WOLLO UNIVERSITY (KIOT)

COLLEGE OF INFORMATICS

DEPARTMENT: software engineering second year student

PROJECT TITLE: **Online Student Clearance System**

GROUP: SIX

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Submitted date: -21/09/011

Submitted To:-bezawit E.

Contents

Acknowledgement

First of all, we would like to praise to mine real **GOD** who initiates and gratified our project successfully. Secondly we would like to salute our course teacher beza who plays great role by giving appropriate guidance system, for his useful comment on the subject matter and for the knowledge that we gained by sharing ideas with him. Thirdly we would like to express our gratitude to senior students of our college whose department is specially software engineering. And the final we would like toothaches four team member

Abstract

The online clearance management system undertaken as a project is based on relevant technologies. The main aim or goal of our project is to developed an web based clearance systematize project has been developed to carry out the process easily and quickly which is not possible with the manual system which are overcome by this software. Our project will be developed using java programming and hence it will provide a complete solution for the current online clearance system

Chapter one

1.1 Introduction

Student clearance system project is concerned on Wollo University Kombolcha institute of Technology. Student clearance system is one of the systems that perform a complex task. Still Now, the system is manual. The system should be automated to maximize the benefits gained from information technology.

The intension of this study is, therefore, to make system simple, Effective and efficient using information technology solution. This automated system simplifies

The overall maintenance system in the campus by observing the existing general service to Develop the new automated system. This system solves the problem of existing system by using Computerized information system with only interaction to the system. It also reduces the time To get services from the maintenance system by only passing message.

The new system will give best file management strategy, user friendly services to the users and provide correct and usable information for the users and customers to make timely decision.

1.2 Back ground of organization

Wollo University is one of the newly established universities among the forty-two universities in Ethiopia. Its mail stone is lay dawn in 1997 E.C by minister of education W/Ro Genet Zewde. It was started educational functionalities in 1999 E.C by accepting about 700 student's in Kombolcha Technology campus. At the end of 1999 EC the university was shifted to its main campus. After a year, the university expands its capability of accepting students from one faculty (education faculty) with above 700 students to seven faculties and the university with 2,000 students and the university expand to two campuses, Desire (main campus which is found in dessie town and) Kombolcha campus in Kombolcha town.

1.3 Statement of the problem

The problem of the project is as follow. This process takes some days to be completed and possess a lot of stress to both staff and students involved. Due to this the following problem are faced

- ✓ Time consuming and stressful.

- ✓ It takes much time to report the problem.
- ✓ Files are exposed to loss and damage since the files are stored on a paper.
- ✓ It is difficult to search Item from mini maintenance store that applying for maintaining malfunction materials.
- ✓ Customer must come physically to report problem. This is boring and time consuming process.
- ✓ The System records documents on papers as result it needs more storage place and resources and it is difficult to manage properly
- ✓ Unauthorized body may sign Clearance form.
- ✓ Generally, the above problem led the overall clearance process let and boring due to this it becomes necessary for an automated clearance system.

1.4 Objective of the project

1.4.1 General objective

The general objective of this project is to design an automated computerized clearance system for Kombolcha institute of technology.

1.4. 2 Specific objective: -

To achieve the specified general objective, the following specific objectives are stated:

- ➢ Determining what to build and understand the problem domain of the system that guide for transforming user requirements in to system requirements.
- ➢ Determining how to build the proposed system and show the solution domain of this system.
- ➢ Understand Manual process and the efficiency of the existing system
- ➢ Model the new system using object oriented methodologies.
- ➢ Implementation of the project using programming language according to the design specification.
- ➢ Review the existing system to know the problem.
- ➢ Identify functional and non-functional requirements.
- ➢ Propose possible solutions for Existing system.
- ➢ Finally implement and test the new system.

1.5 scope and limitation of the project

The scope of the proposed system is mainly works on Wollo university KIOT campus which for regular students related to clearance activities.

The project has limitation. The limitations of the project

- ✓ It restricts only for English language

1.6. Methodology

The purpose of the methodology is to give an experienced investigator to get enough information to replicate the study.

- ✓ For conducting our project, we will use the following methodologies.

1.6 .1 data collection method

- ❖ Observation: - To understand directly how the existing system works currently, we have used observation. We observed customer interaction with the student clearance system.
- ❖ Interviewing: - Most analysts use interviewing as a primary way of gathering information in student clearance system we gather information with innerving our course advisor and senior students in software engineering.
- ❖ Document analysis: - Using this method the team will try to analyses written documents in the organization which have importance to the project. This include the organization mission strategy, sample business forms, reports procedure manuals, Business rules, and documentation of existing systems, if any document view.

1.6.2 Development tool

- ❖ Software tool
- ✓ Microsoft office word 2016 =For document preparation
- ✓ Enterprise architecture = for the sec of draw use case diagram.
- ❖ Hardware tool
  - ✓ Pc (personal computer)
  - ✓ Disk top
  - ✓ Flash disk

- ✓ Network cable
- ✓ RJ45

1.7 System analysis and design methodology

The purpose of the methodology is to give an experienced investigator to get enough information to replicate the study.

For the system analysis and design there are two models. These are: - Structured and object oriented. We use object oriented methodology for the following reason:

- ➢ To know by the group member
- ➢ Easier to maintenance Easy to understanding object-oriented models
- ➢ Easy to modification and extensibility of object-oriented

1.8 feasibility analysis

The feasibility is to determine quickly and has minimum expense how to solve the problem and determine how the problem is solved. In this phase we have seen different feasibility such us operational feasibility, technical feasibility, economical feasibility and schedule feasibility of the system.

1.8.1 Economical feasibility

The system is reducing cost when it is compared to the office that the maintenance system spends to work on because the system will use new technology innovation and computerized ideas which will require low cost expenses.

- ▪ Tangible benefit: -related to money term.

- ✓ Increase speed of the service
- ✓ Reduce work load
- ✓ Promote time management
- ✓ Reduce expenditure of money such as pen paper
- ✓ Reduction of space needed to record data

- Intangible benefit: -. Related to morality term.

- ✓ Improved accuracy of operation hard cost
- ✓ Knowledge gain by project developer
- ✓ Improve the moral of the team

- ✓ Increase customer satisfaction
- ✓ Improvement in service quality

Table 1 hardware cost

Item	Quantity	Unit price	total
Pc	3	20000	45000
Flash disk	2	400	400
Network cable	3	0	0
Window 8 computer	2	0	0
Other material	4	100	100
Total	14	20500	20500

1.8.2 Technical feasibility

Since the system uses easy hardware and software specifications for deployment processes it can be feasible in technical issues. So that the required person to operate and use the system is not expected to be professional. Anyone who has basic computer knowledge can use the system easily.

1.8.3 Operational feasibility

Now a day the previous manual working environment does not satisfy customers and not comfortable for employees. But when the proposed system is implemented customers will get fast and reliable services and information as they want. Since the feature database management system will have user friendly interface and back-end system. So that it is technically feasible to implement this system.

1.8.4 Political feasibility

When we ask abject matter expert to get detailed information about clearance management system, they are not willing to provide enough political issue, religious, race, nations and color. Due to this reason this project prepared legally system without the interference of the above issue.

1.8.5 Schedule feasibility

No	Task name	start	Finish	Time duration	May			june	
					8-12	13-19	20-30	2-13	14-20
1	Proposed	May 8	may 12	43	■				
2	Analysis	May 13	may 19	54		■			
3	Design	May 20	may 30	32			■		
4	Implementation	June 2	June 13	65				■	
5	Conclusion	June 14	June 20	23					■

1.9 Significance of the project

System gives fast service to the customer

- Helps to avoid incorrect placement of record data.
- Unauthorized person will be out of service
- Reduce the loss of documents & human resource.
- Avoid data redundancy, which means extended data can be retrieved without affecting other data.
    - To support customer application system;
    - To facilitate report generation,

- To allow manager to view reports,

1.10 Beneficiaries of the project

For the University

✓ *This project has ultimate significance for the university and the employees of the office that are responsible for clearance by reducing:*

- *Work load*
- *Loss of files*
- *Time and*
- *Cost*

✓ *For the students*

- *The students will feel satisfaction and able to get their clearance form immediately and helps to minimize the student's from visiting particular office in order to sign his /her clearance form. This means students get their clearance forms without visiting all offices that are responsible for clearance and also the new system reduces wastage of time and tiredness of students.*

✓ *For the developers*

- *As a software team developer we are able to upgrade our knowledge and implement software ethics in our project on web based clearance system. This means when we develop this system we perform different software ethics so any developers use this project as initial and develop very wide system based on this.*

1.11 team composition

Name of student	**Task of student**
Bewket derege	(In all activity) Project proposal, requirement Analysis and, design, coding, Project team leader

Yonatan masreshaw	(In all activity) Project proposal, requirement Analysis and, design, coding, Project team member
Adem abate	(In all activity) Project proposal, requirement Analysis and, design, coding, Project team member
Mubarek ahmed	(In all activity) Project proposal, requirement Analysis and, design, coding, Project team member
Yasin ali	(In all activity) Project proposal, requirement Analysis and, design, coding, Project team member
Ebenezer belay	(In all activity) Project proposal, requirement Analysis and, design, coding, Project team member

1.12 Organization of project

This project has five parts: Chapter one contains introduction of the project It includes background, statement of problem, objective, Scope of the project, methodology, feasibility of the project, significance of the project and Organization of the project. Chapter two contain analysis of the project .it includes existing system, *introduction of existing system,* Constraints, *Supplementary requirement,* actors of the system, system use case diagram, activity diagram, sequence diagram, class responsibility collaboration and Use case documentation. Chapter three contain system design .it includes Purpose and goals of design, class modelling diagram, Current software architecture, component diagram and deployment diagram. Chapter four contain implementation .it include code and testing. chapter five contain conclusion.it includes recommendation.

