

Hibre Biher College

College of Technology

Department of Information Technology

**Academic council Information Management system for college of
technology in Hibre Biher College**

**A project submitted to department of Information technology in
partial fulfillment of the requirements for degree of Bachelor of
Science in Information Technology.**

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Abstract

Generally in summarized format this documentation part explains about the system which is developed at the current. The system is very interactive and useful for the Hibre Biher College Academic Council Information management system. The main idea of the system lays in the need for a system which all the technology college employees like Academic council member, Department, College Dean, Registrar, Continuing Education Coordinate ,Academic Vice President as well as Student will communicate each other. The detail of the system describes a web based Academic council information management system for Hibre Biher College College of Technology implemented in JavaScript, html, php and CSS using mysql database. In addition the system aims is to introduce new and unique features which will help all the system users to communicate in faster and effective way.

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Acronym	meaning
AC member.....	Academic council member
SD.....	Sequence diagram
CD	Component diagram
DMU.....	Hibre Biher College
CSS.....	Cascade style sheet
PHP.....	hyper text pre processor
HTM.....	hyper text markup language
MYSQL.....	my structural query language
UML.....	unified modeling language

Chapter One

1. Introduction and Background of the Study

DMU was established in 1999EC. Currently it has two campuses and over 16, 000 students are learning. The has seven colleges and two schools. Each college and school has an assembly body which is called academic council. The academic council includes members like department heads, vice college deans, college dean and the registrar officer. Members of the academic council are responsible for the major decisions under the college. In the manual system of academic council members of the academic council assembled when there is a case. After they have decided on an agenda the decided issue is addressed manually for those who need it. This is a tedious process and takes time.

We initiated to do the system of academic council information management to solve the problems of the manual system like when report presentation, feedback giving and viewing, making request and the like. The system is designed using the seven actors of the academic council members including students, departments, college office, ac members, continuing directorate and the vice president in Technology College is found Even through the Academic Council was not organized with the essential requirements, it used to give some necessary service to the campus community. Because of its significance the campus has advanced the Academic Council by giving more suitable location, by increasing the number of members in the Academics Council. Now, some of the drawbacks of the Academic Council have been eliminated and it is giving more services and is becoming more advanced. It contains meeting room, manager office.

This project provides fast way of communication between the campus communities in Technology College. In the system students staff members registrar officers and other campus community can send and receive information among them. Students can send their problem for their department and the department can send for college etc.

1.2. Statement of the problem

The problems of Academic Council information management system in DMU derived from being doing their task manually which includes the following.

- Information exchanged through paper which is the cause for activities to be delayed.
- Time wastage for reporting and requesting as well as to give response for those requests.
- Document usually lost or forgotten, this may reduce trust between employees.
- Customers (students, departments, ac members, the registrar, the college dean and vice president) are not satisfied by their request and report due to it may be lost.
- Lower transmission speed of agenda when the agenda is transmitted physically.
- Labor wastage due to manual system because of when transfer information from one staff to other staff.
- Difficult to search the previous reports, requests and feedbacks due to the document is stored in paper based.

1.3. Project objectives

1.3.1. General objective

The general objective of this project is to develop an automated system for academic council information management by providing solution to the problems of the manual system.

1.3.2. Specific objective

The specific objective of this project is to improve the existing manual based system to computerized and more contact on the database system.

The specific objectives of the project are:

1. To send and receive information to and from the academic council.
2. To post agenda by administrator and any one can be get more information.
3. To get solution without physical contact.

4. To reduce time and material wastage.
5. To send feedback, request, report, message and agenda by using web based system to the concerned body.
6. To view feedback, request, report, message and agenda by using web based system from the concerned body.

1.4. Scope of the project

Debre Markos have different meetings including board meeting, department meeting, college meeting, senate meeting but our project mainly focuses on the current management of Academic Council information management system in technology college.

1.5. Methodology

In order to accomplish the project, the system requirement we will follow methods, tools, and techniques as mentioned below.

1.5.1. Data collection methodology

- **Interview technique:** During interview we will get the necessary information from the staff, registrar, students and college. we select interview technique because :-
 - ✓ Give real information by contacting the person.
 - ✓ Easy to understand the system
- **Document analysis:** we will try to discover all the written documents about the organization areas relevant to the system.

1.5.2. System development methodology

System development methodology is a very formal and precise system development process that defines a set of activities, methods, best practices, deliverables, and automated tools for systems developers and project managers to use to develop and maintain most or all information systems

and software. In this project we use Object Oriented Software Development Methodology (OOSD). Because it has the following advantages:-

- Allows full exploitation of the power of object-based and object-oriented programming languages.
- Object-based models appeal to the workings of human cognition, and hence the human input into the development of a software system is likely to be more natural and less error prone.
- Encourages re-use, not only of modules but also of entire designs (or at least large sections of designs).
- ✓ In particular it allows the construction of a class hierarchy (class library) from which classes required in a new application can either be re-used, or constructed (by inheritance and extension, or by composition).
- ✓ This greater amount of re-use should lead to reduced development and maintenance costs.
- ✓ Object-oriented systems tend to be based upon stable forms (i.e. the objects and classes) which are more resilient to change.

