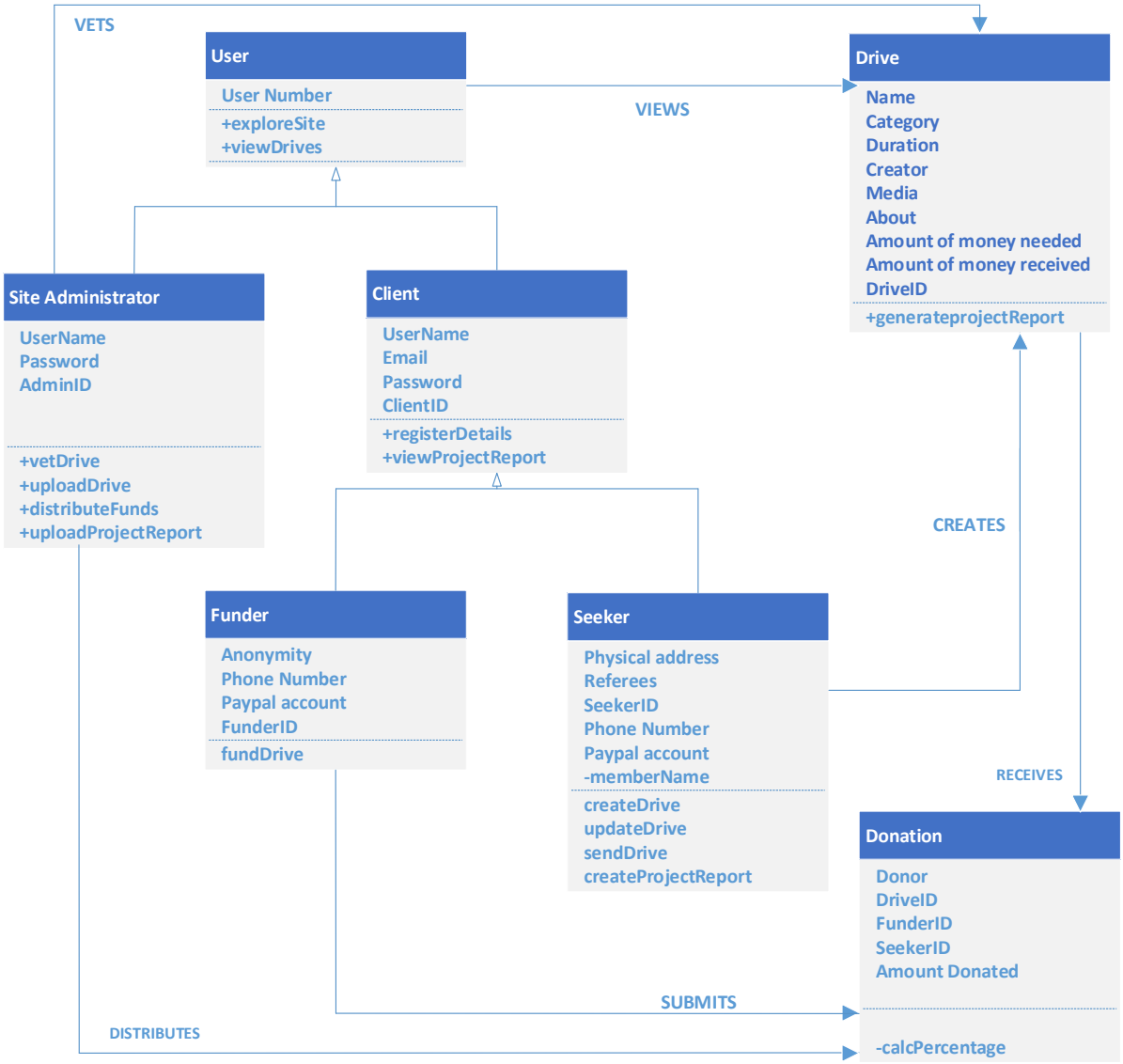

Figure 4 Class Diagram

OBJECT RELATIONAL MODELS

FUND MANAGER MODULE

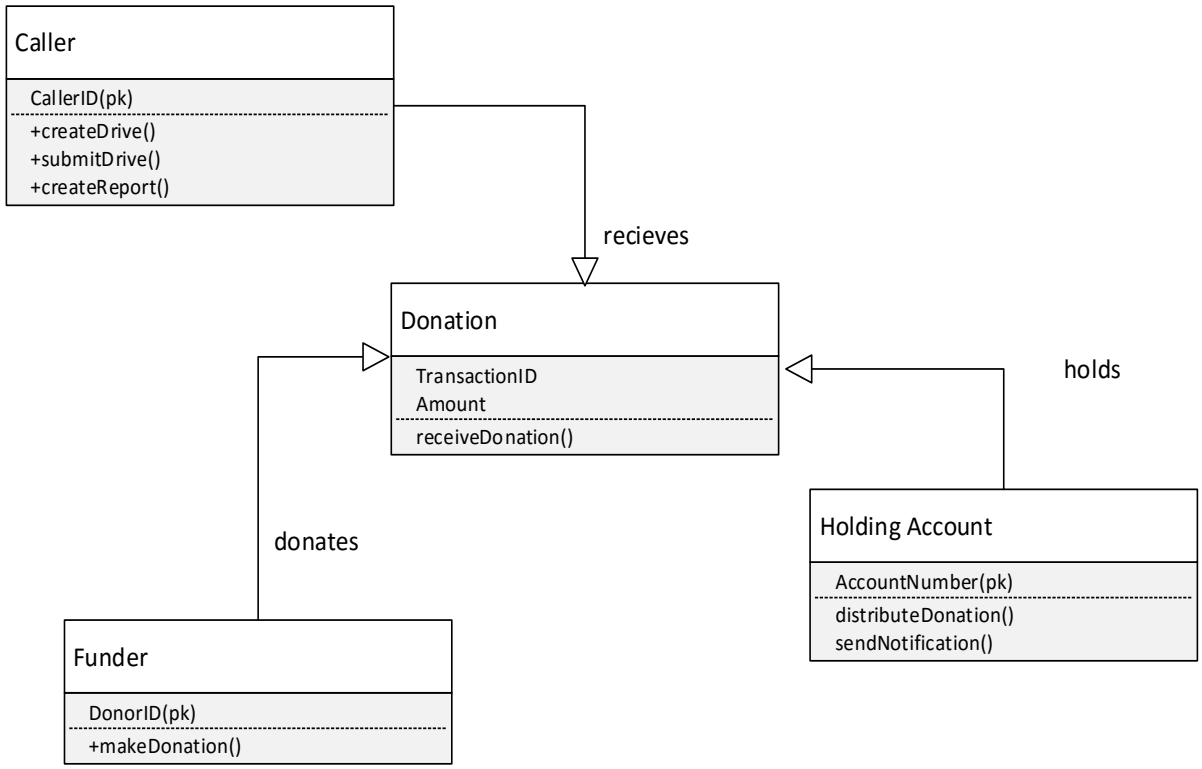

Figure 5 Fund Manager Module

POSTING MODULE

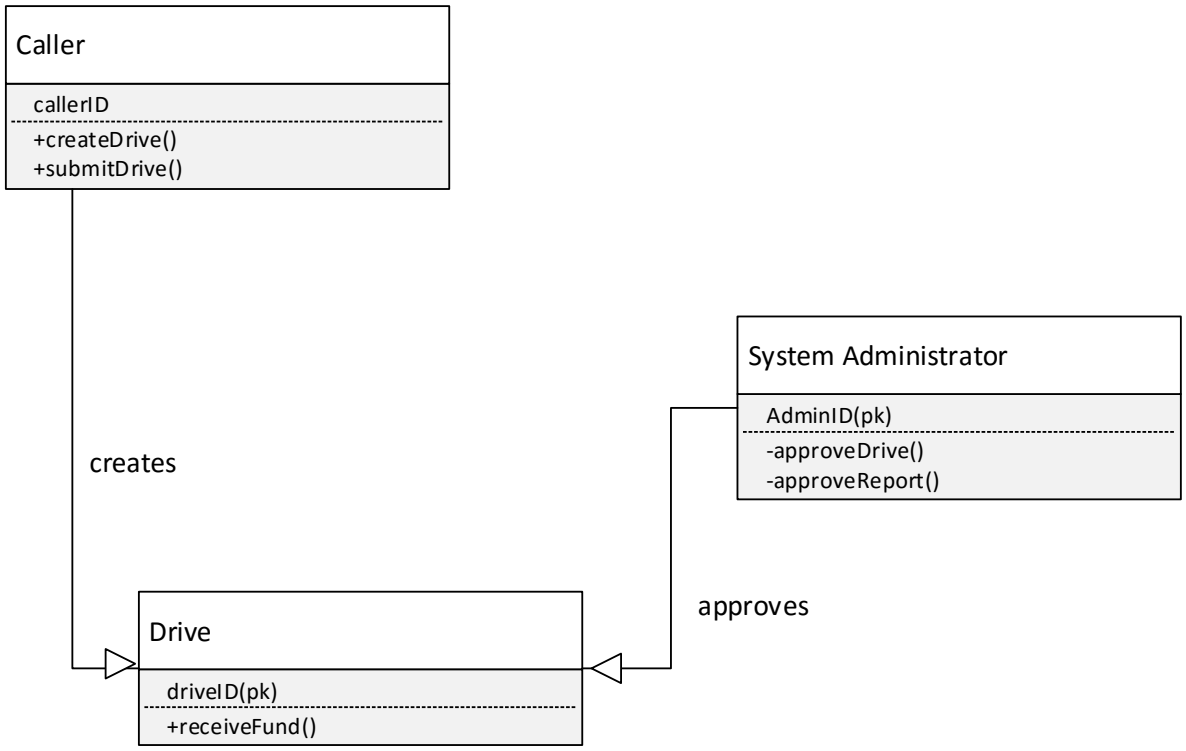

Figure 6 Posting Module

COMPONENT DIAGRAM

Below is a component diagram consisting of the package module containers for the classes being grouped and worked on as per the Object Relational Models above.