Chapter two

2 Analysis

2.1 introduction

System Analysis is the detailed study of the various operations performed by the system and their relationships within and outside the system. Analysis is the process of breaking something into its parts so that the whole may be understood. System analysis is concerned with becoming aware of the problem, identifying the relevant and most decisional variables, analysing and synthesizing the various factors and determining an optimal or at least a satisfactory solution. During this a problem is identified, alternate system solutions are studied and recommendations are made about committing the resources used to design the system.

2.2 Existing system

2.2.1 Introduction of existing system

At the current Student Clearance System Every student must collect two copies of the Clearance Form from the School Registrar Unit. After properly completing such forms and getting them signed by the appropriate offices, the student must submit two copies to the registrar office. Clearance paper lost a student is supposed to visit the 7 offices again.

The current clearance system of the KIOT is a manual one. This makes the system so tedious and time consuming. Here, students have to visit all the clearance offices with a form for them to sign. Once these forms are signed, it proves that the student has been cleared. This process takes a lot of time to be completed and possess a lot of stress to both staff and students involved. In the manual system, the clearance forms are documented in a file cabinet. Each time the clearance form is needed, a search operation is conducted on the file cabinets to locate a particular student's clearance form.

2.2.2 Supplementary requirement

2.2.2.1 Constraints

- ✓ *Shortage of time*
- ✓ *Shortage of resource*

- ✓ *Lack of network connection*
- ✓ *Complexity of the project*
- ✓ *Lack of collaboration*

New system

After observing the current manual Clearance system and we evaluating all the problems occurred during every activity on the existing system the project team has desired to design a web based KIOT Clearance System

The new proposed system used to save times and money for Students and for the organization.

2.3 Software requirement specification (SRS)

Requirement is a feature that the system must have or a constraint that it must satisfy to be accepted by the maintenance system .it determines the need of everyone who will be the user of the proposed system of the student clearances system. generally, the requirements of the new system can be viewed as

2.3.1 functional requirements

Req_Id	Requirement	Category	performance
R1	The system shall do with draw in any reasonable condition	With draw	High
R2	The system shall have registered online without time consuming	Registered	High
R3	The system should do view what the user want.	View grade	Medium
R4	The system should perform graduate task	Graduated	Medium

2.3.2 non-functional requirements

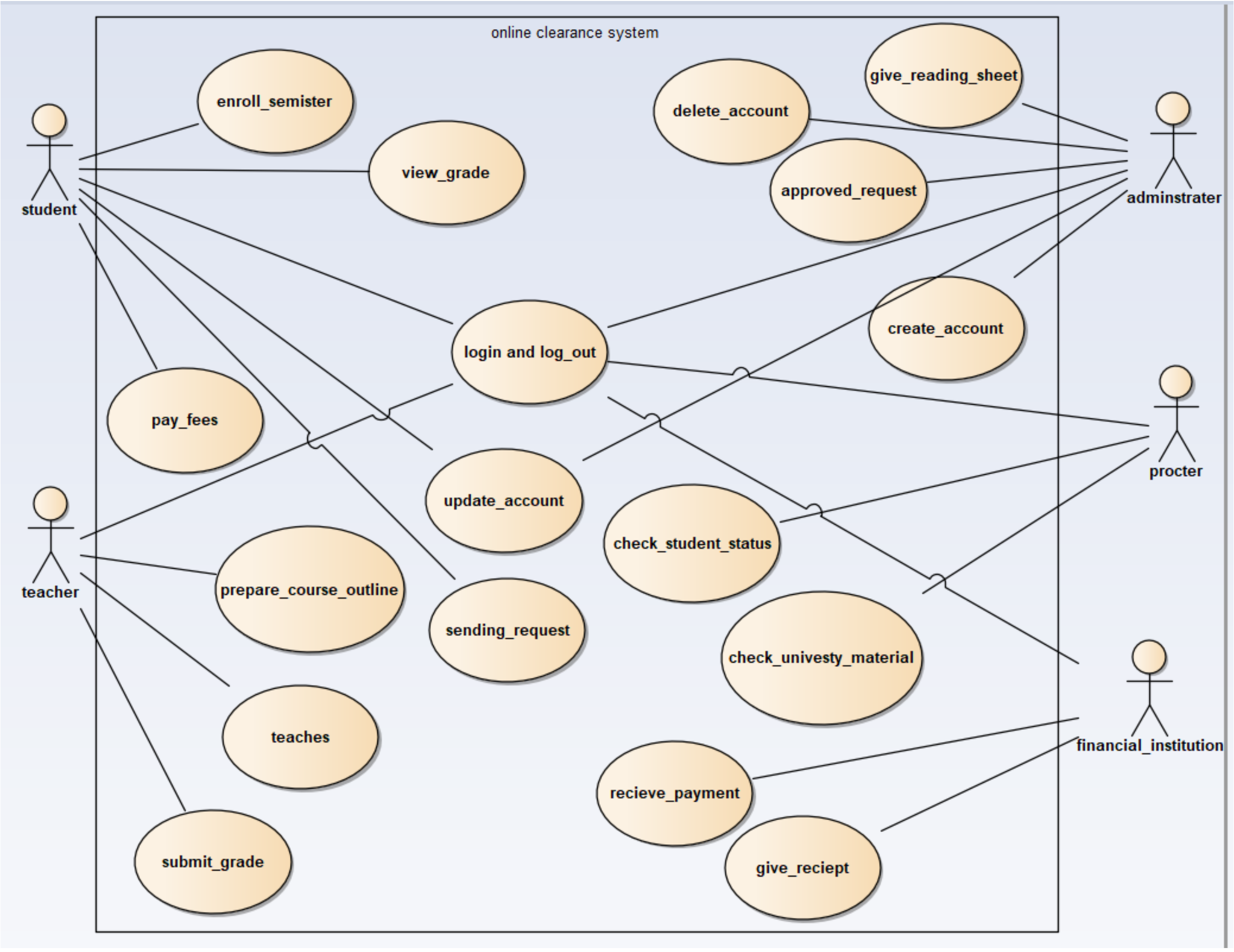
Req_Id	Requirements	Category
R1	All pages should be supported with English language	Usability
R2	The system shall have simple user interface	Efficient
R3	The system shall not fail at all	Reliability
R4	The system shall support one user per minute	Performance
R5	The system shall run on Linux/windows	Portability
R6	The system shall contain strong password to hack	Security

2.3.1 Actors of the system

- ✓ The following are actors of student clearance system
  - ❖ Student.
  - ❖ Teacher.
  - ❖ Register.
  - ❖ Department head.
  - ❖ Office.
  - ❖ Store keeper.
  - ❖ Cafeteria.
  - ❖ Librarian.
  - ❖ Student dean.
  - ❖ Student police.
  - ❖ Campus police.
  - ❖ Advisor

2.3.2 System use case diagram

Use case diagram is a diagram that shows use case actors and their relationships. use case diagram represents interaction between the user and the system. Use case diagram depicts a collection of use cases actors their association A system boundary box (optional)and packages (optional).use case describes a sequence of actions that provide a measurable value to an actor and is draw as ahorizontalellipse.an actor is a person organization or external system that plays role in one or more interactions with the system. relationship between actors and classes are indicated in use case diagrams a relationship exists whenever an actor is involved with an interaction described by a use case



2.3.2 Use Case Documentation

It is a step by step description of the action performed by each use case. It should contain pre condition, post condition, main course of action, alternative course of action s it is shown in the following table.