This means that object-oriented systems are more likely to be allowed to evolve over time, rather than have to be abandoned or completely re-designed in response to major changes in the user(s) requirements.

- ✓ Reduce the number of workers that are required to do the task.
- ✓ Used for decision making purpose using the reports those are generated from the system.
- ✓ Accessing information's in fast way.
- ✓ Giving work satisfaction for workers as well as for user.

1.5.3. Programming tools

- ❖ This project is too developed by PHP. because

PHP is one of the most popular server side scripting languages running today. It is used for creating dynamic webpage's that interact with the user offering customized information. PHP offers many advantages; it is fast, stable, secure, easy to use and open source (free), there are many reasons to love PHP. Let us count the ways

- ✓ Cost: PHP is rather human-friendly. Completely free.

Ease of Use: PHP is easy to learn compared to many other scripting languages.

- ✓ Embedded: PHP can be easily fixed directly into, HTML and CSS.

Compatibility: PHP runs native on all Windows platforms.

- ❖ The project use MYSQL for database tools.
- ❖ Microsoft word 2010 for writing documentation and analysis.
- ❖ It will use UML diagram and Edraw max for analysis.

This is used to draw different UML (unified modeling language) that are necessary to structure the system

1.6. Significance of the project

The automated system of academic council information management provides the following functionalities.

- To provide information and services to academic staff.
- To satisfy academic staff according to rules and regulation of .
- To offer information and services with fair to academic staff.
- To save time and energy.
- To save resource like paper.
- To facilitate request and response.
- To store data effectively in to the database.

CHAPTER TWO

2. System Analysis

Analysis is a system Engineering and Software Engineering encompasses those tasks that are going to determining the needs or conditions to meet a new product, tacking account of the

possible conflict requirements of different stockholders, analyzing documenting, validating and managing software requirements.

2.1. The Existing system analysis

The existing academic council information management system currently is functioning using manual system. In the current system, all the activities are carried out manually with the following problems.

- Each user in the academic council recorded data manually through long steps.
- The agenda may not be implemented due to the agenda may be forgotten or lost after a long period of time because it put in hardcopy.
- Searching and getting available information takes long time and is boring.
- Getting necessary report, feedback and request is difficult and takes long time.
- Data storing system is not well organized and secured.
- The college office distributes each agenda to registrar, vice president, departments and continuing education directorate manually.
- Students and departments request manually when they need services.

2.2. Proposed system

Our proposed Academic Council information Management system that attempts to replace the manual system has the following functions.

- ❖ Academic Vice president can give feedback, record agenda, view report, view agenda and finally logout the system.
- ❖ College office can be send message, register AC member, send report, give feedback, post agenda, and create account, view feedback, view report, view request and finally logout from the system.
- ❖ Academic council members (AC member) can give feedback, view report, view feedback, approve and record agenda and generates report.

- ❖ Registrar can be send report, search agenda, view feedback, view report, view request, view response, view message and finally logout from the system.
- ❖ The departments can be register student, send agenda, send report, send request, view feedback, view response, view student case seen by AC member, view college message and finally logout from the system.
- ❖ Continuing education coordinate directory can give feedback, view report and finally logout from the system.
- ❖ Students can send request, receive response and finally logout from the system.

Generally agenda can be approved all AC member is decided on after order the agenda from the sender send the agenda to college office.

2.3. Requirement specification

2.3.1. Functional requirement

Functional Requirement can be defined as a statement of what the system must do and about the characteristic of the system must have.

The functional requirement for academic council information management system includes:-

- ❖ College office can be:-
 - Organize AC members.
 - Distribute decided agenda for vice president, registrar, department and AC member.
 - Give feedback for Department.
 - View report and record decided agenda.
 - Create Account, post agenda.
 - Register AC member, Department, Registrar, college Dean, Continuing Education Coordinate Directorate, Academic vice President.
 - View department's agenda, view request, view feedback and student case.
 - Send Report for the academic Vice President.
 - Submit the decision agenda to the AC member, department, continuing education and registrar.

- Send response to Department as Department case and send response to student as student case requested by Department
- ❖ Academic Vice President can be:-
 - View report generated from college office.
 - View agenda send from college office and record agenda.
 - Give feedback for college office.
- ❖ AC member can be:-
 - Decide on agenda.
 - Record the information according to their agenda type that means ordering agenda decision date.
 - Send agenda to college office.
 - View decided agenda
- ❖ Department can be:-
 - View request from student.
 - View posted agenda.
 - View feedback.
 - Send request for student case to college when the request is not solved by Department.
 - Send request and requested agenda to AC member or College Office.
 - Send report to college office and registrar.
 - Decide on student case and send response to student.
- ❖ Registrar:-
 - View department and student decision.
 - View report sent from department and College Office.
 - Search agenda by using department name and student program like Regular, Extension and summer students.
 - View feedback sent from continuing education coordinate directorate.
 - View message sent from college.
 - Send report to the Continuing Education Coordinate Directory.
- ❖ Continuing Education Coordinate Directory:-
 - View report generated from registrar.

