MULTIMEDIA UNIVERSITY OF KENYA

FACULTY OF COMPUTING & INFORMATION TECHNOLOGY

STUDENTS' ONLINE PLATFORM FOR SHOWCASING AND MARKETING PROJECTS.

(PROJECT MARKET)

BY

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Submitted in partial fulfilment of the requirements for the completion of the undergraduate bachelor degree in information technology.

DECLARATION

I hereby declare that this Project Documentation is my own work and has, to the best of my knowledge, not been submitted to any other institution of higher learning.

Student : _____ Registration Number: _____

Signature: ..... Date: .....

This project documentation has been submitted as a partial fulfillment of requirements for the Bachelor of Science in Information Technology of Multimedia University of Kenya with my approval as the University supervisor.

Supervisor: _____

Signature: ..... Date: .....

DEDICATION

The project is dedicated to all the students especially in Kenya who have projects or great ideas but are not able to implement them due to lack of proper guidance.

ACKNOWLEDGEMENTS

I thank all those who devoted their energy, resources and time to the success of this project. Ultimate thank you goes to my ever-encouraging lecture for guiding me through the implementation of the project idea. No words can explain my gratitude for my classmates' ever-helping hand through this process when it comes to coding. However, I cannot forget the support I got from my mother who supported me emotionally and financially. In conclusion, I will ever treasure the help from both mentioned and non-mentioned well-wishers deeply in my heart. Above all, I would like to thank the almighty God for seeing me through this whole project.

ABSTRACT

This documentation gives an outline of my project and the steps that I followed in preparing an online website where students can post their projects and have companies view them and even buy the idea hence work with the student towards implementing it in the market. The difference between this system and others is that, this system will be headed by company that will protect ownership rights of the students. This will prevent client companies from manipulating the students since in most cases it is the companies that sponsor the implementation financially. This will encourage more students into practicing what they learn in schools since they know there is ready market out there and their rights are protected. Kenyan students have lots of innovative ideas but shy off from sharing them with the market since they are afraid of having their idea stolen from them and they are not able to protect themselves.

CONTENTS:

LIST OF ABBREVIATIONS

- PM – Project Market
- DFD – Data Flow Diagram

- UML – Unified Modelling Language
- PHP – Hypertext Preprocessor
- MYSQL – My. Structured Query Language
- KES – Kenya Shillings
- Admin – Administrator
- HTML – Hypertext Markup Language
- CSS – Cascaded Style Sheets
- JS – Java Script
- WAMP – Windows, Apache, MySQL, PHP
- PDF – Portable Document Format

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CHAPTER ONE: INTRODUCTION

Project Market (PM) is a website that will enable students in Kenya post their projects and make them visible to the whole world and especially the target market. This website is aimed to be owned by an able Kenyan company that will be able to provide ownership rights hence students will have ownership rights protected as soon as the project submitted is approved and posted on the website. The site will require students to create an account with all the details of the school they are in and then upload a project report naming the target market. If a target market is pleased with the project, it is allowed to contact the student through the PM administration and they can work on the project. The student will be required to post progress of the implementation of the project with the company under the comments below the project report.

1.1 Background of study.

Kenya has very bright students with so many project ideas which can be put into practice and help placing the country in a better position as it strives to achieve the vision 2030. However, they are not able to speak out about their projects due to a number of reasons:

1. Fear of having their project ideas stolen.
2. Lack of funds to protect ownership rights of their projects.
3. Lack of knowledge of procedures to follow in incorporating their projects in the market.

4. Companies embracing students' projects but end up owning them or even giving them a small share of the project profit just because they funded the whole project.

PM website will create a good platform of curbing the problems mentioned above and also make Kenya use the great developer minds that we have in schools. The company will also have played a major role in helping the government in guiding students on what to go about when wanting to incorporate their projects into the market.

1.2 Problem statement.

Students currently come up with projects but do not know how to go about it when it comes to incorporating the project into the market. There is therefore the need of having a website such as PM that is governed by a very strong body to tackle this problem.

1.3 Purpose of the study.

To create a safe platform for students to showcase their projects to the target market.

1.3.1 Objectives.

1. To develop a website that students can showcase their projects.
2. To prevent companies from manipulating students when it comes to implementation of projects in the market.
3. To ensure that registered users can receive notifications in their emails.
4. To ensure that final projects sent to the market are viable by the fact that PM company will have to very first before posting to the website timeline.
5. To verify that the system is working on portable electronic devices especially laptops and mobile phones.
6. Provide a platform for companies to advertise their educational events.

1.3.2 Research questions.

1. Will PM be effective to students in showcasing their projects?

2. How will PM help in curbing the problem of manipulation of students during project implementation with target companies?
3. How different is PM from existing similar websites? What gap is it filling?
4. Would students, government and companies be interested with this idea?
5. Will the website be flexible enough to work on different interfaces?

1.4 Significance.

- Kenya students will have a safe platform of showcasing their projects.
- PM Company will be able to monitor students' projects and their progress in their dealings with the target market.
- Organizations will be able to have a platform whereby they can advertise events and conferences meant for students.

1.5 Scope of the study.

Research is done among innovative students in Kenyan Universities especially those student developers in my university "Multimedia University of Kenya".