Usecase 1

Section	Purpose
Author	Mubarak Ahmed
No	Use case 1
Name	Log in
Description	The customer introduce its background information to the system when he/she registered and using his/her account number the customer log in into the system but the customer must registered first .
Precondition	The customer must have a legal account number in the university
Post condition	The customer member of KIOT
Basic course of action	➢ The clerk writes the URL of the system in address bar of web browser and press enter key from the key board. ➢ The system displays the system log in page on the user screen. ➢ The user click on the log in button . ➢ The system allows the customer/the user to enter their URL. ➢ The user fills his/her personal information and clicks on the sign button. ➢ The system displays the system home page.
Alternative course of action	If the customer fills wrong information :- ➢ The system displays error message to the customer ➢ The system reminds to the customer to fills his/her personal information again

Section	Purpose
Author	Bewket Dereje
No	Use case 2
Name	Create account
Description	After the customer log in to the system he/she wants to have an account when he/she live in the university.
Precondition	The customer should tell his/ her background information to the administrator of the university
Post condition	He/she have an account in the university and also the customer can manage her/his account .
Basic course of action	➢ The system displays the system home page to the administrator. ➢ The administrator enters the full name of the customer/the client supplies necessary information's to the administrator when he/she wants to have an account number in the university. ➢ The administrator press the enter key from the keyboard. ➢ The system displays the full information of the customer to the administrator. ➢ Finally the customer has already an account live in university.
Alternative course of action	If the customer cannot fill the personal information that the administrator needs, an error message will be displayed to the customer. Finally the system intends to fill the personal information again

Section	Purpose
Author	Yonatan masreshaw
No	Use case 3
Name	view request

Description	The user clicks on the view course information link from the SIS home page. The System displays search options (course code, course name) and Advanced. The user searches the course using course code, course name.
Precondition	The user logs into the system using their account.
Post condition	The user views the course information Basic course of action:
Basic course of action	when the user performed this task connection should not be down.
Alternative course of action	If there is a mistake in the searching course case, the system displays error message and it Allows to the user to make correction

Use case 1

Name of use case: Register

Author: bewketu dereje

Number: 1

Pre-condition: admin logs in to the system using his/her account.

Description:

1. He/she clicks on the Registration link from the SIS home page.
2. The system displays student registration form.
3. Students fills the form and click on submit button.
4. The system displays successfully registered message

Alternate course of action:

If the registered record exists in the database, the system displays the student already registered Message.

If the input data has errors, the system display error message & allow him/her to try again

Post condition: The system saves his record.

Basic course of action: when he/she performs this task connection should not be down.

Use case 2

Name of use case: create account

Author: Yonatan massreshaw

Number 1*

Pre-condition:

1. The users have valid username and password.

2. The users also have the URL of SIS.

Description:

1. The user writes the URL of SIS in address bar of web browser and press enter key

2. from the keyboard

3. The system displays the SIS login page on the user screen.

4. The user clicks on the login button.

5. The system allows the user to enter their username and password.

6. The user fills the username and password and clicks on the sign in button or press enter key From the keyboard.

7. The system displays the SIS home page.

Alternate course of action:

a. if the username and password are invalid, the system displays an error message and allows The user to try again.

b. if the user forgets or wants to change username or password, the system allows to the user to Change the username or password by asking same security questions.

Post condition: The system saves all necessary information's of the user's activity when he/she Interacts with system.

Special requirement: when the user performs this task connection should not be down

Use case 3

Name of use case: view request

Author: Adem abate

Number 1

Precondition: The user logs into the system using their account.

Description:

1. The user clicks on the view course information link from the SIS home page.

2. The System displays search options (course code, course name) and Advanced.

3. The user searches the course using course code, course name.

4. The system displays the searched course.

5. The user selects that course.

6. The system displays the full course information.

Alternative course of action:

1. If there is a mistake in the searching course case, the system displays error message and it Allows to the user to make correction

Post condition: The user views the course information

Basic course of action: when the user performed this task connection should not be down.

2.3.3 Key abstraction with class responsibility collaborator (CRC) analysis

❖ A class responsibility collaborator (CRC)model is a collection standard index cards that have been divided in to three sections:

these are:

❖ Class name

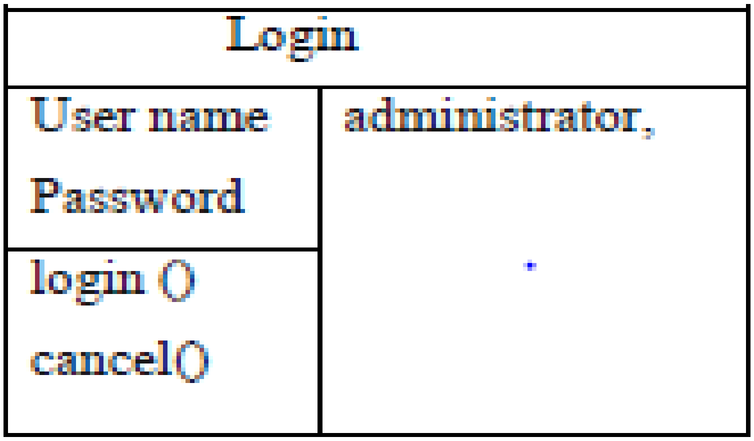
❖ Responsibility

❖ Collaborator

A class represents collection of similar objects.

A responsibility represents something that a class knows or does.

A Collaborator is another class interacts with to fulfil its responsibilities.



Login	
User name Password	administrator,
login () cancel()	

Student	
First name Second name Address Phone number Student id	Advisor Store kipper
Drop semester Request transcript Grant material	

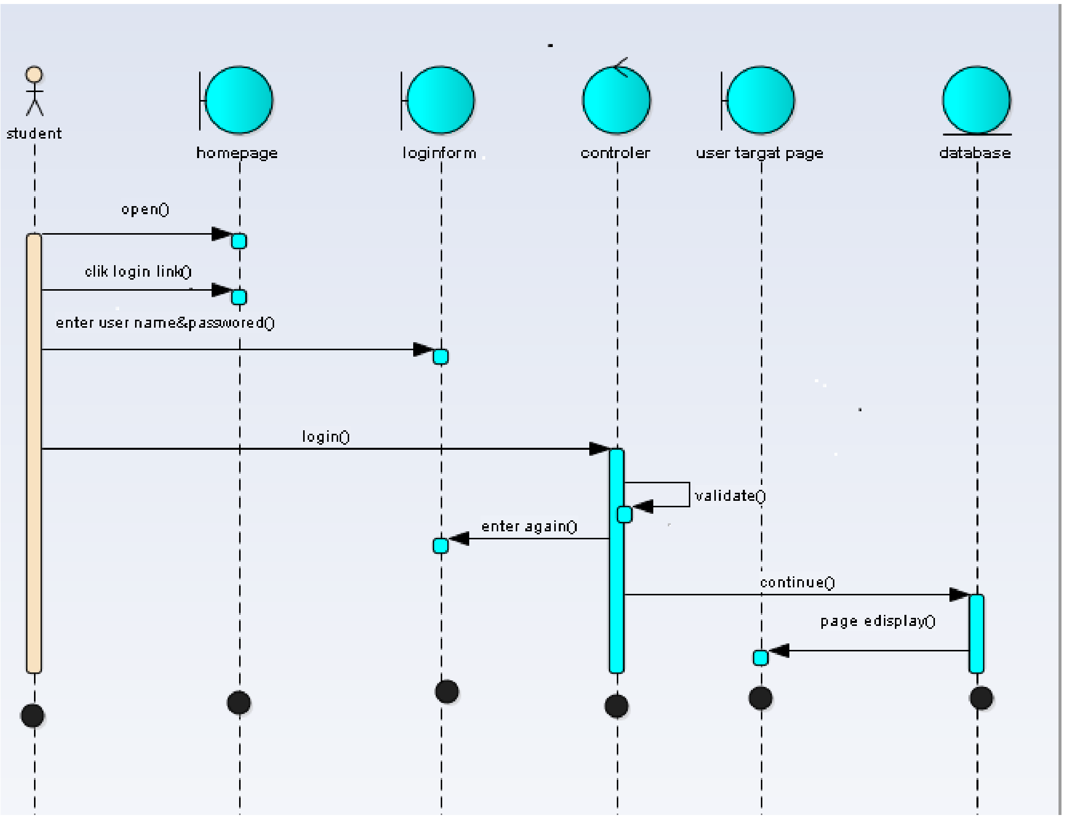
Administer	
First name Second name Address Phone number Office number	student
Manage account Create account Manage report	

Store keeper	
First name Second name Address Phone number Office number Student material	Student University Block master Floor master
Approve student material Control student attendance	