- View report generated from college.
- Give feedback to registrar and college office.

❖ Student:-

- Send request to the Department.
- View response from the department.
- View response from the college office.

2.3.2. Non-functional requirements

The non-functional requirements deal with the quality of the application to the system need to be developed from different evaluation point of view. Non –functional requirement determine the system performance.

Some of the non- functional requirements are:-

Portable: - This system is done using php. Due to php's nature of portability this system is portable in most browsers.

Security: - This system is secured by using username and password.

Except the one who knows username and password no one can't penetrate in to the system.

Performance: - The system replaces the manual system of academic council information management system to an automated system that aids online requesting and reporting as well as getting solution for the request.

User interface:- users interact user interface to access the system.

- System uses user interface to access.
- It use menu, button and click them to get access to information on the system.

Efficiency: - The system is efficient to perform the academic council information management system in Hibre Biher College for college of technology in a short period of time. **Availability:** The system is available to replace the manual system of information exchange into an automated system.

2.4 Analysis Model

2.4.1 Use case diagram

A system use case model describes the potential usage of the proposed system. It is part of the analysis document which consists of use case describes sequence of action that provide measurable value to an actor and it's drawn as horizontal ellipse.

An actor is a person that plays a role in one or more interactions with the system. Relationship between actors and classes are indicated within use case diagrams.

A relationship exists whenever an actor is involved with an interaction described by a use case.

The rectangle around the use cases is called the system boundary box and the name suggests it indicates the scope of the system the use cases inside the rectangle represent the functionally that the system intend to implement.

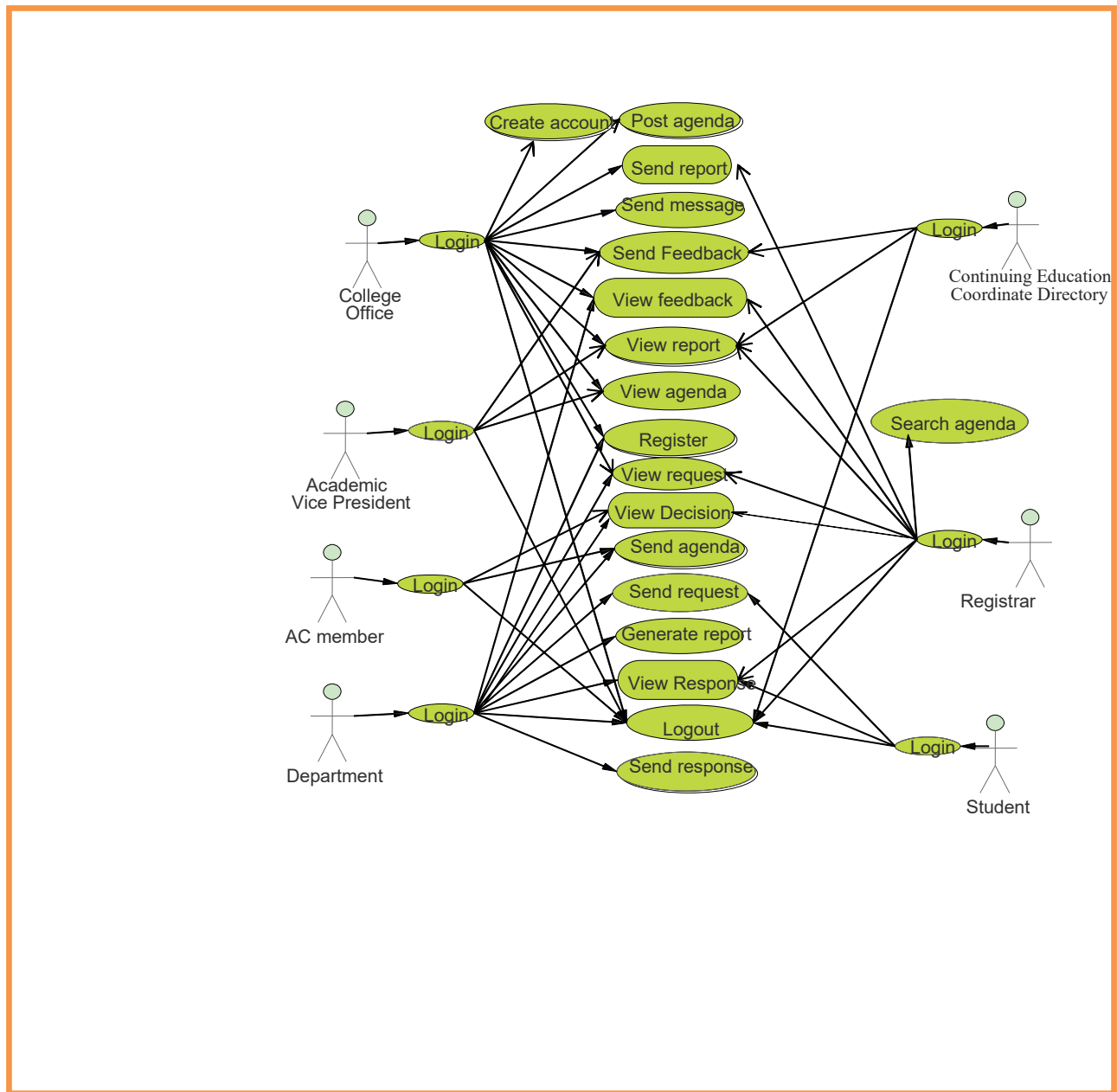


Figure 1, Use case Diagram.