1.6 Assumptions.

- Students have and are coming up with so many projects but these projects are not being implemented.
- The government's education body has been figuring out a way of protecting ownership rights to students who come up with projects, pitch the ideas to companies and work with those companies in implementing them.

1.7 Limitations.

- The developing of the system, so much learning of programming languages included, will consume a lot of time yet time is limited.
- Finances to facilitate the well-being of the projects will be a limitation since as a student I survive on borrowing money from parents.

- At times there is lack of internet available yet it is one of the main resources.
- The website might take long to be implemented and may require too many procedures too.
- Malicious company will have the students lie PM Company about the progress of the project by giving the some tip to the student. However this is tricky since the student will be the one at risk.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

Some companies already have come up with systems similar to my project idea. However there are few problems in those systems which my project plans to handle hence have a competitive advantage over them.

2.2 Related systems

2.2.1 Zindua Café – Safaricom Kenya

This is an idea submission web portal that allows one, as a registered user, to submit ideas, applications or prototypes to Safaricom for possible development. The process is easy, register, submit, they review it, which takes a maximum of three weeks, and get back to you with the verdict. If your idea blows them away they offer you a non-disclosure agreement and commercial contract and implement the idea (Safaricom).

2.2.2 Onesha – Briglobe Investment Group.

Onesha is the platfrom that enables young people to showcase their best work and get connected to opportunities. By using images, video and audio, young creative professionals get a chance to prove their worth and get jobs, internships, scholarships or even investors due to their work. Onesha automatically creates a Visual CV to help one highlight abilities and where success has been achieved. One can personalize the CV hence use it to show others their work anywhere, anytime by sharing the link on the project or profile (Company).

2.3 Limitations of these systems

2.3.1 Zindua Café – Safaricom Kenya

- No confidentiality – once the idea is submitted, Safaricom does not consider it confidential.
- Idea protection - Safaricom requires one to cater for his/her her protection rights which could be tricky for students to handle.
- Right or License to Use – Once posted to Safaricom, they consider that they are allowed to use the idea which could not be the case with the student.

2.3.1 Onesha – Briglobe Investment Group.

- Ownership protection – With Onesha, one is not assured of protection of ownership rights once the project is uploaded.
- Onesha is just a platform for showcasing ideas, the student will not fell well guarded getting out to the market.

2.4 How my proposed solution will handle these problems

My proposed solution will handle these issues by:

- Having student's project protected in terms of ownership.
- The only person that will be allowed to use the idea is the student, the owner of the project.
- The student will have no fear of having his or her project idea stolen once posted in the website.

CHAPTER THREE: METHODOLOGY

3.1 Introduction

In my project I will take an Incremental model approach.

3.2 The Methodology

It will combine the features of the waterfall model and the iterative approach of the prototyping model that's important since it will allow the system development to be done in phases thus avoiding delays between specification and delivery.

3.2.1 Advantages of Incremental model:

- Generates working software quickly and early during the software life cycle.

- This model is more flexible – less costly to change scope and requirements.
- It is easier to test and debug during a smaller iteration.
- In this model customer can respond to each built.
- Lowers initial delivery cost.
- Easier to manage risk because risky pieces are identified and handled during it'd iteration.

3.2.2 Diagram of incremental model

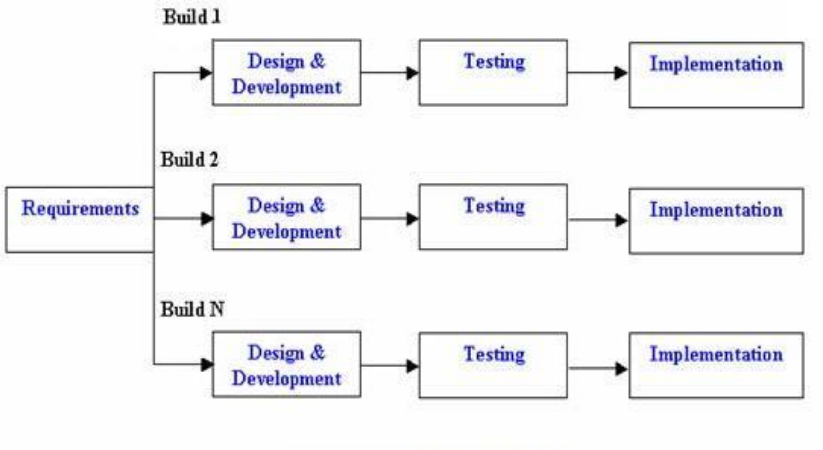


Figure 1 Incremental Life Cycle Model

The core parts of the system will be developed first then additional features added later. These core parts will include:

- Design the prototype
- Security measures and access control
- Configuration for performance and security
- User Interface Design
- Testing

3.2.3 Design and Development.

1. Design the prototype – Draw how the different interfaces will look like and how they are going to interact with each other.

2. Security measures and access control – I will see to it that users are properly authenticated once they want to log in to their account for posting projects. Their passwords also will be encrypted instead of saving them as plain texts. This reduces the chance of a hacker having access to other people's data. Access according to roles will also be implemented.
3. Configuration for performance and security – Coding the whole application such that it is very simple and easy to navigate through.
4. User Interface Design – Here I will use the web design knowledge to make sure the mobile application looks relevantly awesome and attractive to the users.