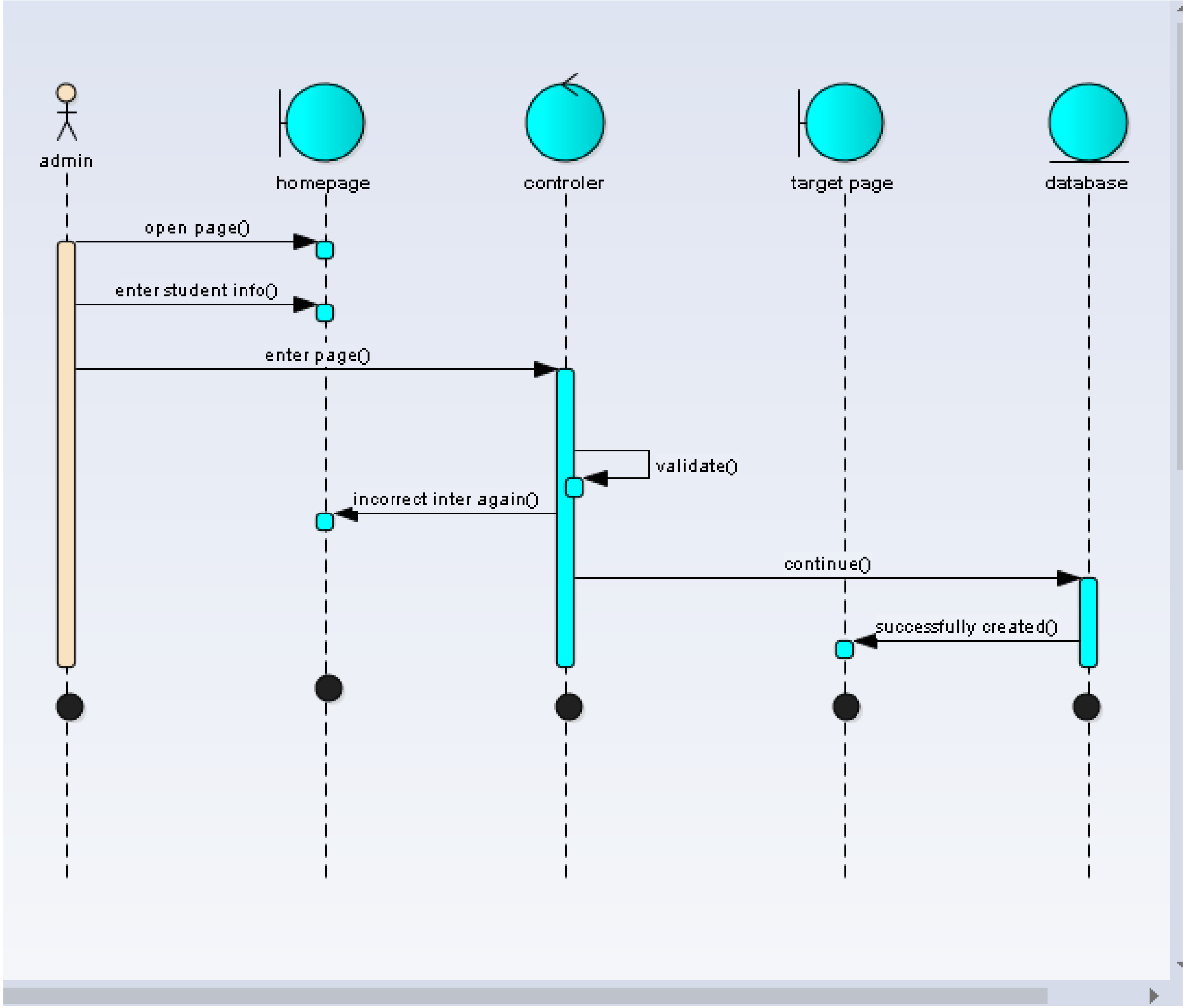
Instructor	
First name Second name Address Phone number Office number Student number	Seminar Student
Teach semester Test student performance Approve schedule	

2.3.4 Sequence diagram

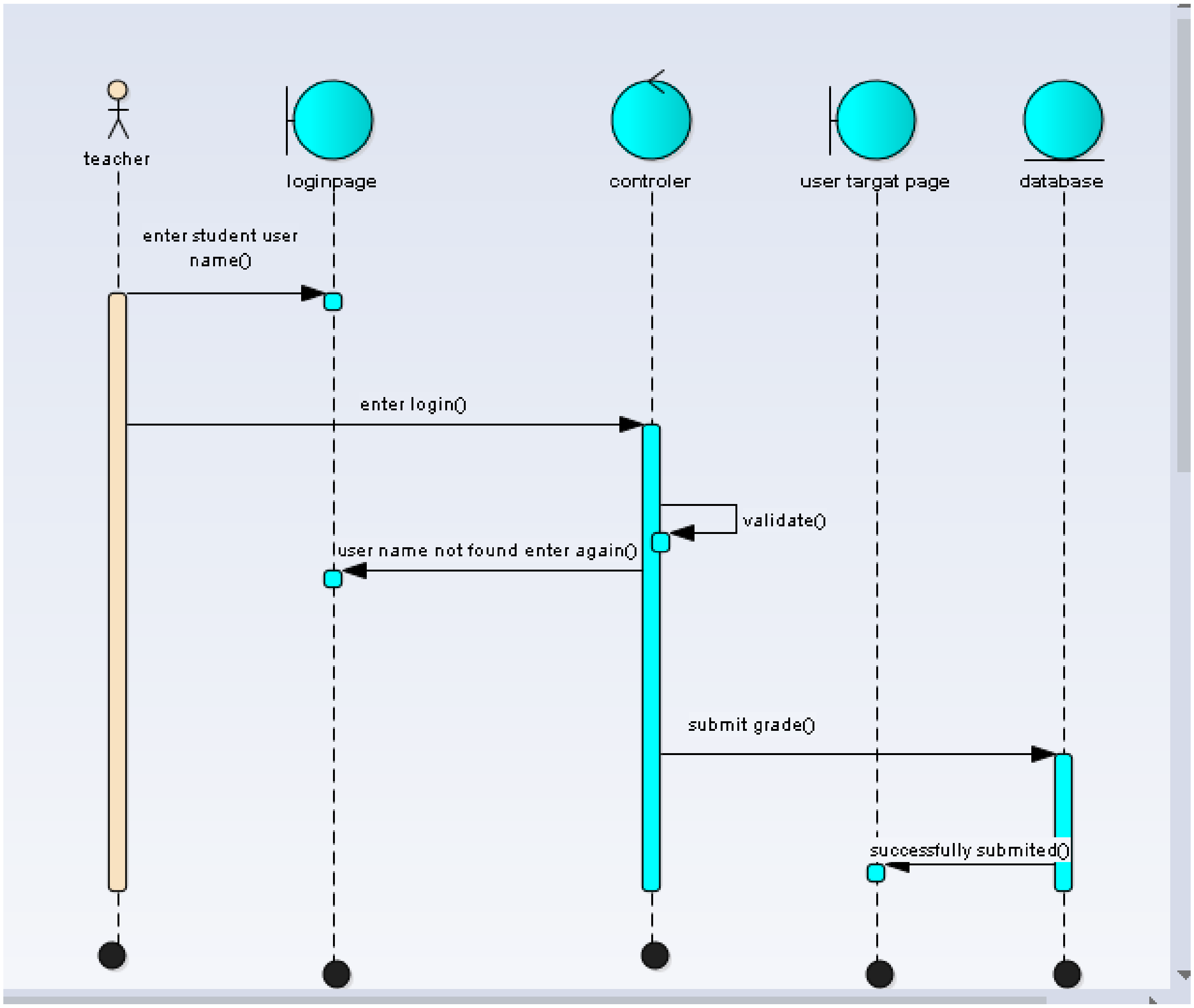
Sequence diagram will prepare for each use case to show how different objects interact with each other to achieve the functionality of the use case. A sequence diagram models how the class of objects interact with each other over time as the system runs



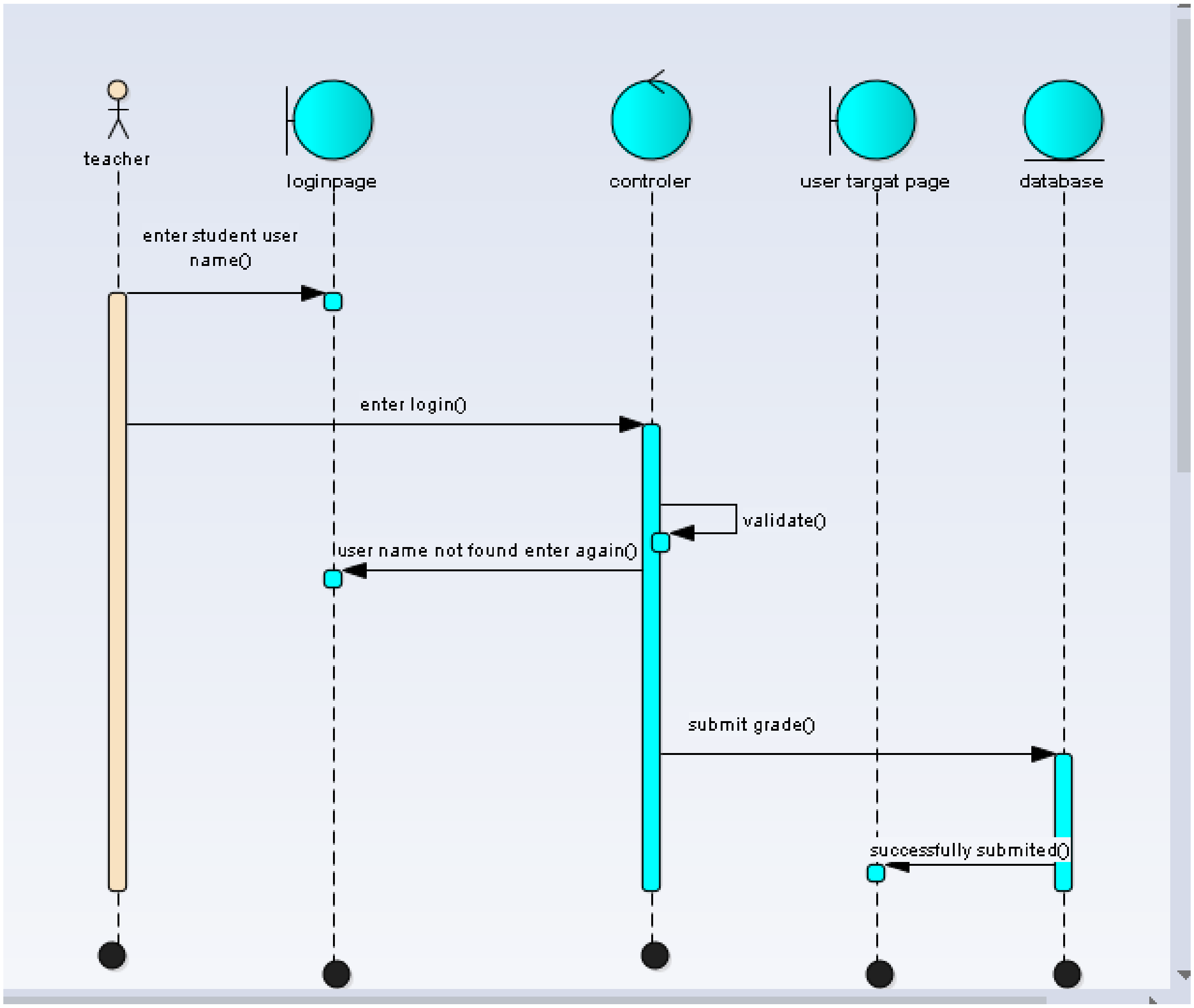
sequence diagram for students view grade