2.4.2. Use case Diagram Description

Table 1, Login

Use case number	01
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Use case name	Login
Actors	Vice president, College Office, student, Department, registrar, Continuing Education Coordinate Directory and AC Member
Description	1. The Vice president must be login to view report and agenda and give feedback. 2. The AC Member login into the system to post agenda, view decided agenda and record agenda. 3. Department login into the system to view decided agenda, message, feedback, request and send report, response, request, feedback and also register student. 4. The Registrar login into the system to view decided agenda, message, feedback, request and send report, response, request, feedback. 5. Continuing Education Coordinate Directory must be login to View agenda generated from Registrar and College office, Give feedback to registrar and AC member and Record approved agenda. 6. College Office must be login into the system to record decided agenda, to view message, feedback, and request and send report, response, and feedback. 7. Student must be login into the system to send request and view response.
Pre-condition	The Vice president, College Office, registrar, Continuing Education Coordinate Directory, Department and AC Member must have user name and password.
Post condition	1. The Vice president Record information, view agenda, approved agenda, and also post agenda. 2. AC Member view agenda and record agenda in the case of other information. 3. Students view posted agenda, Send Request and Receive response. 4. Registrar also view decided agenda, search agenda and check agenda. 5. Continuing Education Coordinate Directory view agenda. 6. College Office view request and give response. 7. Department can be view request, send report and posted agenda.
Basic course of action	1. They are on the home page to login to the system. 2. The system promotes them to enter Username, Password. 3. They enter username and password, Click on Login Button.

	4. The system verifies that all the filled have been filled out and valid. 5. The system successfully logged in the system.
Alternate course of action	If there is empty user name and password error then re-enter user name and password again.

Table 2 , Give feedback

Use case number	02
Use case name	Give feedback.
Actors	Vice President, College Office, AC member and Continuing Education Coordinate Directorate.
Description	Processes conducted to give feedback.
Pre-condition	Vice President, College Office, AC member and Continuing Education Coordinate Directorate must be login to the system.
Post condition	Vice President, College Office, AC member and Continuing Education Coordinate Directorate can give feedback based on the condition how to work for the concerned body.
Basic course of action	1. Vice President, College Office, AC member and Continuing Education Coordinate Directorate should be login to system. 2. Any user must be click send feedback menu. 3. The process finished.
Alternate course of action	If there is no feedback Vice President, College Office, AC member and Continuing Education Coordinate Directorate cannot send feedback with each other.

Table 3, Send report

Use case number	03
Use case name	Send Report.
Actors	Register, Department and college office
Description	Processes conducted to send report.
Pre-condition	college office, Register and Department must be login to the system
Post condition	Register and Department can be sending report.
Basic course of action	1. College office Register and Department can be generating report. 2. Any user must be clicking the send report menu button. 3.The report is success or not success 4. The process finished.
Alternate course of action	If college office, Register and Department does not send report may not be responsible to how to work.

Table 4, View report

Use case number	04
Use case name	View report.
Actors	Academic Vice President, College Office, Continuing Education Coordinate Directorate and register.
Description	Processes can be conducted to view report.
Pre-condition	Academic Vice President, College Office, Continuing Education Coordinate Directorate, register and Department must be login to the system.
Post condition	Academic Vice President, College Office, Continuing Education Coordinate

	Directorate, register and Department can view the current report.
Basic course of action	1. Academic Vice President, College Office, Continuing Education Coordinate Directorate and Department may be view report. 2. Any user must be clicking the view report menu button. 3. The process finished.
Alternate course of action	If Academic Vice President, register, Continuing Education Coordinate Directorate and Department not view reports. Therefore all are responsible to any accidental.

Table 5, Record new agenda

Use case number	05
Use case name	Record Agenda.
Actors	Academic Vice President, College Office, AC member.
Description	Academic Vice President, College Office, AC member to record new Agenda to the system with detail descriptions about the agenda.
Pre- condition	The Academic Vice President, College Office, AC member must be login to the system checks new agenda.
Post condition	The cases are recorded to the system successfully.
Basic course of action	1. They want to add a new agenda. 2. The system displays a form to be filled out for agenda registration. 3. The system verifies that the fields have been filled out correctly. 4. The system displays a successfully stored message to database.
Alternate course	If all fields are not filled out the system goes back. To fill the invalid or the

of action	empty field.
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Table 6, Search the agenda

Use case number	06
Use case name	Search agenda.
Actors	Register.
Description	Registrar fined agenda by using department name and their status from the system to check the case and its condition.
Pre-condition	They must be use login with their user name and password.
Post condition	The system display information when click search button.
Basic course of action	1. The Register click on search agenda menu. 2. The system displays to select search button of the agenda types. 3. Then the system display all information about the agenda based on selected list and Use case End.
Alternate course of action	If the agenda is not match to the required name and status back to the system search form.