3.2.4 Testing.

5. Testing - Though this will be done after few steps of coding, the final testing will be done using the different platforms.

   I will use dummy data to create information of students from different universities to test whether the system will only limit uploading to the students mentioned in the database.

   I will also upload a few projects owned by my classmates and see whether the feature of conversations will be conversant.

3.2.5 Implementation.

After successfully testing, the proposed system will be hosted on a web server and application program will be installed on users. Any modifications will be added to the system as the need arises from the user.

3.3 Data collection methods and tools

- Self-study through the internet.
- Observation.
- Interviews.

CHAPTER FOUR: SYSTEM ANALYSIS

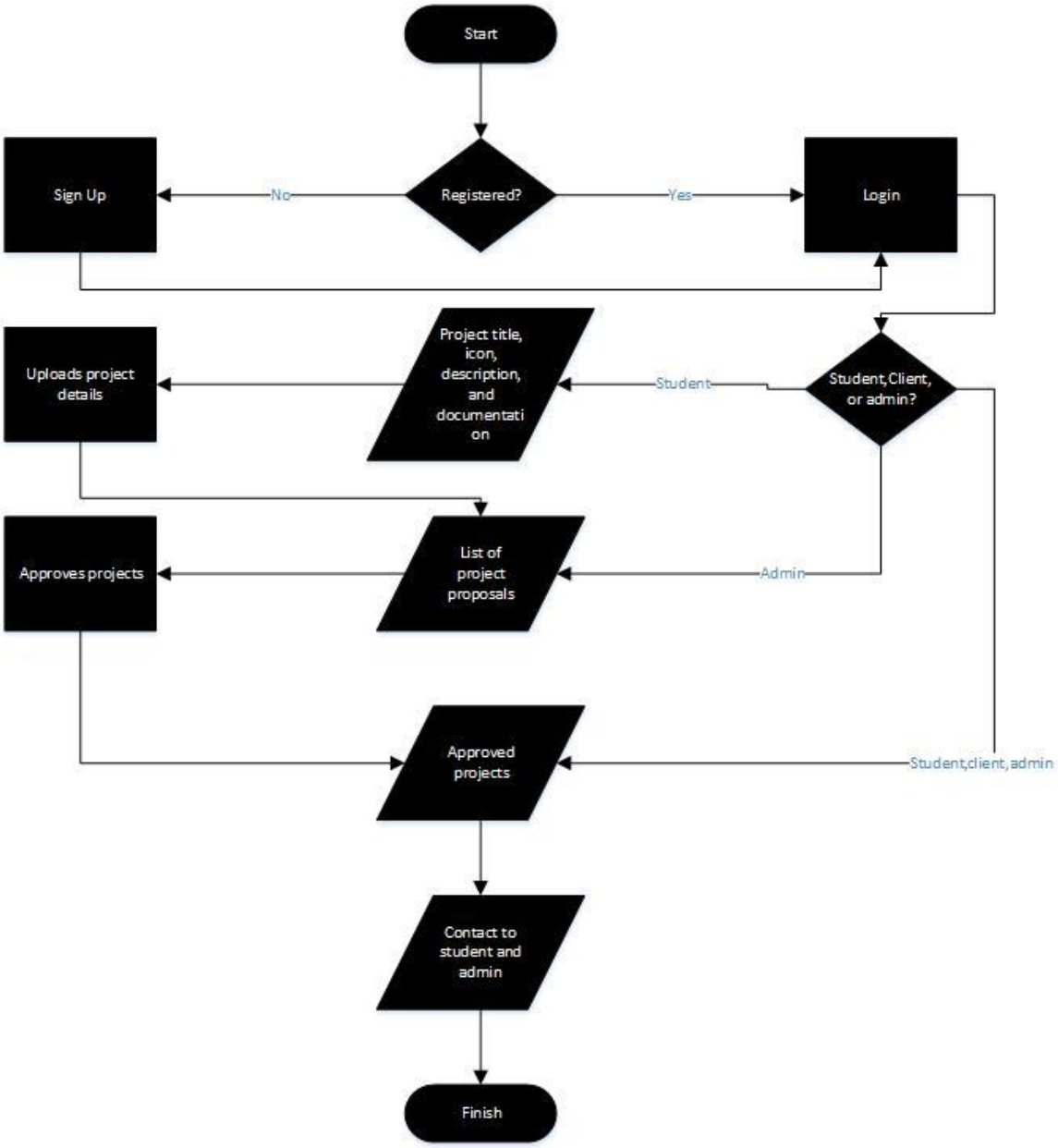
4.1 Introduction

This chapter explains the current state of my online platform for marketing and showcasing projects and what I wish to work on.