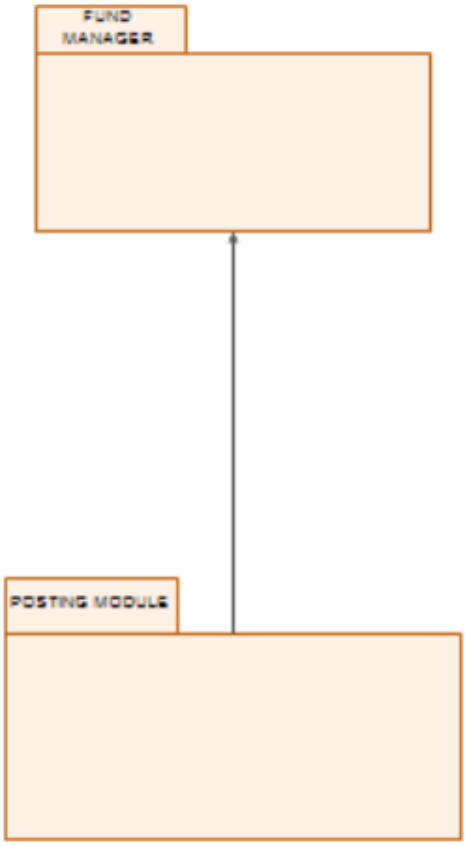

Figure 7 Component Diagram

Sequence Diagrams

1. Create Drive

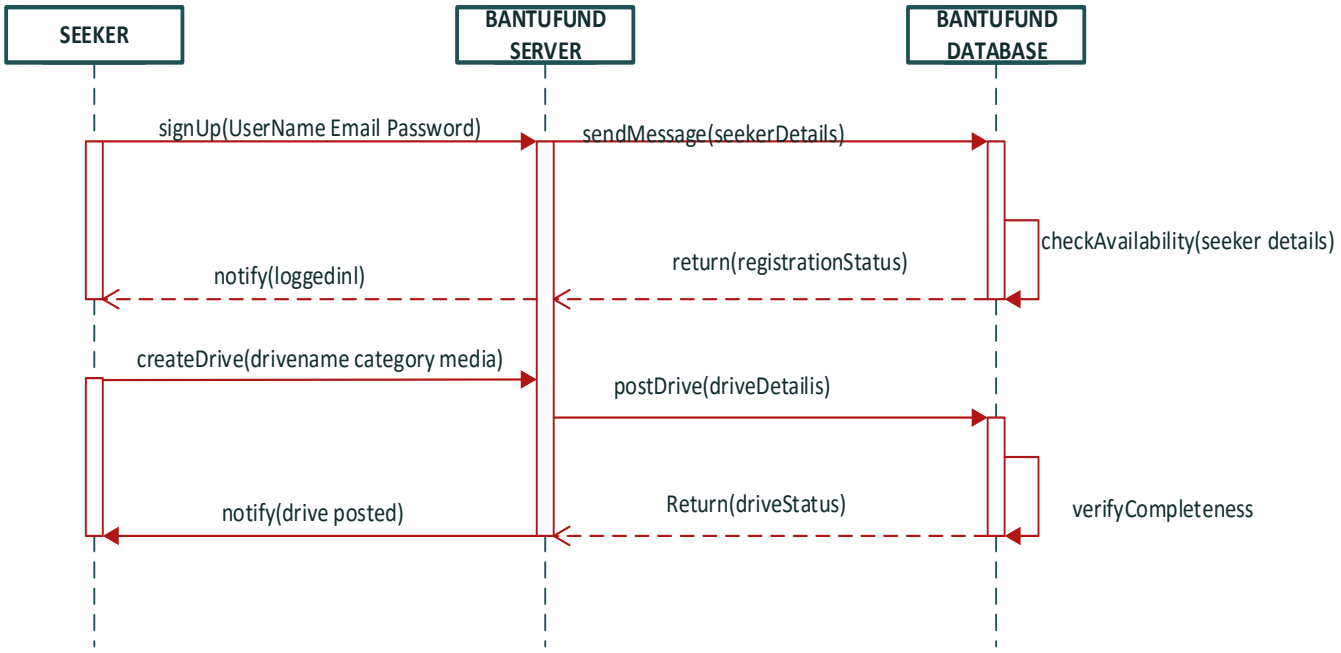

Figure 8 Create Drive Sequence Diagram

2. Donation

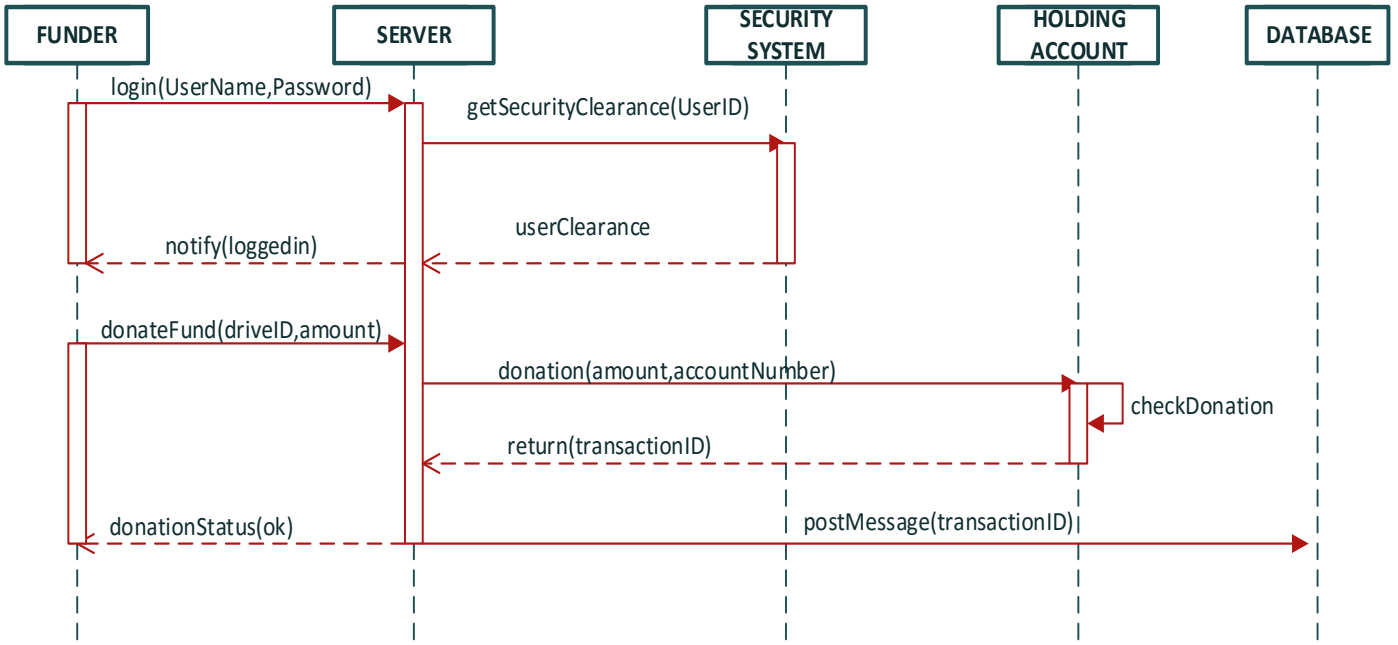

Figure 9 Donation Sequence Diagram

3. Withdraw Funds

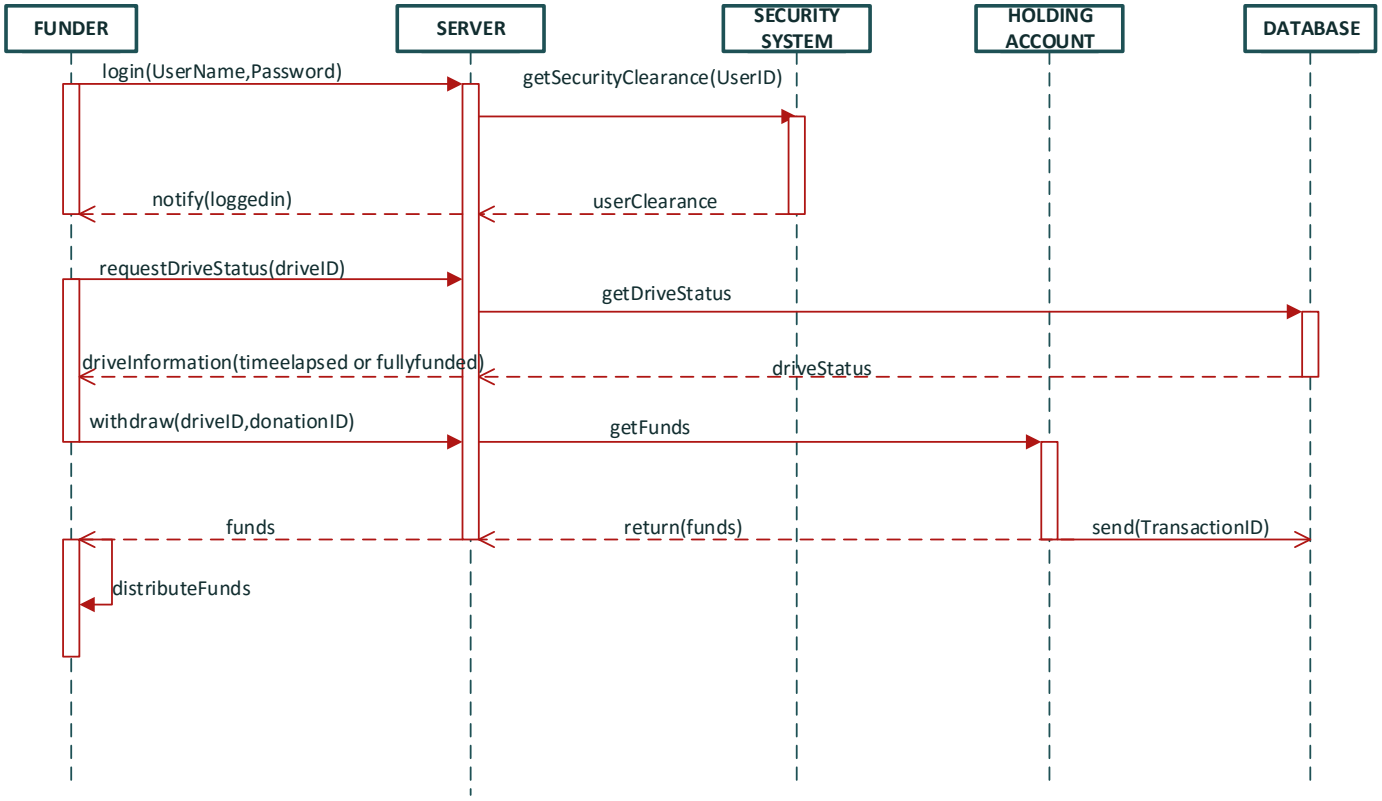

Figure 10 Withdraw Funds Sequence Diagram

3.3 Design Rationale

BantuFund shall be accessed using a web browser because its widely accessible to the common man and that is whom the system is made for.

Client-Server System

- Centralized

  It supports applications where data from multiple sources are integrated
- Scalable

  It favors large scale applications with hundreds or thousands of clients
- Flexibility

  Client server system allows easy installation and adaptation of upgrades.

Layered Architecture

The reasons for selecting the layered architecture was because of

Manageability**;** Separation of core concerns helps to identify dependencies and organizes the code into more manageable sections

Testability; This arises from having well-defined layer interfaces as well as the ability to switch between different implementations of layer interfaces.