Sequence diagram adminstrater for create account


teacher
loginpage
controler
user targat page
database
enter student user name()
enter login()
validate()
user name not found enter again()
submit grade()
successfully submited()

Sequence diagram for teacher's submite grade



2.3.5 Activity diagram:

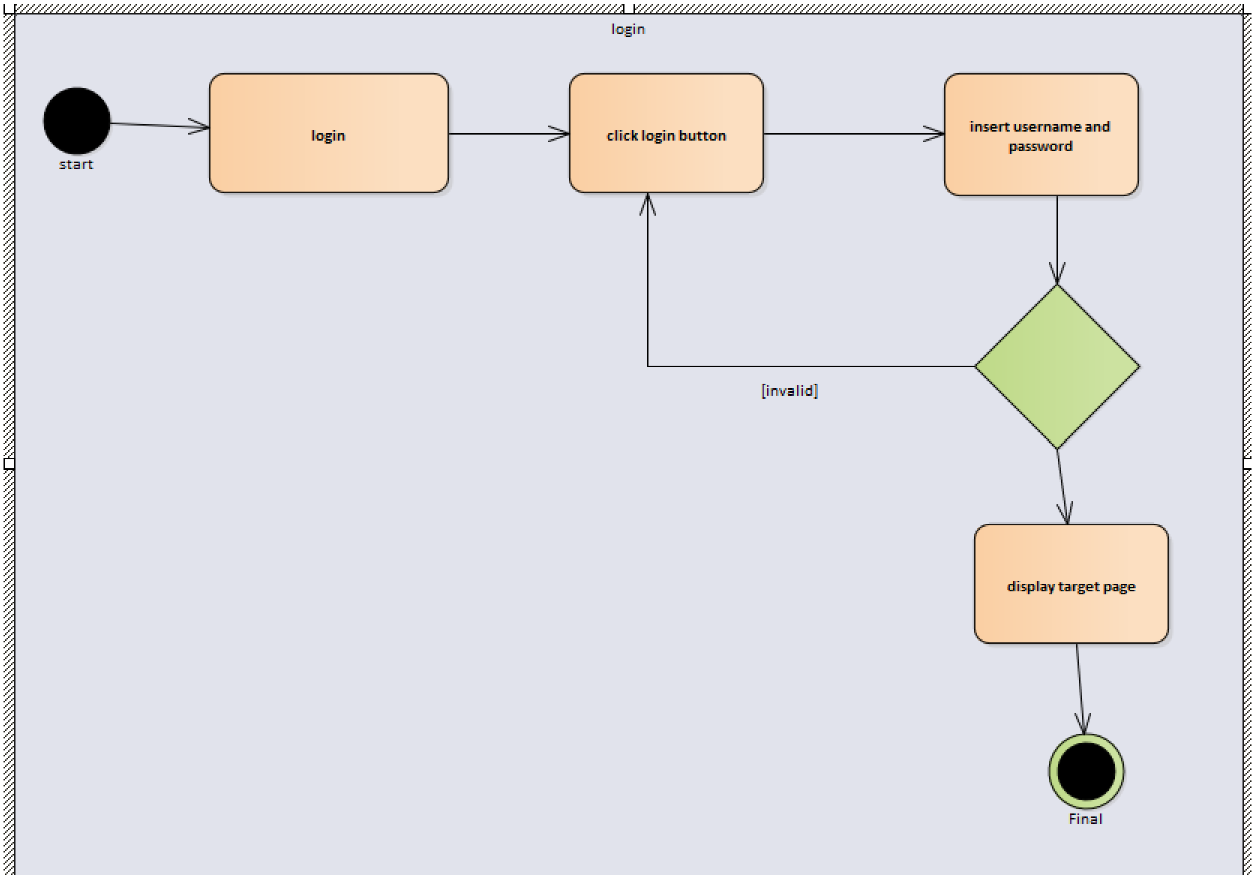
Activity diagram to show the operations activity performed by use cases to achieve their functionality. Activity diagrams for each use case.

Flow chart, showing flow of control activity to activity it involves.

- modelling the sequential (and possibly concurrent) steps in computational presses .
- modeling the flow of an object as it moves from state to state at different points in the flow of control