4.2 Detailed System Analysis

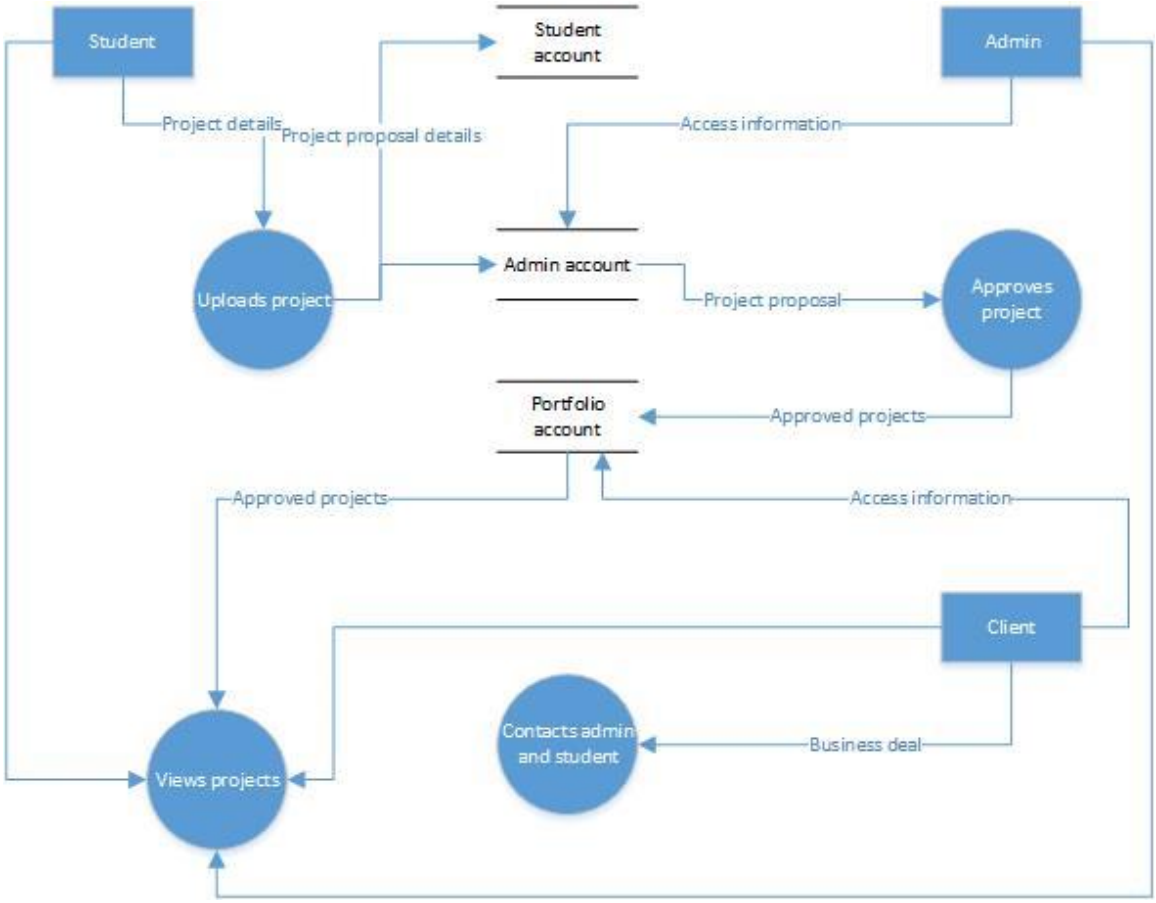
4.2.1 Flowchart

The flowchart below shows the steps that occurs in the usage of the system. Once one reaches the home page, he/she has to login or signup if he/she had not registered earlier on. Once logged in, the user is directed to different pages according to the role. If it is a student, he/she is taken to a page whereby he/she can update the profile and upload a project by submitting the project title, icon, description and project documentation. These details are taken to a page that only the admininistrator can view in order to approve the project proposals. Once approved, the admin transfers the project to the project portfolio where it is ready for view by the clients. This project portfolio is now accessible to all the three users. The client then contacts the both the admin and the student incase he/she is interested in the project.


Start
Registered?
No
Yes
Sign Up
Login
Uploads project details
Project title, icon, description, and documentati on
Student
Student,Client, or admin?
Approves projects
List of project proposals
Admin
Approved projects
Student,client, admin
Contact to student and admin
Finish