Reusability; The layers can be reused with other compatible layers to provide a specific view on the same data and functionality

4. DATA DESIGN

4.1 Data Description

This section has the entities and entity relationship diagrams, which are to be used to model the data of the system the ERDS will later on be modeled into the database. The system has the following entities:

1. Caller (caller name, caller ID(PK), Paypal account, medium of payment, Phone Number, Physical Address, Category, Description, Reference)
2. Administrator (Administrator ID(PK), Admin Name)
3. Drive (Drive ID (PK), Drive name, Category, Duration, About, Amount needed, Amount received, Caller ID(FK), Funder ID (FK), Administrator(FK))
4. Funder (Funder ID (PK), FunderName, Phone Number, Paypal Account)
5. Donation (Donation ID (PK), Donation cause, Donation amount, Donation means, Donati time, Funder ID(FK), Drive ID(FK))

Binary diagrams

The diagrams below show the relationship between two entities at a time, it shows the communications between the entities paired and elaborates the relationship.

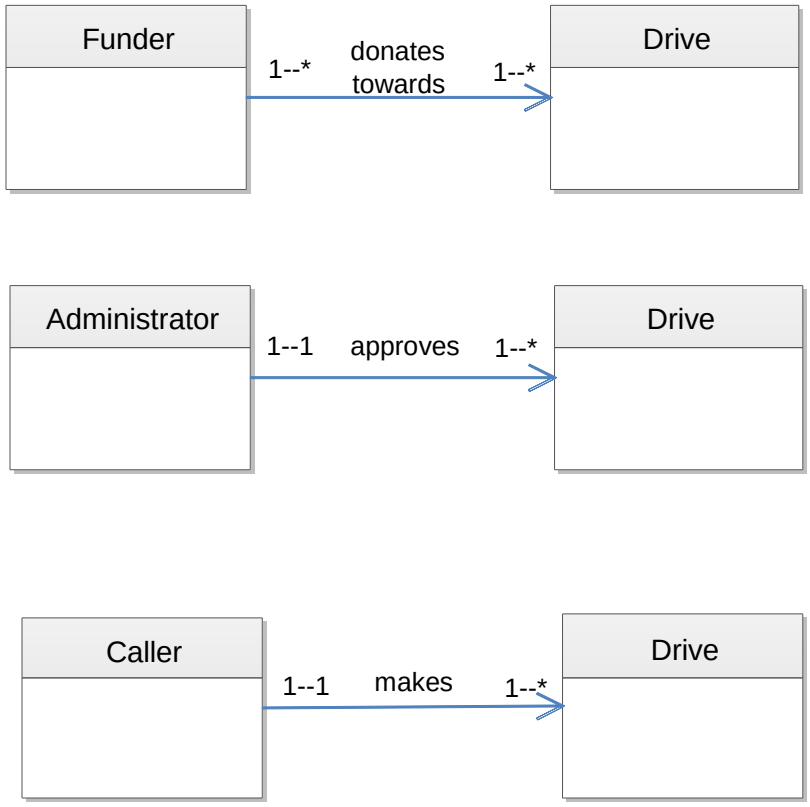

Figure 11 Binary Diagrams

From the above binary diagrams it can be observed that the following relationships exist between the entities.

1. The Funder can donate to one or many Drives and a drive can be donated to by one or many funders.
2. An administrator can approve one or many drives and a drive can be approved by only one administrator.
3. The caller can make one or many drives and a drive is made by only one caller.

ENTITY RELATIONSHIP DIAGRAM

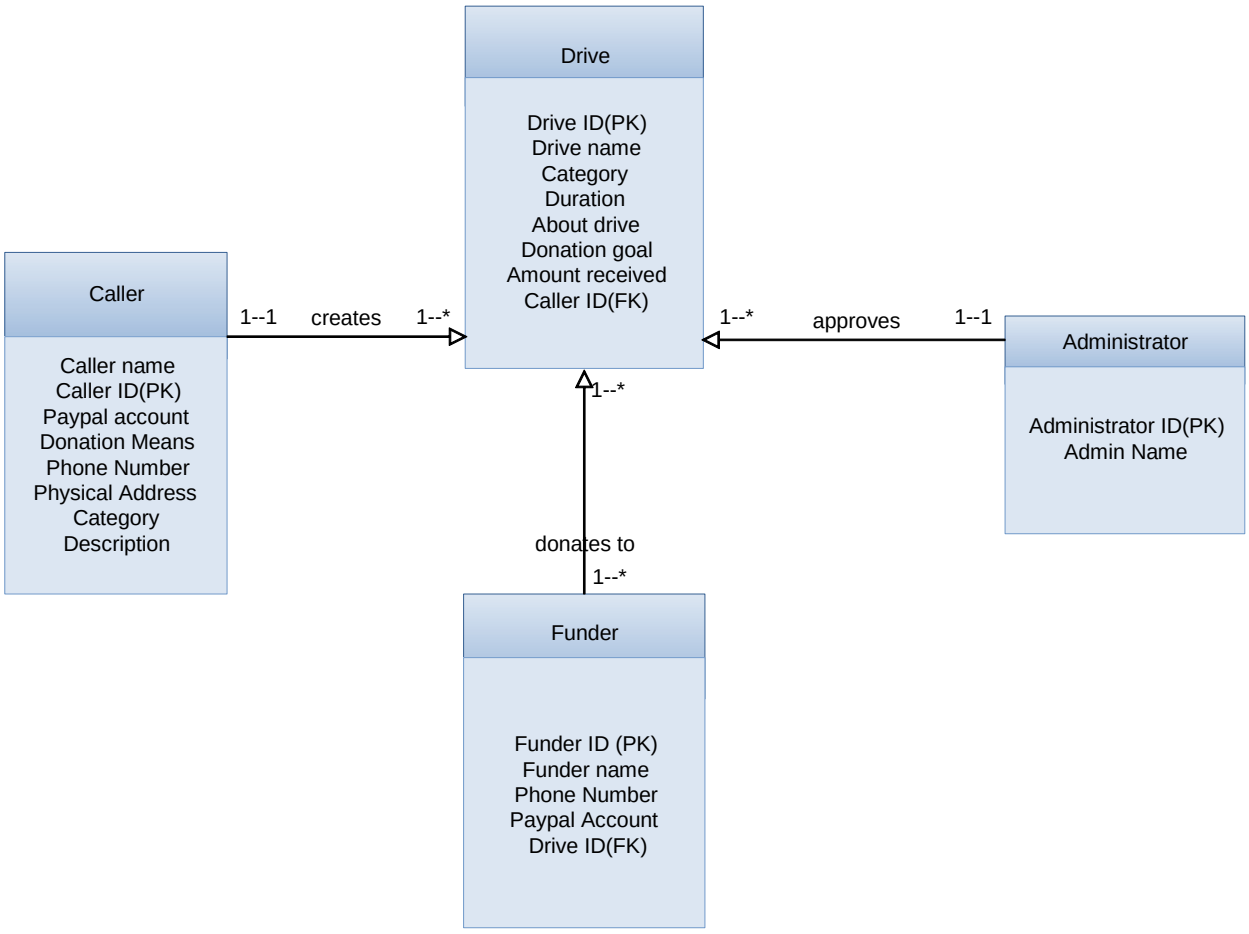

Figure 12 Entity Relationship Diagram

[5]