Log in

Activity diagram for login



Activity diagram for login

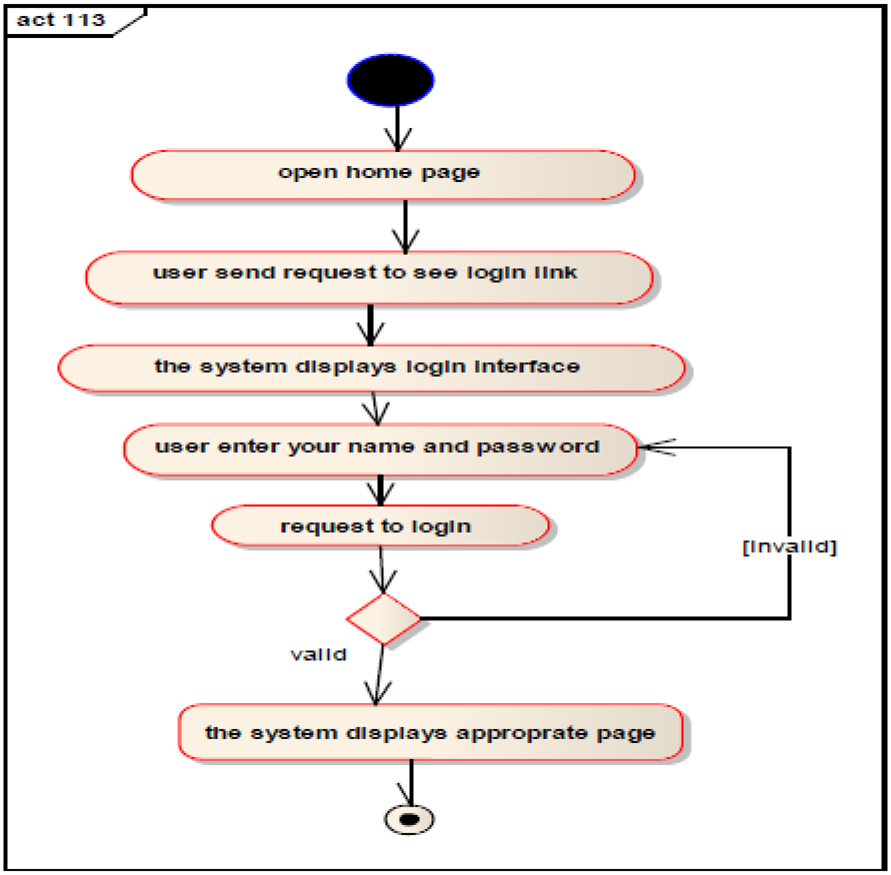
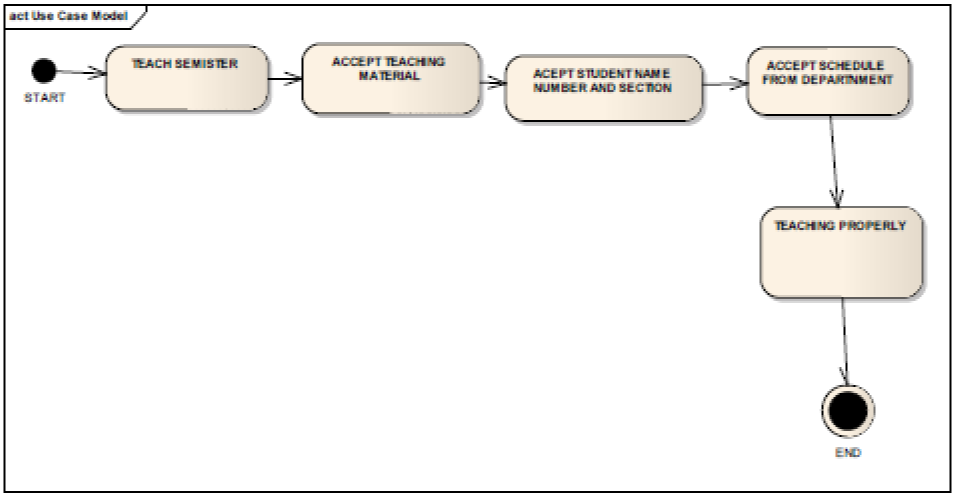
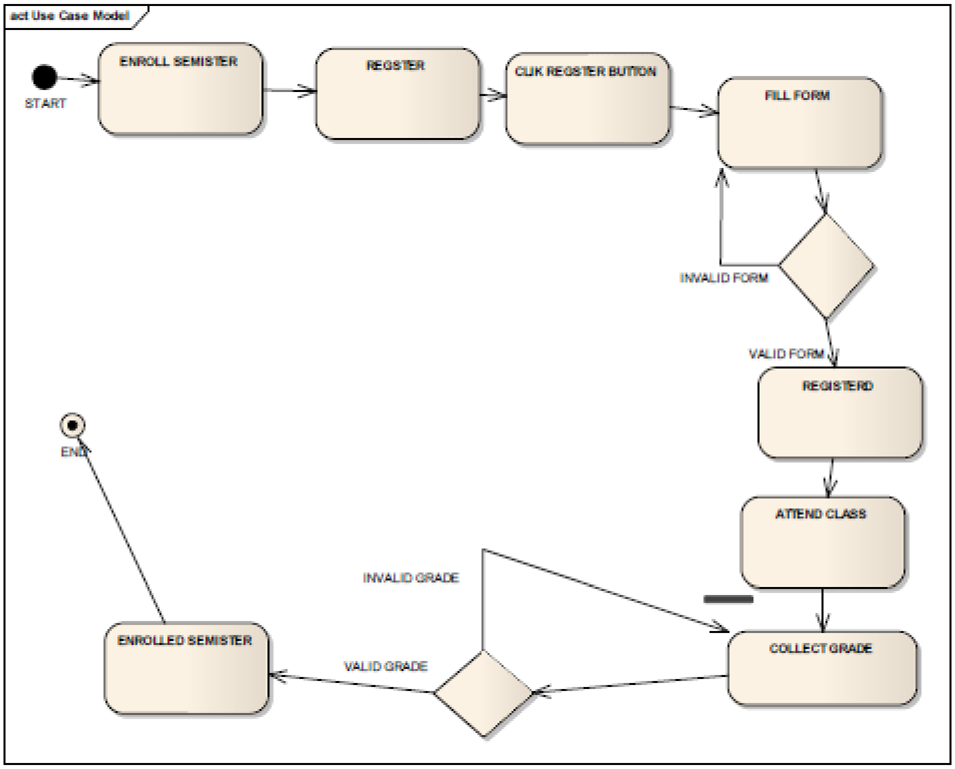

act 113
open home page
user send request to see login link
the system displays login interface
user enter your name and password
request to login
[invalid]
valid
the system displays approprate page

Figure 4-Activity diagram for log in



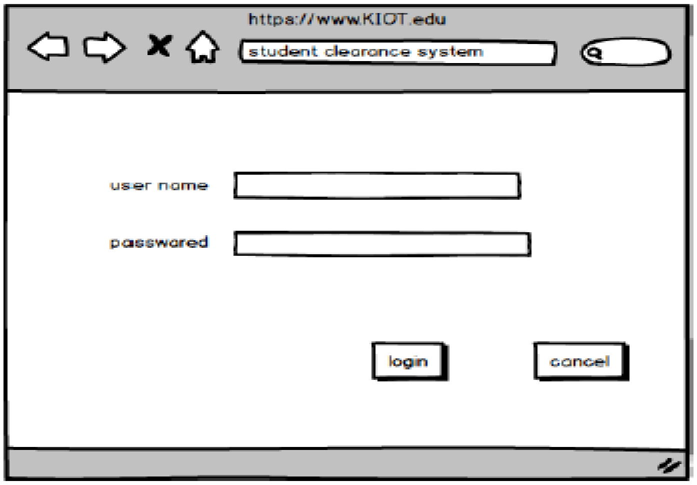


Activity diagram for enrolled semister

2.3.5 user interface prototyping:

create a user interface prototype and includes in the analysis document. This may be help to gather more requirements from users or show how the system works.

you can create the prototype using UI prototyping tools. if you build an effective user interface (UI) to your system then it really does not matter how good the rest of tours system is : your users are going to hate what you have built for them. their for, effective developers understand this and participate user of the system in developing UI.



User interface prototyping

Chapter Three

System Design

3.1. Purpose and goals of design

- The purpose of design is to describe how the new system is going to build and to obtain the information necessary for drive the implementation of the system.
- This focused on understanding the model how the software will be built.
- It is the best input to indicate and show of easy ways to implementation phase.

The goals of the design are: -

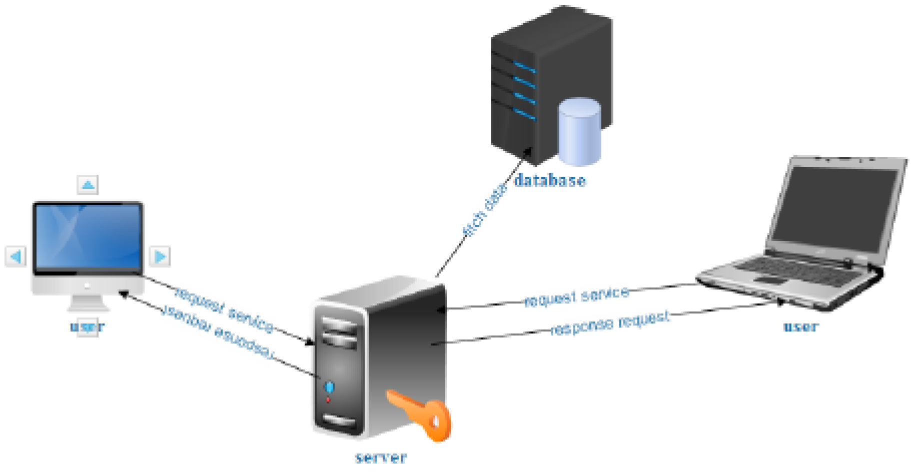
- Reduce the complexity for establishment of the new system.
- Show the best ways to feasible output of the project.
- Minimize extravagancy which is occurring due to done without design.
- Locate the necessary actor to make easy and clear system development way.
- Avoid inappropriate things which will can be the obstacle of the new system.

Generally, design goals describe the qualities of the system that the developers should consider.

- Security: -the system should authenticate it's user by motivating them to inter user name and password in order to gate access to the system.
- Availability: -the system should be available every time that the user needs to access it.
- Usability: -the system should have user friendly user interface to allow the user to interact with the system easily.
- Portability: -the system should be able to run on any mobile that supports android environment.

3.2 Current software architecture

The existing system of your system uses manual system and hence there is no current software architecture that will be considered. As a result, we only describe the software architecture of the newly proposed system.



3.2 Proposed software architecture

The proposed system is expected to replace the existing manual system by web based system.

❖ Performance: -the system should give fast response for user requests. the main performance measure for the project is that time.

❖ Fault tolerance: the system should be fault tolerate to where errors happen.