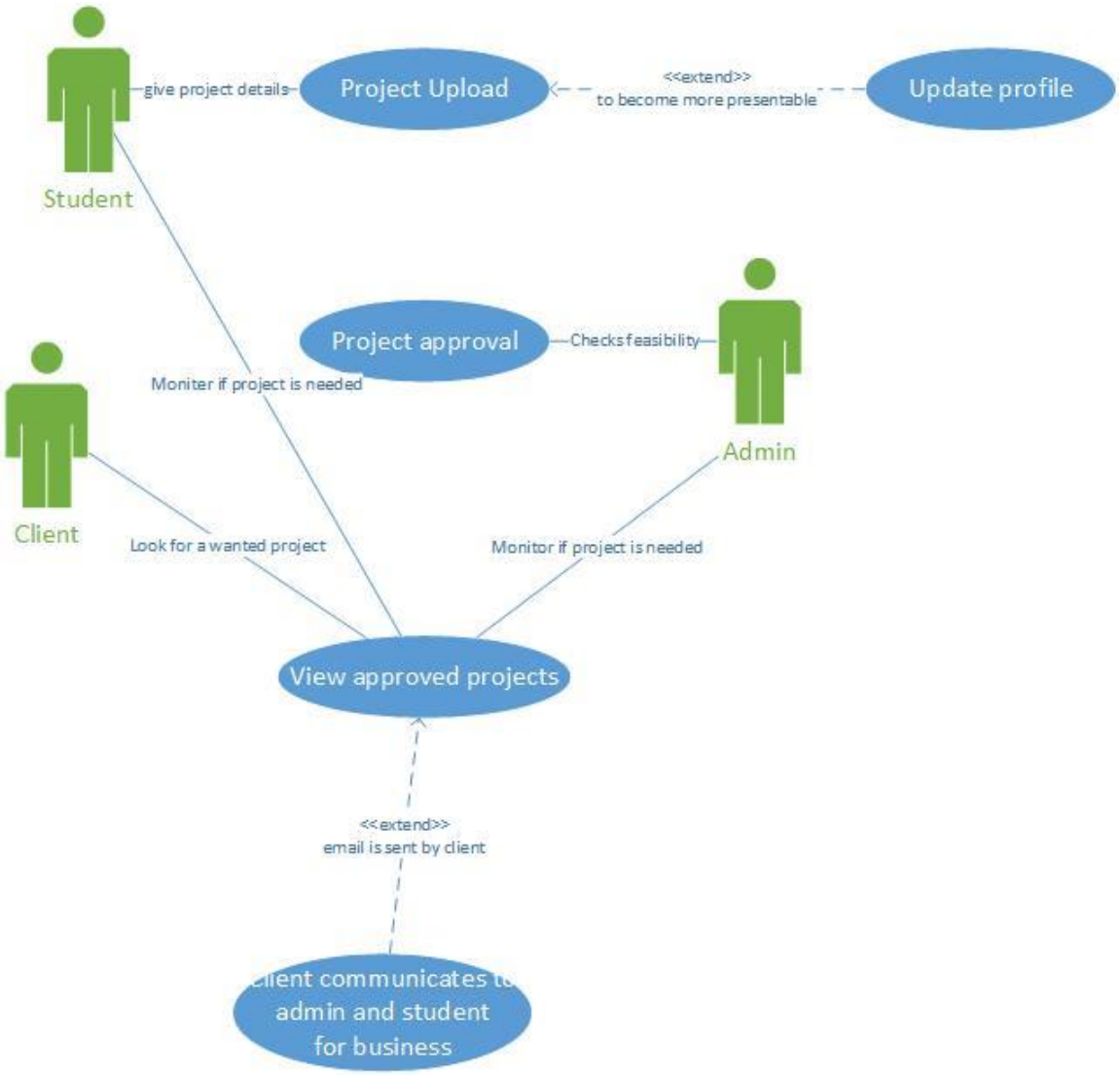
4.2.2 Data Flow Diagram

The DFD gives the flow of information among the client, student, and the administrator.