Table 7, posted agenda

Use case number	07
Use case name	Post agenda.
Actor	College Office.
Description	College Office can be posted for new agenda.
Pre-	1. College Office gives suggestion to agenda case.

condition	2. College Office order agenda from that agenda condition. 3 AC Member and College Office posted decision agenda for agenda condition.
Post-condition	College office posted agenda.
Basic course of action	1. College office must posted agenda to the system. 2. College office checks and read a posted agenda
Alternate course of action	If the posted agenda is not available from the system college office will be posted again.

Table 8, view feedback

Use-Case Number	09
Actor	College Office, Registrar, Department, Continuing Education Coordinate Directory and AC Member.
Use-Case Name	View feedback.
Description	College Office, Registrar, Department, Continuing Education Coordinate Directory and AC Member view feedback when the higher level sends comments.
Precondition	The user must have username and password to view feedback and The feedback must be present on the database.
Basic Course of Action	1. They should be clicking the view feedback menu. 2. When the comment is present display the feedback and not present display error message. 3. The process is finished.
Post Condition	When the comment is not sending the user must wait until the feedback is sent.

Table 9, view request

Use-Case Number	10
Actor	College Office and Department
Use-Case Name	View request.
Description	College Office and Department view request when there is question from the necessary body.
Precondition	The user must have username and password to view request and
Basic Course of Action	1. They should be clicking the view request menu. 2. When the request is present display the agenda and not present display error message. 3. The user looks the request and makes decision and send. 4. The process is finished.
Post Condition	When the request is not sending the user must wait until the request is sent.

Table 10, view response

Use-Case Number	11
Actor	Department and student.
Use-Case Name	View response.
Description	Department and student view response when there is a decision on the request we ask.

Precondition	Department and student must have username and password to view response and must have decision on the request.
Basic Course of Action	1. They should be clicking the view response menu. 2. When the response is present display the response and not present display error message. 3. The user read the response. 4. The system finished.
Post Condition	When the response is not send the user must wait until the request is seen and response is sent.

Table 11, register

Use-Case Number	12
Actor	Department and college office.
Use-Case Name	<i>register</i>
Description	Department and college office register new user of the system.
Precondition	Department and college office must have username and password And must have registration form.
Basic Course of Action	1. They should be clicking the register menu. 2. the form will be displayed 3. The user filled out all filled that is valid otherwise display please match the data. 4. Click the register button. 5.the process is finished

Post Condition	When they entered data is invalid the user tries again.
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Table 12, view message.

Use-Case Number	13
Actor	AC members, registrar, department, vice president, Continuing Education Coordinate Directory
Use-Case Name	View message
Description	AC members, registrar, department, vice president, Continuing Education Coordinate Directory view message when there is a meeting.
Precondition	AC members, registrar, department, vice president, Continuing Education Coordinate Directory must have username and password and must be message.
Basic Course of Action	1. They should be clicking the view message menu. 2. When the message is present view and not present display empty space. 3.the process is finished
Post Condition	When the message is not send there is no any meeting and wait.

Table 13, send message.

Use-Case Number	14
Actor	College office.
Use-Case Name	send message
Description	College office send message when there is a meeting.

Precondition	College office must have username and password and must have meeting.
Basic Course of Action	1. They should be clicking the send message menu. 2. the form will be displayed 3. The user filled out all filled that is valid 4. Click the send message button. 5.the process is finished
Post Condition	When the message is not send the data is incorrect and try again.

Table 14, creates account.

Use-Case Number	15
Actor	College office.
Use-Case Name	Create account
Description	College office creates account to make the user valid and user's access to the system.
Precondition	College office must have username and password to create account.
Basic Course of Action	1. They should be clicking the create account menu. 2. The form will be displayed. 3. The user filled out all filled that is valid. 4. Click the create account button. 5. The process is finished.
Post Condition	When create account is not success, try again with a valid data.

Table 15, change password

Use-Case Number	16
Actor	Vice president, College Office, Registrar, Department, Continuing Education Coordinate Directory, AC Member and Student.
Use-Case Name	Change password.
Description	Change password when needs to change username and password and to make difficult the password.
Precondition	Systems must have change password menu on the interface.
Basic Course of Action	1. They want to change password by clicking the change password menu. 2. The system responds to the requested action.
Post Condition	When the system fails the user must knows the old user name and password and try again.

Table 16, Logout

Use-Case Number	17
Actor	Vice president, College Office, Registrar, Department, Continuing Education Coordinate Directory, AC Member and Student.
Use-Case Name	Logout.
Description	Logout from the system at a time of finishing their work.
Precondition	They finish their work.
Basic Course of Action	2. They want to log out by clicking the log out button. 2. The system responds to the requested action.
Post Condition	System logout or sign up.