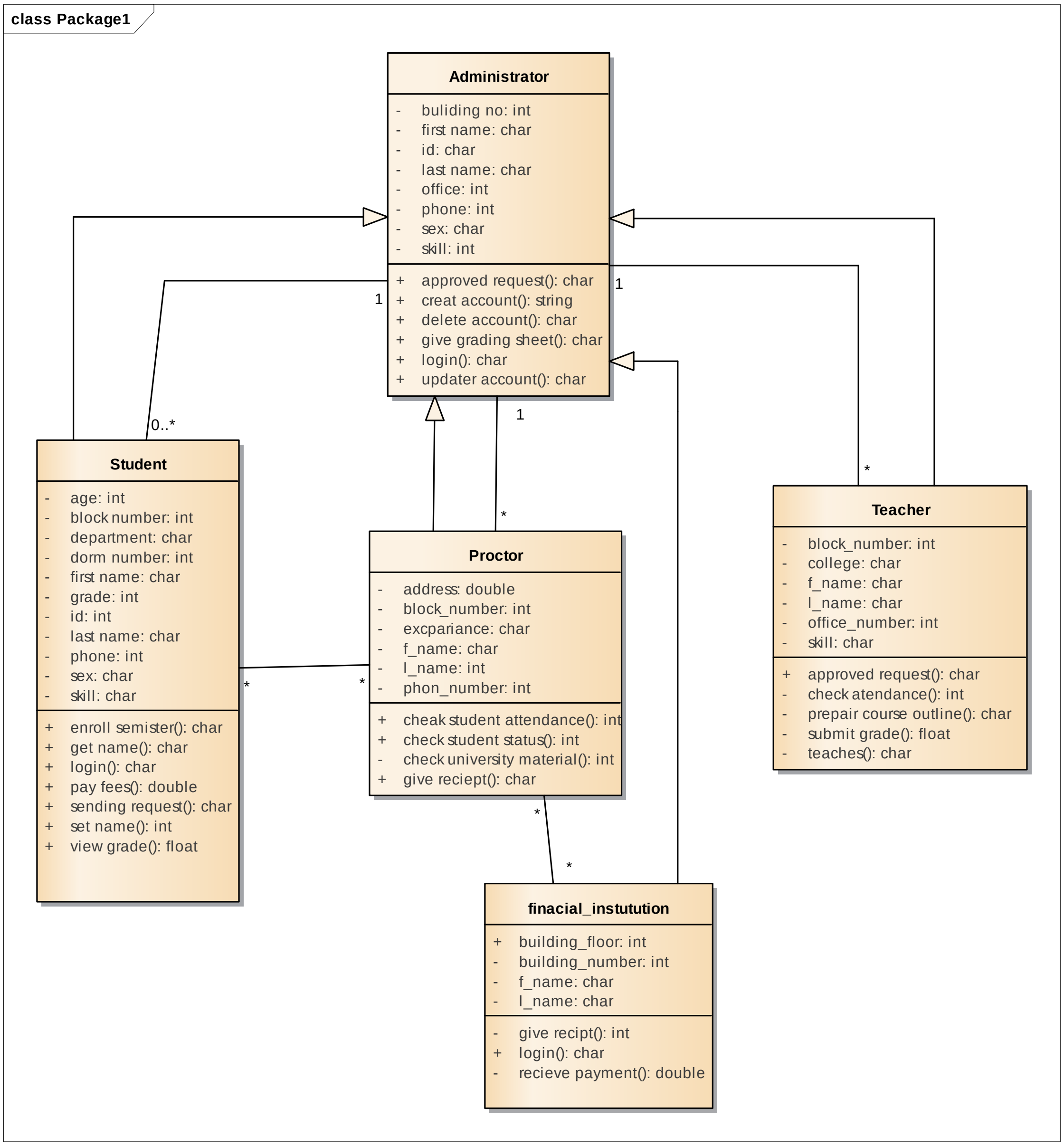
❖ Modifiability: the system should be easily modifying for further modification and enhancement of the application.

❖ Cost: the system should be developed with minimum cost possible.

❖ End criteria: -the system should have simple and understandable graphically interface. All the interface, forms and buttons are written or designed in a simple language or common languages that they can access it without any difficult.

3.3 class modeling diagram

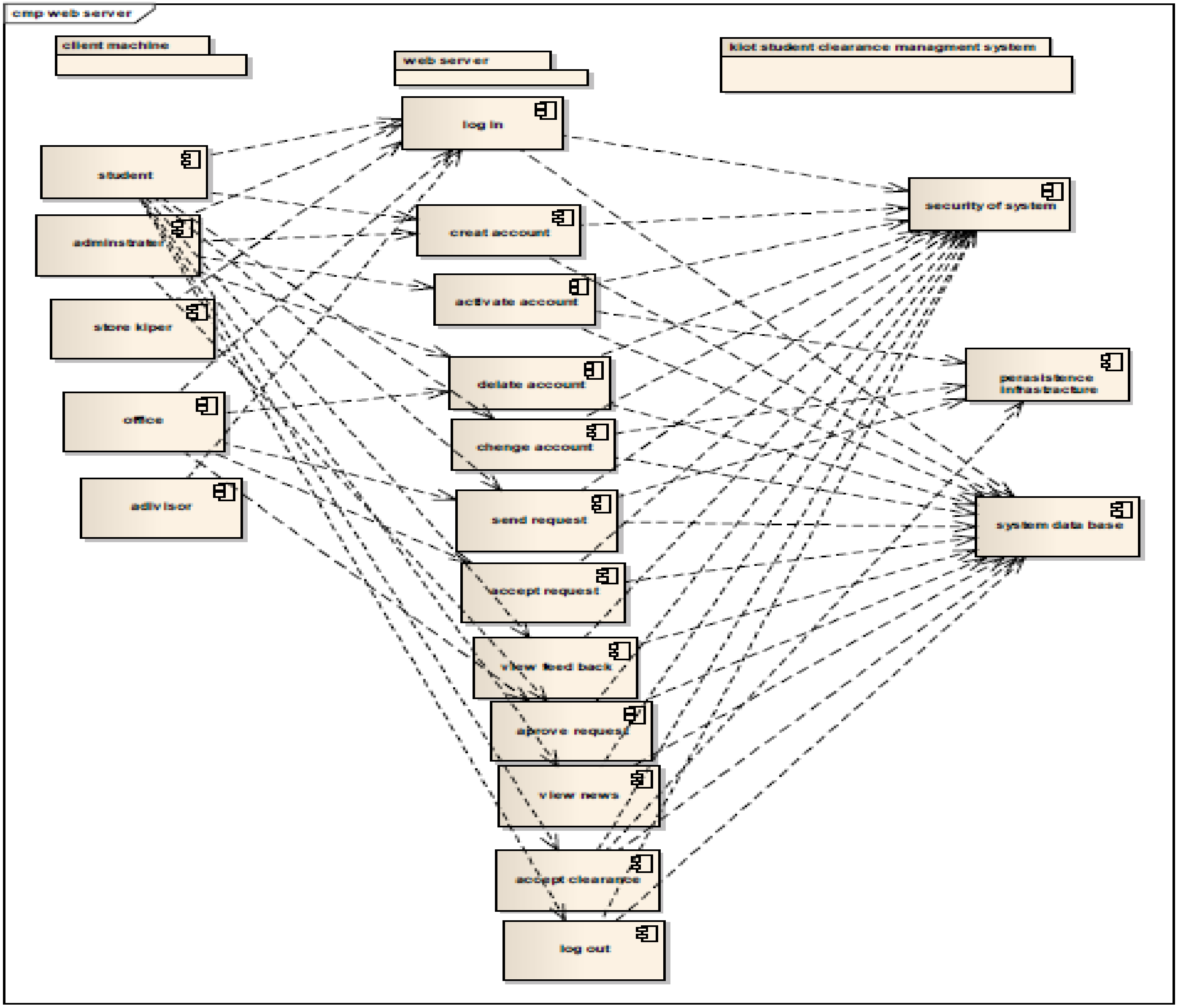
Class diagram provide an over view of target system by desiccating the object and classes inside the system and the relationship between them. It provides a wide variety of usages; from modeling the domain specific data structure to detailed design of the target system. With the share models facilities, you can reuse the class model in the interaction diagram for modeling to the detail of the dynamicbehaviour.



3.3 class diagram for scs

3.5. Component diagram

Component diagram shoe how objects (class) in our system will grouped together and form components. The components interact with each other either in a given service to other components or requesting service from other component. Component diagrams are partially useful with our system.