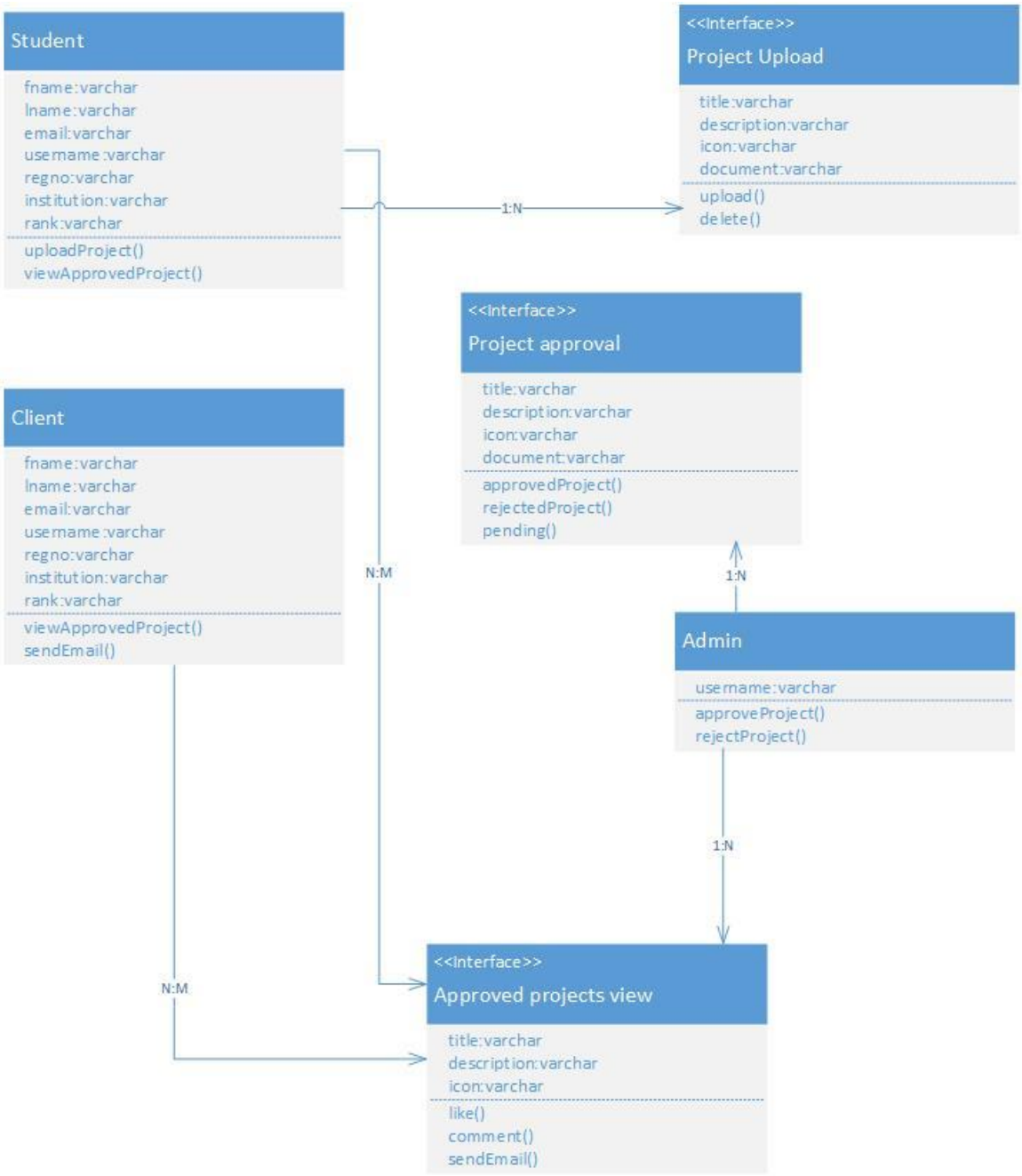
4.2.3 UML Use Case

The UML use case below shows the three users' interaction with the system that shows the relationship between the different use cases in which the user is involved.



4.2.4 UML Class diagram

The UML class diagram below gives the static view of PM by describing the functionalities performed by the system.



4.3 System requirements

4.3.1 Functional requirements

The system will enable a student upload a project and even update his/her profile once he/she has signed and logged in as a student. An admin can view uploaded projects and either approve or reject. The system should be able to show approved projects in the project portfolio. A client can view, like, comment, and send email to student and admin once he/she has signed up and logged in. Both the student and admin can also access the project portfolio once logged in.

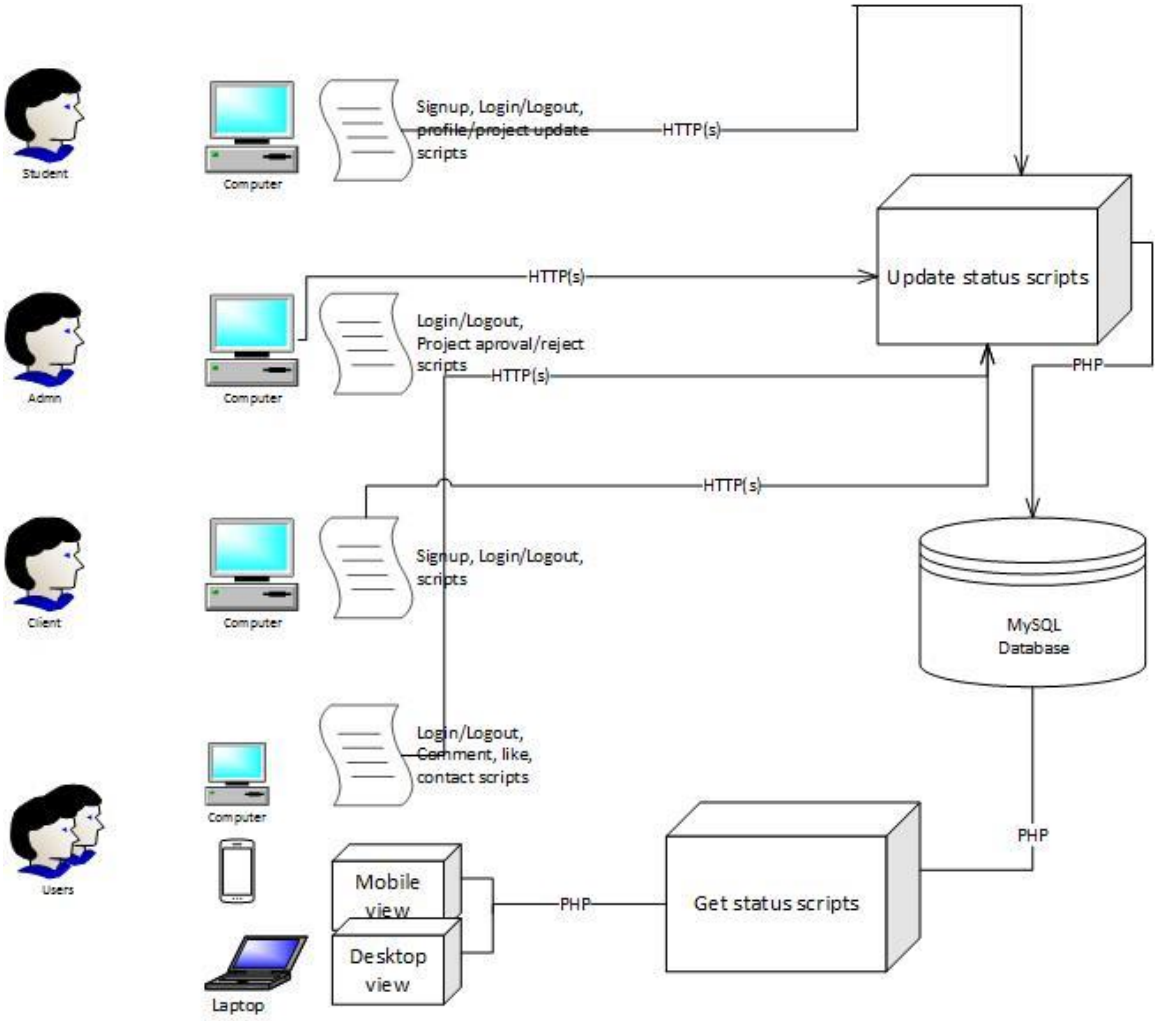
4.3.2 Non-functional requirements

The system should be able to add new users who sign up to the database and only those who have signed up can log in. Approved projects should only display the project title, icon, and description leaving out the documentation. Email sent by the client to reach both the student and the admin.