2.4.3. Sequence Diagram (SD)

A sequence diagram shows an interaction arranged in time sequence. In particular, it shows the instances participating in the interaction by their “lifelines” and the stimuli that they arranged in time sequence. It does not show the associations among the objects.

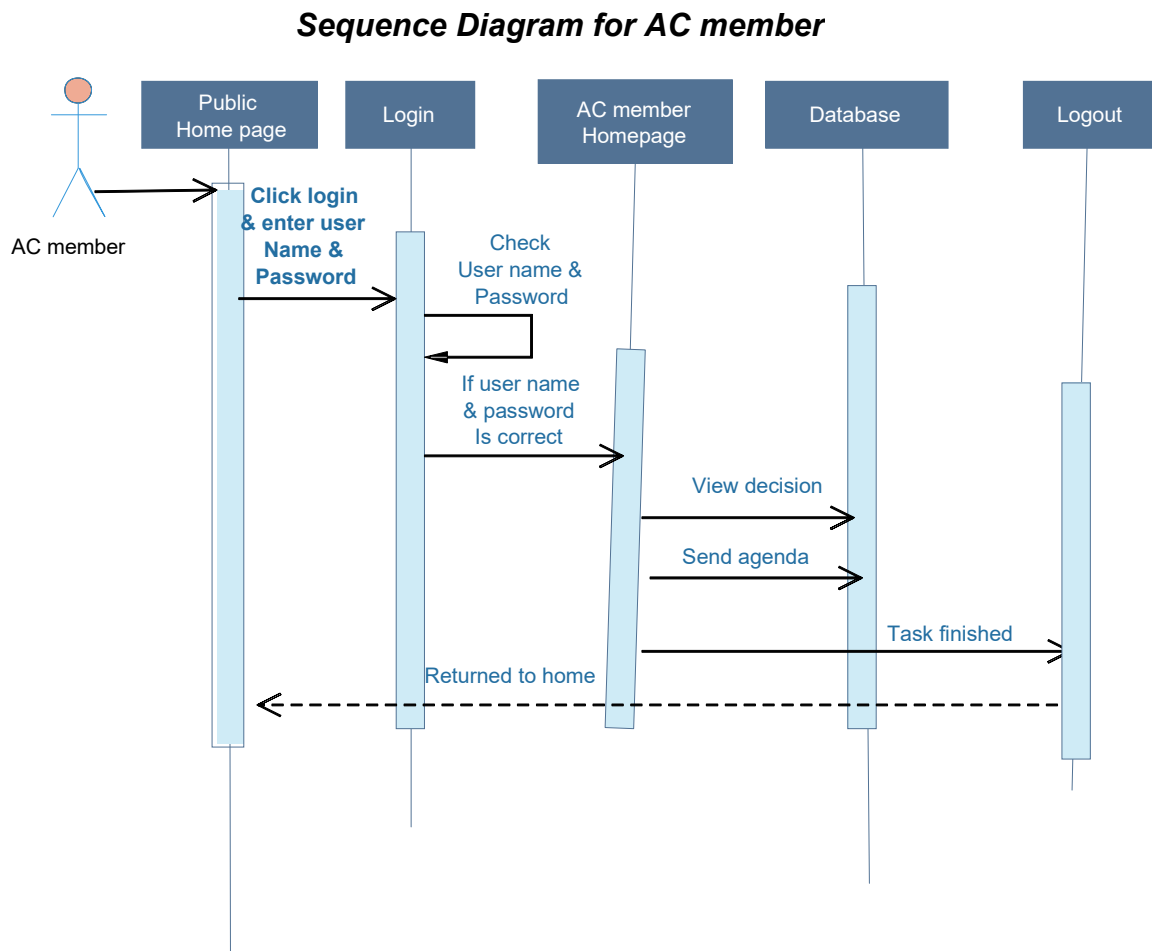


Figure 2, sequence diagram for academic council (AC).