ENHANCED ENTITY RELATIONSHIP DIAGRAM

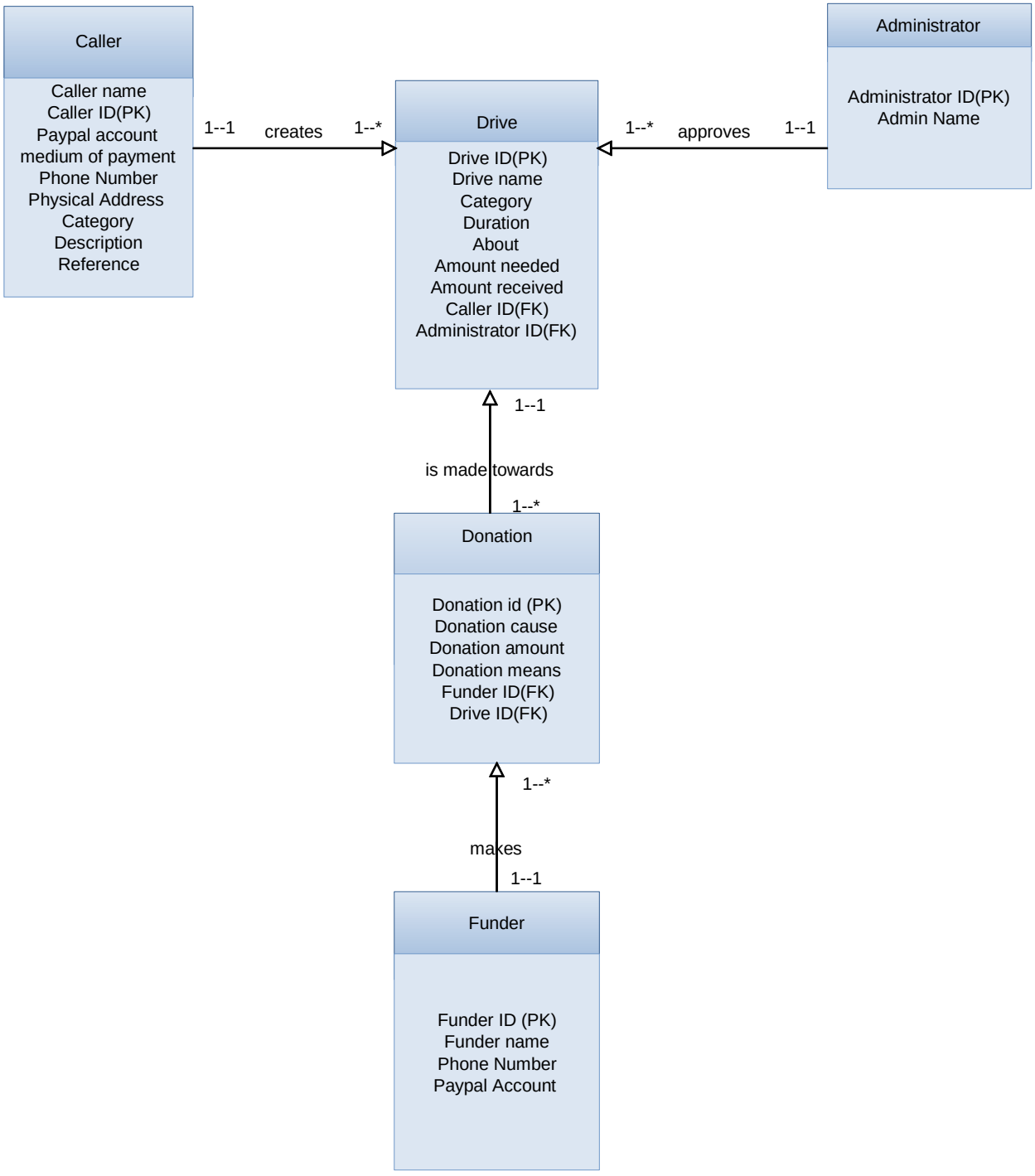

Figure 13 Enhanced Entity Relationship Diagram

Database schema

Entity	Attributes	Data type	Constraints
Administrator	Administrator Id(pk)	Int(5)	Not Null
	Admin name	Varchar(20)	Not Null

Entity	Attributes	Data type	Constraints
Funder	Funder Id (pk)	Int(5)	Not Null, Auto Increment
	Funder name	Varchar(20)	Not Null
	Phone number	Varchar(20)	Not Null
	Paypal account	Double(20)	Not Null
Drive	Drive ID(PK)	Int(5)	Not Null, Auto increment
	Drive name	Varchar(20)	Not Null
	Category	Varchar(20)	Not Null
	Duration	Time /date	Not Null
	About	Varchar(20)	Not Null
	Amount needed	Double(5)	Not Null
	Amount received	Varchar(20)	Not Null
Caller	Caller name	Varchar(20)	Not Null
	Caller Id	Int(5)	Not Null, Auto Increment
	Category	Varchar(20)	Not Null
	Description	Varchar(200)	Unassigned
	Cause goal	Int(20)	Not Null
	Time	Date	Not Null
Donation	Donation Id (pk)	Int(5)	Auto increment, Not Null
	Donation cause	Varchar(20)	Not Null
	Donation amount	Int(20)	Not Null
	Donation means	Varchar(20)	Not Null
	DonationTime	Timestamp	Not Null

Table 10 Database Schema

4.2 Data Dictionary

The data dictionary below shows the data entities, which are to be used in the database. It summaries the ERD entity attributes showing their names and description.[6]

Attribute	**Description**
Administrator ID	It is a number which uniquely identifies the administrator.
Administrator name	It the user name of the administrator.
Funder Id	It uniquely identifies every instance of the funder.
Donation cause	It is the drive name which the funder donates to.
Caller	It identifies the user who made the drive by their username.

Donation amount	It shows the amount which is donated by the funder.
Donation means	It shows the means of payment or donation.
Drive Id	This refers to the unique identification given to a specific drive.
Percentage covered	It is the percentage of the cause goal that has been achieved.
Category	It is the categorization of the drive which was created.
Description	This refers to brief information about a specific drive.
Cause goal	This refers to the amount aimed to be collected for the drive
Time	This refers to the time the drive was made
Donation Id	This uniquely identifies the specific donation
Donation Time	This refers to the time in which the donation was made.
Phone Number	This refers to the personal phone number of the funder or caller.
Paypal Account	It is the paypal account which the funder can use to donate.
Physical Address	This refers to the location or address of the caller.
Duration	This refers to the time in which the drive will be viewed on the system
About drive	This shows more information about the drive.

Table 11 Data Dictionary

5. COMPONENT DESIGN

In this section, we take a closer look at what each component of the **Bantu Fund** e-portal system does in a more systematic way.