CHAPTER FIVE: SYSTEM DESIGN

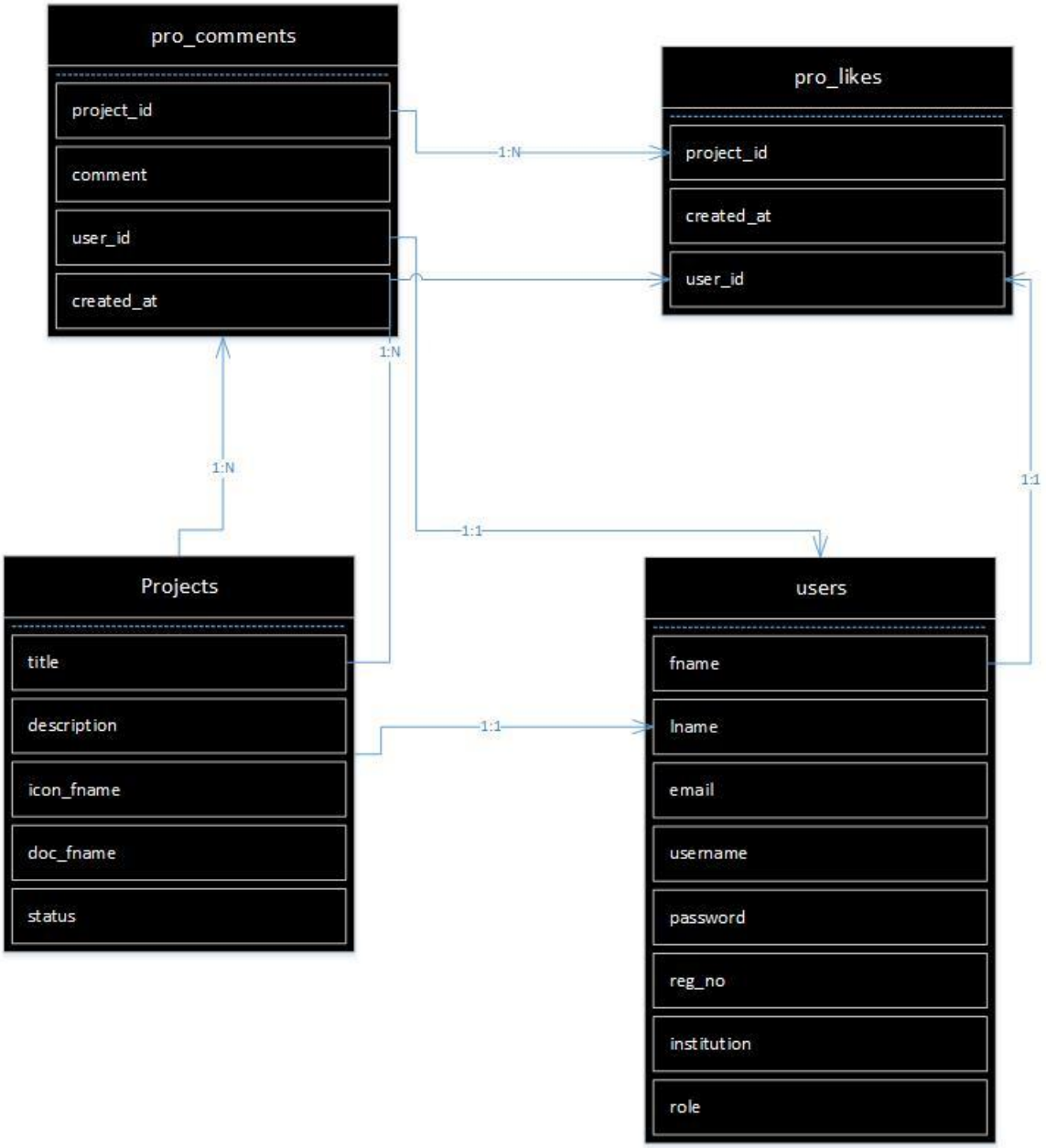
5.1 Architectural design

The architectural design is composed of scripts that enable updating of data in the database and viewing of the data according to the status in which they are in.