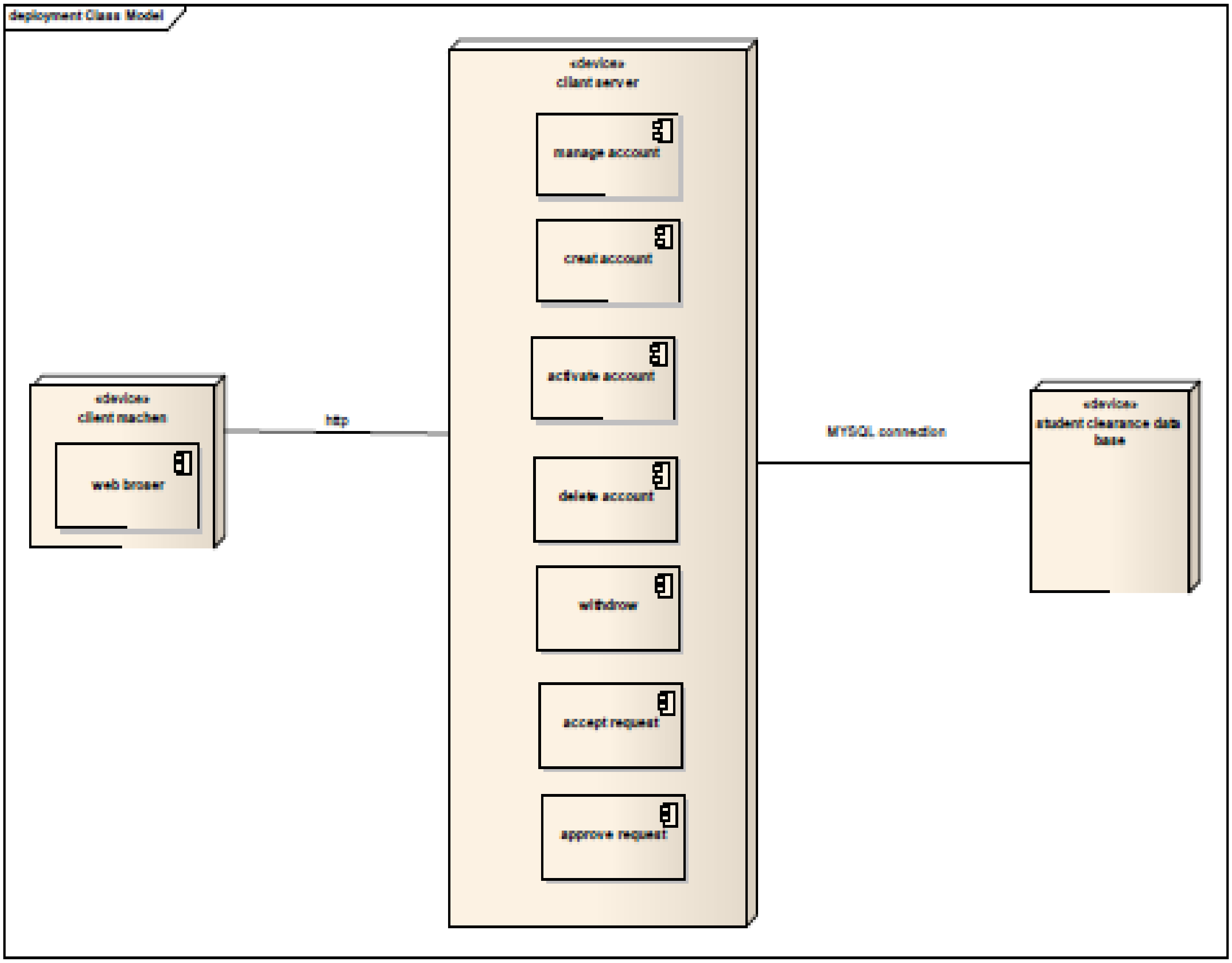


3.4 component diagram

3.5 Deployment diagram

Deployment diagram are used to describe the static deployment view of a system. In other words, deployment diagrams show the hardware for your system, the software installed on that hardware, and the middle wavier used to connect the disparate machines to one another.

Deployment diagram show how the system will have deployed on computers. In other words, it shows which component of the software will install on which machine and how they communicate with each other if they are all different machines. Development diagrams can also be created to explore the architecture of embedded systems showing how the hardware and software component work together.



3.5 deployment diagram

CHAPTER FOUR

IMPLIMENTATION

4.1 implementation

Implement ion is the phase where objective of physical operations of the system turned into reality i.e. real working model. The crucial phase in the system development life cycle's the successful implementation of the new system design .the proses of converting as new system into an operational one is known as system implementation. This includes all those activities that take place to convert from an old system to a new system. To implement the project we use java language. We focus only some sample code.

4.2 coding

First phase of implementation is coding. Coding is the process whereby the physical design specification created by the designers is turned into working computer code by the programmer. The code is made simple is such a way that another programmer can easily understand and work on that in future.

- We use java programming language for the implementation of the system.
- Sample code is show below

```
package Package1;



/**

 * @author HP-PC

 * @version 1.0

 * @created 28-May-2019 12:12:30 PM

 */

public class Administrator {
```

```
private int buliding no;

    private char first name;

    private char id;

    private char last name;

    private int office;

    private int phone;

    private char sex;

    private int skill;


    public Administrator(){


    }


    public void finalize() throws Throwable {


    }


    public char approved request(){

            return 0;

    }


    public string creat account(){
```

```
		return "";

	}



	public char delete account(){

		return 0;

	}



	public char give grading sheet(){

		return 0;

	}



	public char login(){

		return 0;

	}



	public char updater account(){

		return 0;

	}


}

package Package1;
```

```
/**

 * @author HP-PC

 * @version 1.0

 * @created 28-May-2019 12:12:30 PM

 */

public class finacial_instutution extends Administrator {



        public int building_floor;

        private int building_number;

        private char f_name;

        private char l_name;



        public finacial_instutution(){



        }



        public void finalize() throws Throwable {

                super.finalize();

        }



        private int give recipt(){
                return 0;

        }



        public char login(){

                return 0;

        }



        private double recieve payment(){

                return 0;

        }



}

package Package1;





/**

 * @author HP-PC

 * @version 1.0

 * @created 28-May-2019 12:12:30 PM

 */

public class Teacher extends Administrator {
```

```
private int block_number;

private char college;

private char f_name;

private char l_name;

private int office_number;

private char skill;

public Class1 m_Class1;

public Administrator m_Administrator;



public Teacher(){



}



public void finalize() throws Throwable {

        super.finalize();

}



public char approved request(){

        return 0;

}



private int check atendance(){
```

```
                return 0;

        }


        private char prepair course outline(){

                return 0;

        }


        private float submit grade(){

                return null;

        }


        private char teaches(){

                return 0;

        }


}

package Package1;



/**

 * @author HP-PC

 * @version 1.0
 * @created 28-May-2019 12:12:29 PM

 */

public class Student extends Administrator {



	private int age;

	private int block number;

	private char department;

	private int dorm number;

	private char first name;

	private int grade;

	private int id;

	private char last name;

	private int phone;

	private char sex;

	private char skill;

	public Administrator m_Administrator;

	public Proctor m_Proctor;



	public Student(){



	}
```

```
public void finalize() throws Throwable {

        super.finalize();

}



public char enroll semister(){

        return 0;

}



public char get name(){

        return 0;

}



public char login(){

        return 0;

}



public double pay fees(){

        return 0;

}



public char sending request(){

        return 0;
```

```
	}


	public int set name(){

		return 0;

	}


	public float view grade(){

		return null;

	}


}

package Package1;




/**

 * @author HP-PC

 * @version 1.0

 * @created 28-May-2019 12:12:30 PM

 */

public class Proctor extends Administrator {


	private double address;
private int block_number;

private char excpariance;

private char f_name;

private int l_name;

private int phon_number;

public Administrator m_Administrator;

public finacial_instutution m_finacial_instutution;



public Proctor(){



}



public void finalize() throws Throwable {

        super.finalize();

}



public int cheak student attendance(){

        return 0;

}



public int check student status(){

        return 0;
```

```
    }


    private int check university material(){

        return 0;

    }


    public char give reciept(){

        return 0;

    }


}
```

4.3 testing

Final phase implementation is testing. Testing is a process to show the correctness of the program. Testing is checking of the system worlibility in an attempt to discover error and avoiding such errors from the system. Some examples of tests is below.

4.3.1 Unit testing

Each module is tested individually in an attempt to discover any error in its code. In unit testing, each module roughly a section of code that performers a single function is tested individually to discover any errors that may exist in the modules code. We tested the system as show below.

```
/*
 * To change this license header, choose License Headers in Project Properties.
 * To change this template file, choose Tools | Templates
 * and open the template in the editor.
 */
```

```
package testing;

import org.junit.After;
import org.junit.Before;
import org.junit.Test;
import static org.junit.Assert.*;

/**
 *
 * @author HP-PC
 */
public class TestingTest {
 Administrator f;
    public TestingTest() {
    }

    @Before
    public void setUp() {
        f=new Administrator();
    }

    @After
    public void tearDown() {
        f=null;
    }

    /**
     * Test of main method, of class Testing.
     */
    @Test
    public void testMain() {


String a=f.creat_account();
        assertEquals("oumer", a);
    }
```

}4.3.2. System testing

This is the next level in the testing and tests the system as a whole. Once all the components are integrated, the application as a whole is tested rigorously to see that it meets Quality Standards.

4.3.3. Acceptance testing

This is arguably the most importance type of testing as it is conducted by the Quality Assurance Team who will gauge whether the application meets the intended specifications and satisfies The QA team client's will have asset of requirement pre written scenarios and Test Cases that will be used to test the application.

Chapter five

Conclusion and recommendation

5.1. Conclusions

In this project, we developed an automated clearance Management System that facilitates the various activities taking place at kiot.

The system developed in the project consists of windows and c++ applications. These are two different applications on the same database. The windows application takes most of the activities such as student registering, full information and report daily activities. The web application facilitates attendance recording by the university and to view reports, to view status of student and workers in kiot.

Furthermore, it has been shown that the web application of the system helps attendance recording by the university teacher and students can view their academic status using the Internet or Intranet of the university.

5.2. Recommendations

To enhance the efficiency of the system, in the following we have listed some recommendations and future works.

We also believe that to increase system availability kiot clearance management system use uninterruptible power supply.

We recommend the project on importing currently clearance information available on Excel to MySQL database.

5.3 Reference

- object-oriented-analysis-and-design-with-applications-2nd-edition
- www.google.com