The Flow Chart Showing the Algorithm for Each of the Functions Performed by the System Components

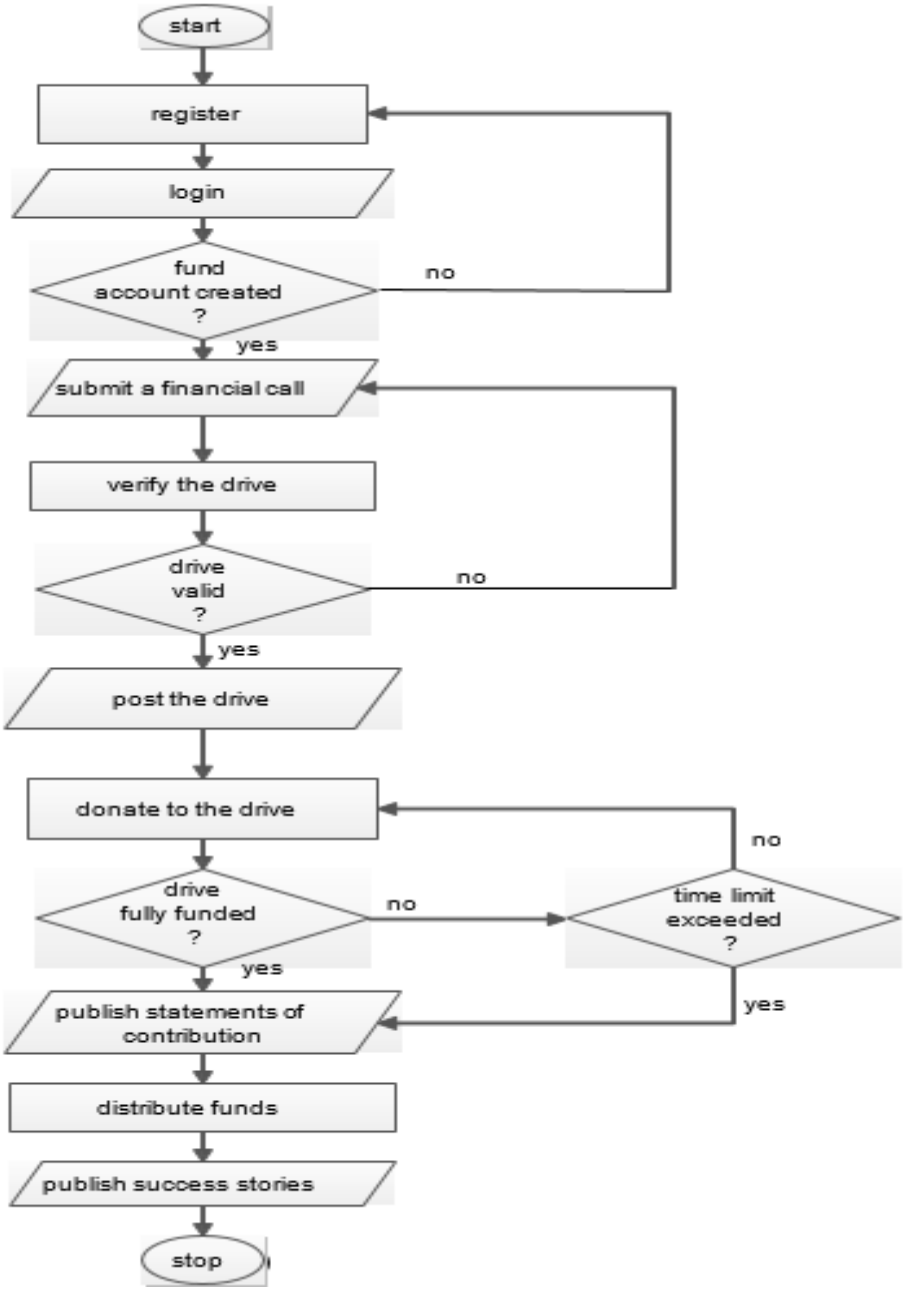

Figure 14 Flow Chart

The Components of the System and What Functions They Specifically Perform

TIERS

Presentation Tier

In this architecture the Presentation Tier is responsible for data collection and data presentation but does not control the business rules or data storage

Business Tier

The Business Tier is responsible for the implementation of the Business Rules of the system. This tier is used to manage the system objects and their interactions with the Data Tier. The Business Tier will be supported by a set of software components that provide object access, security, and event delivery to the Presentation Tier.

Data Tier

The Data Tier is responsible for the storage of data into a persistent store. It provides a Persistence Service that gives the Middle Layer necessary data manipulation functions while shielding it from the specific implementation details of the persistent store.

Cross Tier Services

The Cross-Tier Services are composed of a set of system utilities that provide a set of re-usable system components that are used by one or more tiers of the architecture. These utilities include communication, query, formatting, printing and other commonly used functions.

MODULES

Web server

The web server helps to provide a robust and highly available set of middleware services. It will provide the implementation of the Security Service (Hypertext Transfer Protocol [HTTP], Basic Authentication and Secure Socket Layer [SSL] for encryption) and the interface for Object Services through standard Servlet Application Program Interfaces [APIs].

Registration Module

The registration module is responsible for handling registration of new users into the system

Criteria Verification Module

The criteria verification module allows the site administrator to check the legitimacy and legality of drive and the caller before uploading for public view.

Posting Module

The posting module is where the caller submits his drive and the site administrator approves or rejects it.

Authentication Module

This module is where the system performs checks to verify whether user is registered.

Access Control List

The Access Control List provides basic level of security for the network by permitting and restricting dataflow into and out of the network interface.

Fund Manager Module

This module is responsible for handling the donations i.e. receiving and distributing it to respective drives. It works hand in hand with the Holding account(Escrow).

Report Generator Module

The report generator module provides a service for creating reports and handling uploaded reports from the callers

6.HUMAN INTERFACE DESIGN

This section describes the full functionality of the system from the user's perspective. It explains how the user will be able to use your system to complete all the expected features and the feedback information that will be displayed for the user.

6.1 Overview of the User Interface

The user gets to login into the system so as to access their account commonly called the profile page. This page shows the users information and the drive details such as the amount that has been collected and the goal along with the percentage.

For first time use, the seeker registers into the system and puts their user information. The system then creates and account for that seeker and its contents are the ones shown on the profile page of the user.

The financial contributor can search and select a cause/drive that they are interested in. A suitable cause to fund such as education and sports, social community development projects, health, disaster recovery and entrepreneurship.

The financial contributors pay for the financial drive chosen that they support through platforms like visa, mobile money or PayPal. The funder makes a choice whether to give his/ her details or remain an anonymous contributor.

A statement of contribution and success stories about similar funded drives are provided to the funder after he/ she has founded a certain cause. The funder receives notifications as to the project updates as they hit their milestones and expected targets. A wall of fame for each drive is displayed showing those who have contributed.

6.2 Screen images

Page navigation

The different pages of the system will be navigated in this way.

The home page is attached with several pages that give information about what our system does, these include:

- About us
- Team
- Contact us

From those pages we have a page that links to the system. On the home page it appears as system login which logs into the system. This page also has the registration forms which can be used to register into the system.

On registration into the system the system you have the ability to choose the kind of user you are, it can be funder, caller or administrator. The administrator user is approved later by the existing administrators of the system.

If the Id of the user belongs to administrator database, the user goes to the administrator page which shows them the existing projects that are pending for approval and can access any other page of the system.

If the Id of the user belongs to the caller the system takes them to profile page which shows their information and information about their drives, the can also view the projects page, drive page and donation page.

The table below shows the different pages and what they do or contain.

Page	**Contents/ what it is used for.**
Home page	Introduces the system
About us	Informs the public about the system
Contact us	Informs the public about how to contact us
Login/ registration page	Enables one to register or login into the system
Projects page	It shows all the existing projects in summary
Drive page	Shows details about a specific drive
Donation page	Enables one to donate into the system
Profile page	It acts as the home/ control page to the caller
Administrator page	It enables one to monitor the whole system and has the ability to access any page.