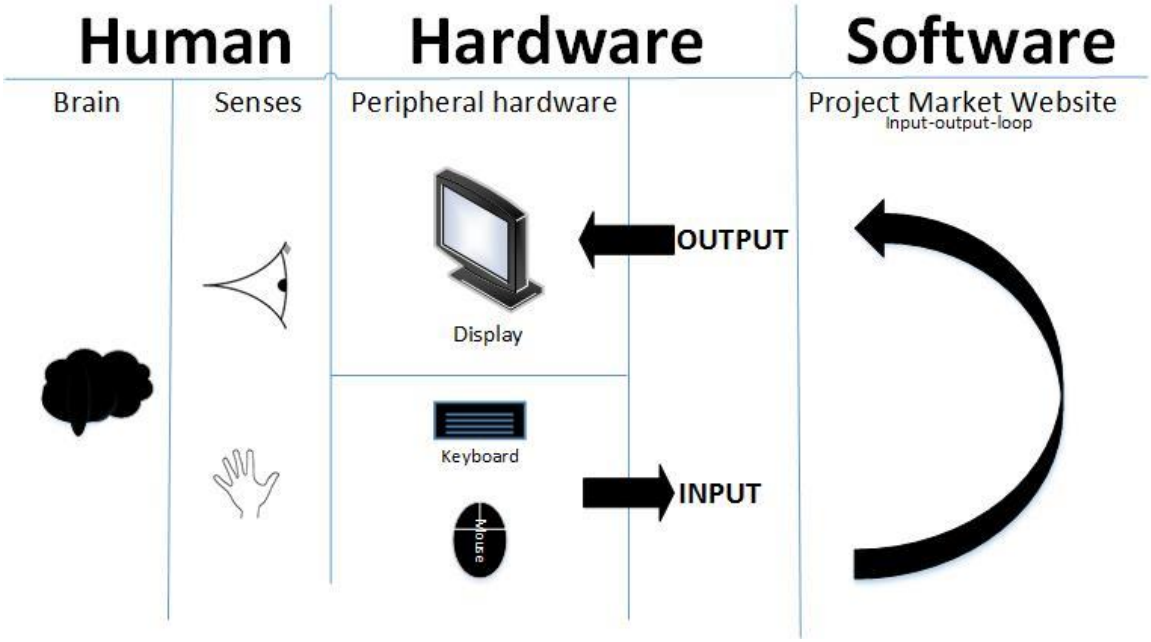


5.2 Database design

The database has several tables that allow update of information according to commands issued on the website. The projects table receives information from students about all uploaded projects changes status of that project according to commands issued by the admin. The pro_comments table receives comments from all users together with the user id and the time the comment was made. The pro_likes table receives likes from all users together with the user id and the time the like was made. The users table table receives all information about the users and it is what the system refers to when the users want to log in or when any action is made in the system for accountability purposes.


pro_comments
project_id
comment
user_id
created_at
pro_likes
project_id
created_at
user_id
1:N
1:N
1:N
1:1
1:1
Projects
title
description
icon_fname
doc_fname
status
users
fname
lname
email
username
password
reg_no
institution
role

5.1 User interface design



CHAPTER SIX: IMPLEMENTATION AND TESTING

6.1 Development environment

The development environment is sublime text where all html, css, and js codes are found. Bootstrap is also used for creation of the framework. Wamp server is also used to provide a platform for the display of the website and the database.

6.2 System components

The system, which is the website, is made up of the following components:

- Front end elements like the navigation structure, the page layout, logo, images, and contents.
- Back end elements that respond to the needs of the users.
- Content management system that enables updating of project management website without having to edit the html codes.
- Chatroom where the users can communicate.
- Contact forms where the clients can communicate with the students and the admin.
- Online database where the students can be able to upload their projects.
- Password protected sections for ensuring authenticity of users.
- Security protecting all project details of students from being viewed by clients before a business deal is made.

6.3 Test Plan

6.3.1 Test data

The data that was used for testing is:

- Names and email addresses of people.
- Images.
- PDF documents.

6.3.2 Test cases

There was need to test the login environments to ensure that users log in according to roles assigned to them.

Images and pdf documents were used to ensure that the functionality of uploading documents works.

6.3.3 Test results

Users were able to log in according to roles assigned to them since some pages were not supposed to be accessible to all users.

Viewing and uploading of project information, which contained images, text and pdf documents was successful.

Accepting and rejecting of projects was successful and the student could view his/her project status from his/her account.

References

Company, B. I. (n.d.). Onesha. *Briglobe* .

Eriksson, U. (2016). The difference between functional and non-functional requirements. *ReQtest*.

Kiiru, D. (2016). *Research Methodology Lectures.*

Kumar, R. (2005). *Research Methodology*. London: SAGE.

Lucidchart. (2017). What is a data flow diagram. *Lucidchart*.

Neuman, W. (2009). *Understanding research.* Boston, MA: Pearson/Allyn and Bacon.

Point, T. (2017). UML-Class Diagram. *tutorialspoint*.

Safaricom. (n.d.). Zindua Cafe. *Safaricom Portal*.

Solutions, D. (n.d.). Introduction to database design. *Datanamic*.

StrateComm. (n.d.). Components of a website. *StrateComm*.

Team, M. (2017). Flow charts. *MindTools*.

APPENDIX A: User manual

APPENDIX B: Data collection tools

Interviews

APPENDIX C: Project schedule

1st Week	**2nd–4th Week**	**5th – 7th Week**	**8th– 10th Week**	**11th-12th Week**
Analysis				
	Design and Testing			

		Design and Testing		
			Design and Testing	
				Implementation
Documentation				

Table 1 Schedule

APPENDIX D: Project budget

Item required	**Cost**
Internet bundles and credit	1500
Printing and Stationery Charges	1000
Miscellaneous	1000
Total Cost (KES)	3500

Table 2 Budget