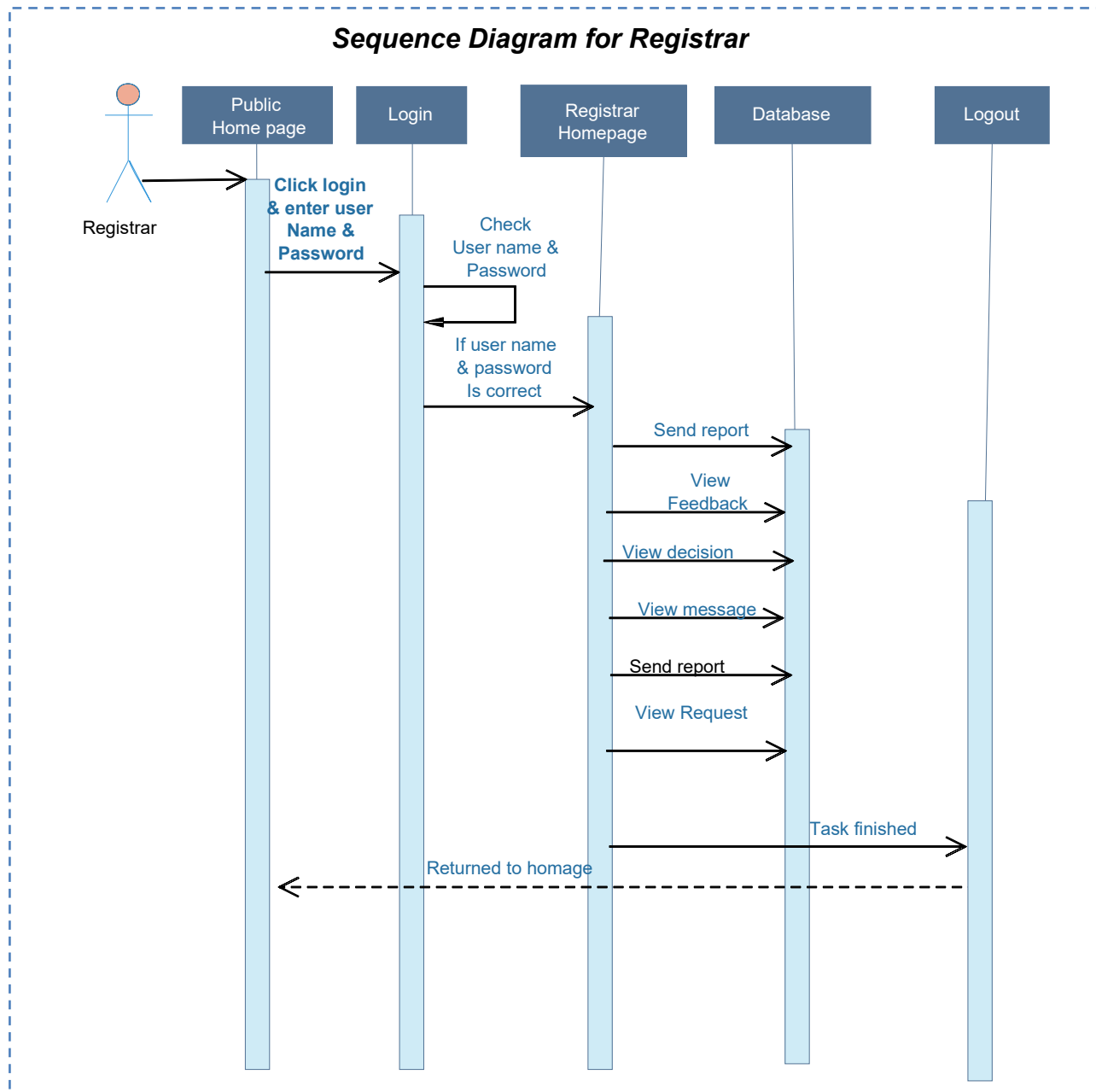


Figure 3, Sequence diagram for registrar

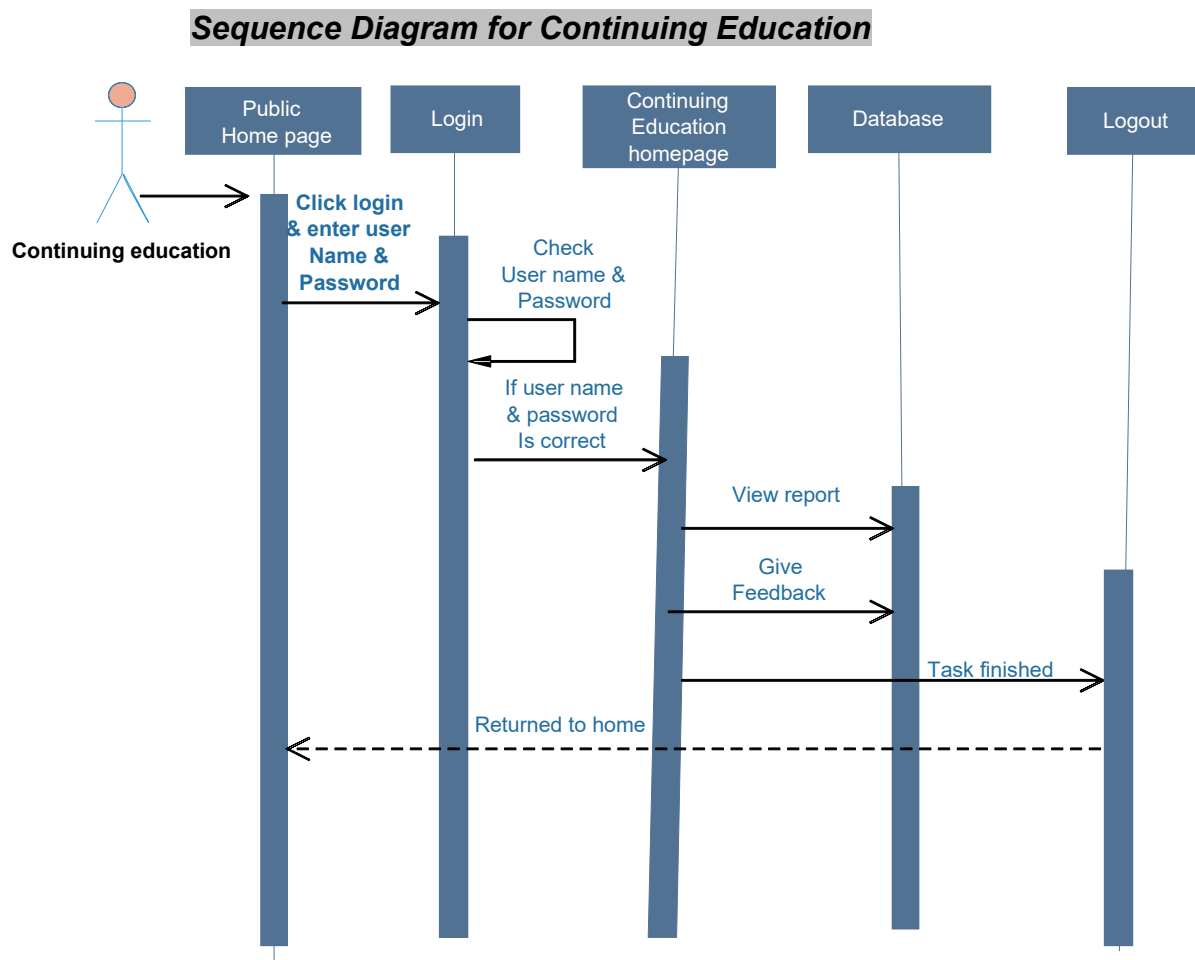


Figure 4, sequence diagram for Continuing education