Table 12 Page Description

Screen navigation diagram.

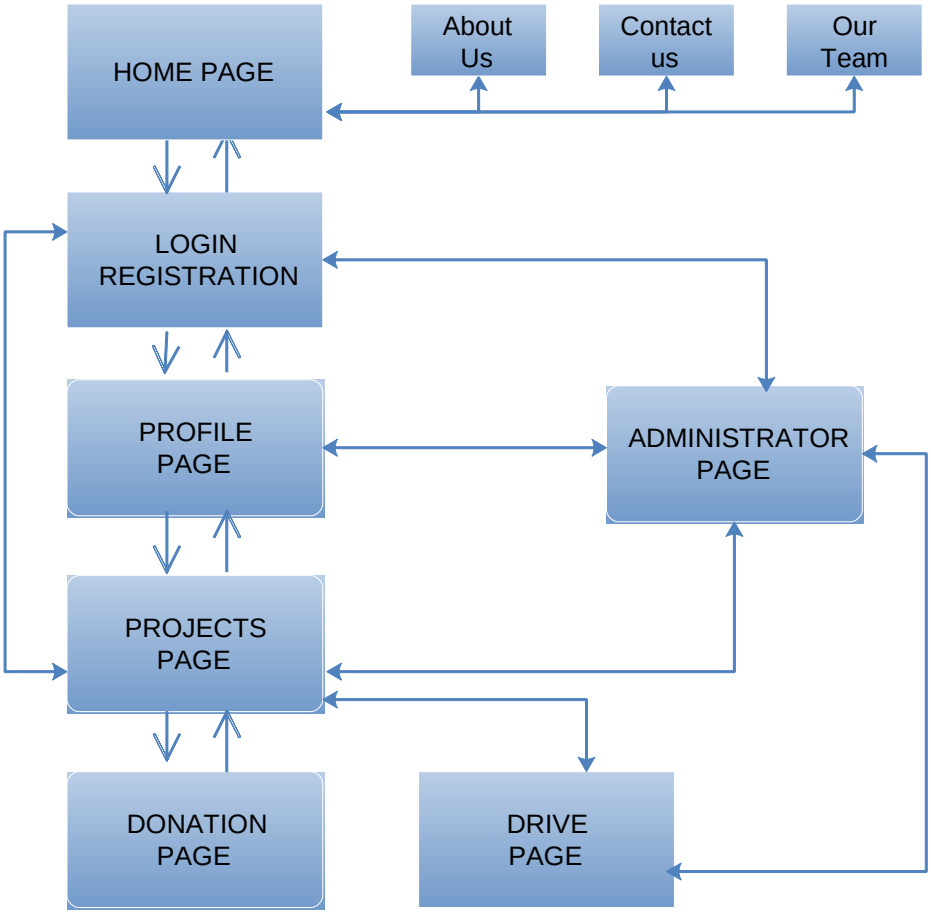

Figure 15 Screen Navigation Diagram

Display Screenshots Showing the User Interface

Home Page images

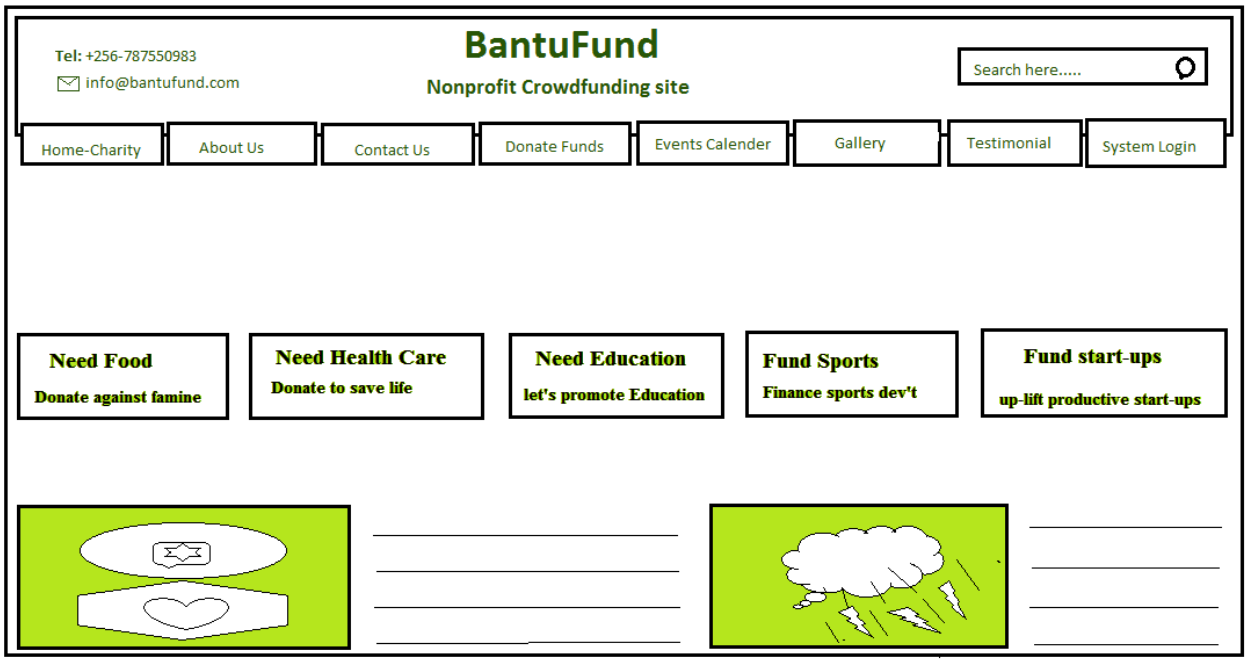

Figure 16 Home Page

Registration page

Figure 17 Registration Page

Create Drive

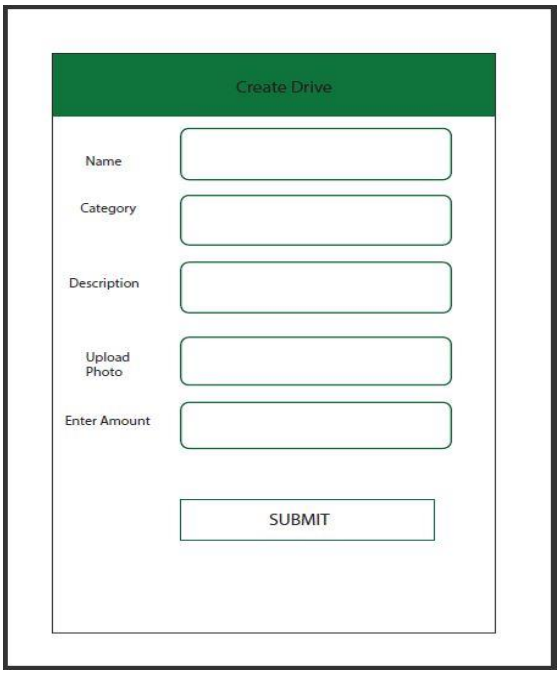

Figure 18 Create Drive Page

Drive Page

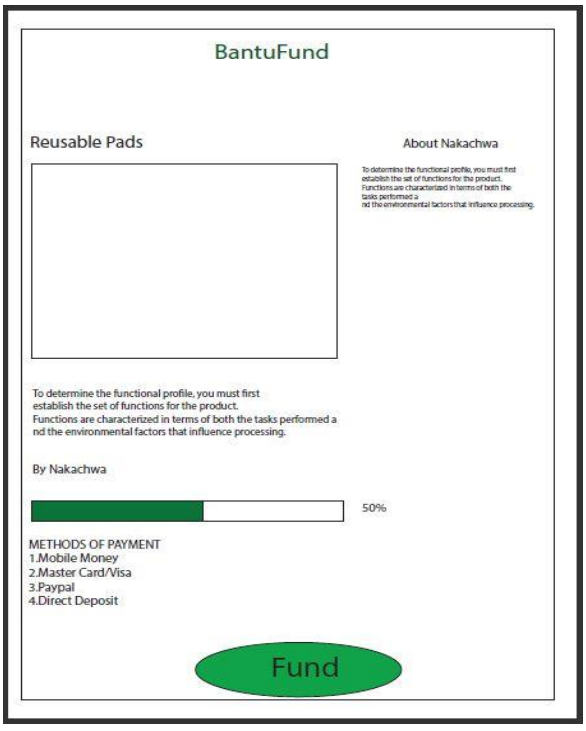

Figure 19 Drive Page

Profile Page

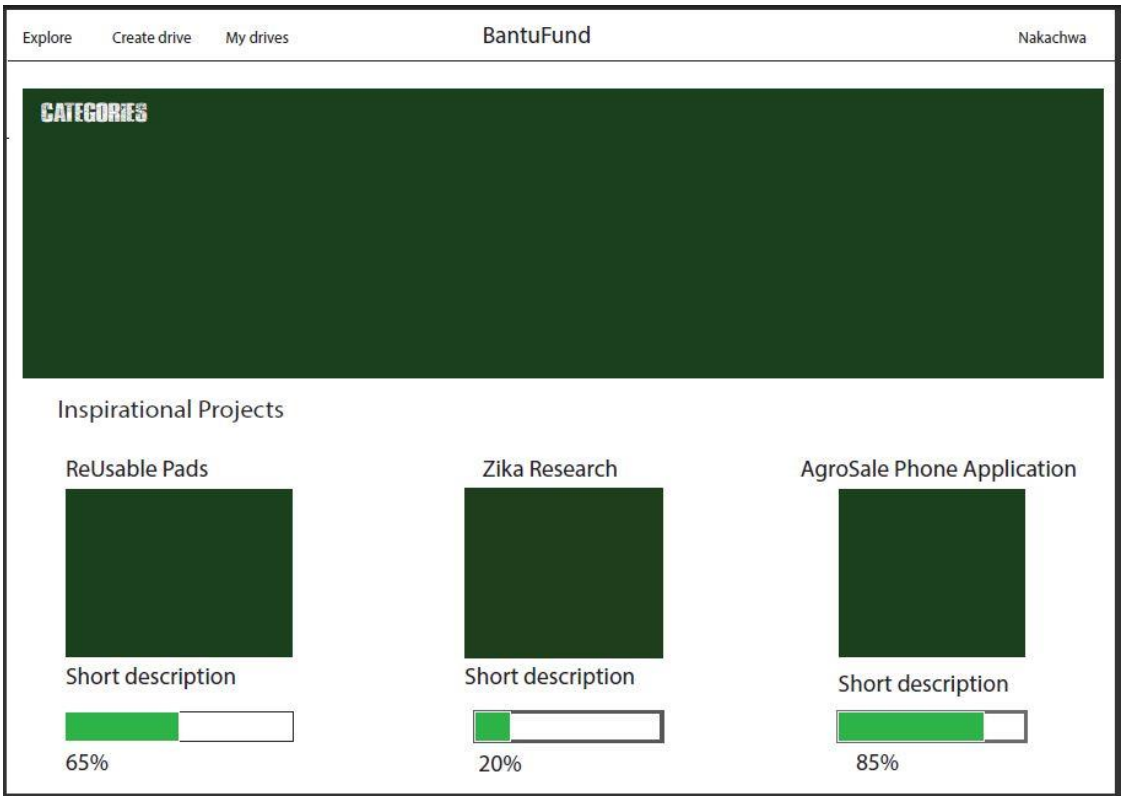

Figure 20 Projects Page

6.3 Screen Objects and Actions

Home Page

The homepage has social media icons, which have links to the social media websites like Facebook, twitter, linked in, Google.

• There is a phone icon, which has the phone number to use to contact the company (BantuFund).

• There is an email attached to the top left of that page which enables users to contact the company via email.

• The home page has a search box on the top left which can be used to search in the website.

• The homepage has a menu, which has a couple of pages and the button to the system.

• The top center has the names of the company BantuFund and a tagline below it, which gives a slight insight about what the company does.

• The home page has causes section, which has a few causes, and the amount donated and the percentage contributed so far.

• The homepage has a news section / event section, which shows some information about our projects that have been run or are running.

• The home page has a footer, which has a newsletter, which you can subscribe too.

The sign up page

The sign up page has many forms, which enable you to input information.

• The first one has a form field to enter user name.

• One for entering email address, which also has to be re-entered to enable validation, follows it.

• The next for entering password and the next to reenter password for verification or validation.

• Lastly that page has a sign up button which when clicked will send the information to the database.

Profile page

The profile page has the profile of the person who has made a drive; it is more like an account. It shows the picture of the person who has created that account, amount, which has been contributed, and the amount, which is needed along with the amount, which is remaining to accomplish the goal.

• It gives the detailed description of the cause/ drive, which was created along with the evidence and the progress being made.

• It also gives the alternative to fund the drive with the button (fund).

Create drive page

This page enables a user to create a drive, they first registering into the system do it, and then they can access this page. It has many forms, which enable one to create a drive.

• It has a section for the name of the drive/cause.

• It has a form field to enable one to enter the category of the drive.

• It has a form field to enter the description into the database, which can best describe the drive.

• It has a section which can enable one to upload photo or picture and will probably have another which will enable one to upload the video if need arises.

• Lastly, it has a form field which enables one to enter the amount that needs to be contributed.

The projects page

This page shows all the existing projects in the system at that time, it shows all the running projects, their goals, and amount contributed so far along with a progress bar which shows the percentage, which has been contributed.

It shows all the projects in summary and enable the user to fund any project among them.

7.REQUIREMENTS MATRIX

Requirements	Number
Create account	**1**
Verify and validate	**2**
Percentage contributed	**3**
Advertise fundraising campaigns	**4**
Recognition for funders	**5**
Customized drives	**6**
Provide a platform that acts as a matchmaker	**7**
Generating and providing an operational report	**8**
Integrate with mobile money and pay way enabling donations	**9**
Vetting Drives	**10**

Figure 21 Requirments

Components	Functional Requirements									
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Registration Module	X			X	X	X	X		X	
Access Control List Module	X	X				X		X	X	
Apache webserver	X	X	X	X	X	X			X	X
Authentication Module	X	X	X						X	
Fund Manager Module			X				X	X	X	
BantuFund Database Module	X				X	X		X	X	
Criteria/ Verification Module		X								X
Posting Module		X					X			X
Report Generator Module					X					

Figure 22 Requirments Matrix

8.APPENDICES

8.1Appendix A: Poster