Sequence Diagram for student

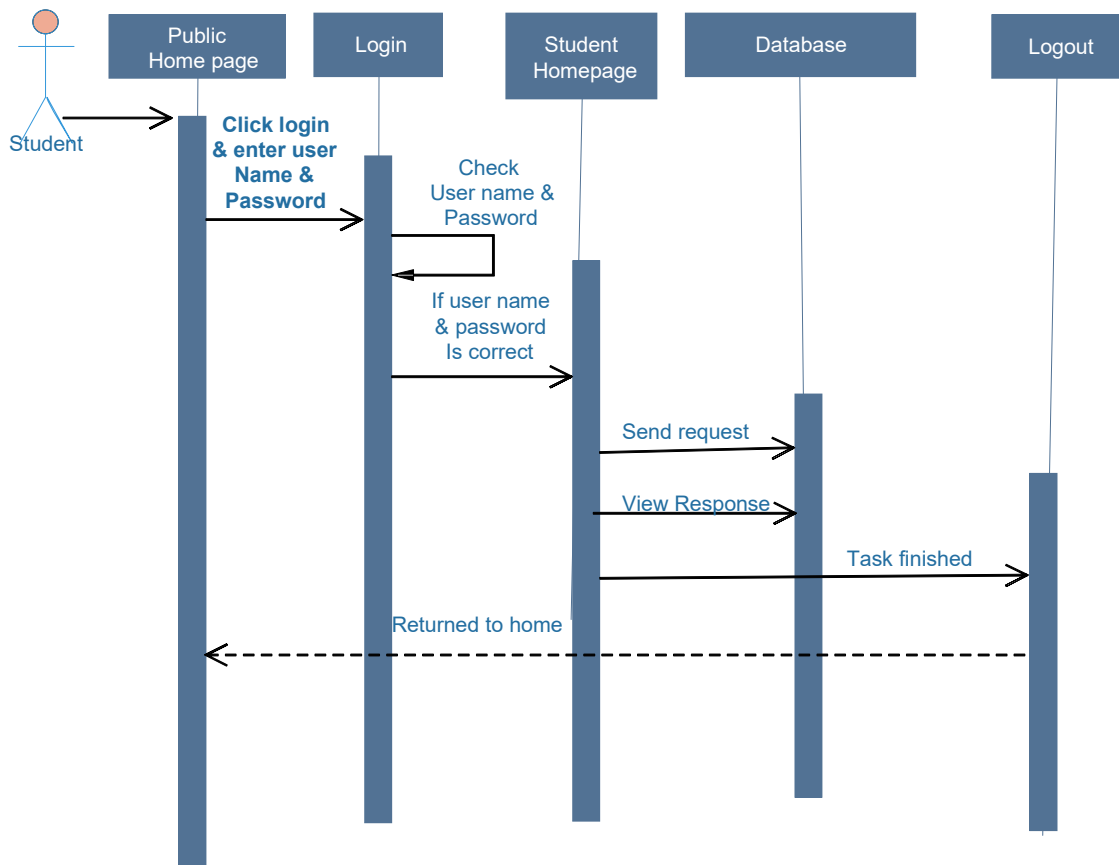


Figure 5, sequence diagram for student.

Sequence Diagram for academic vice president

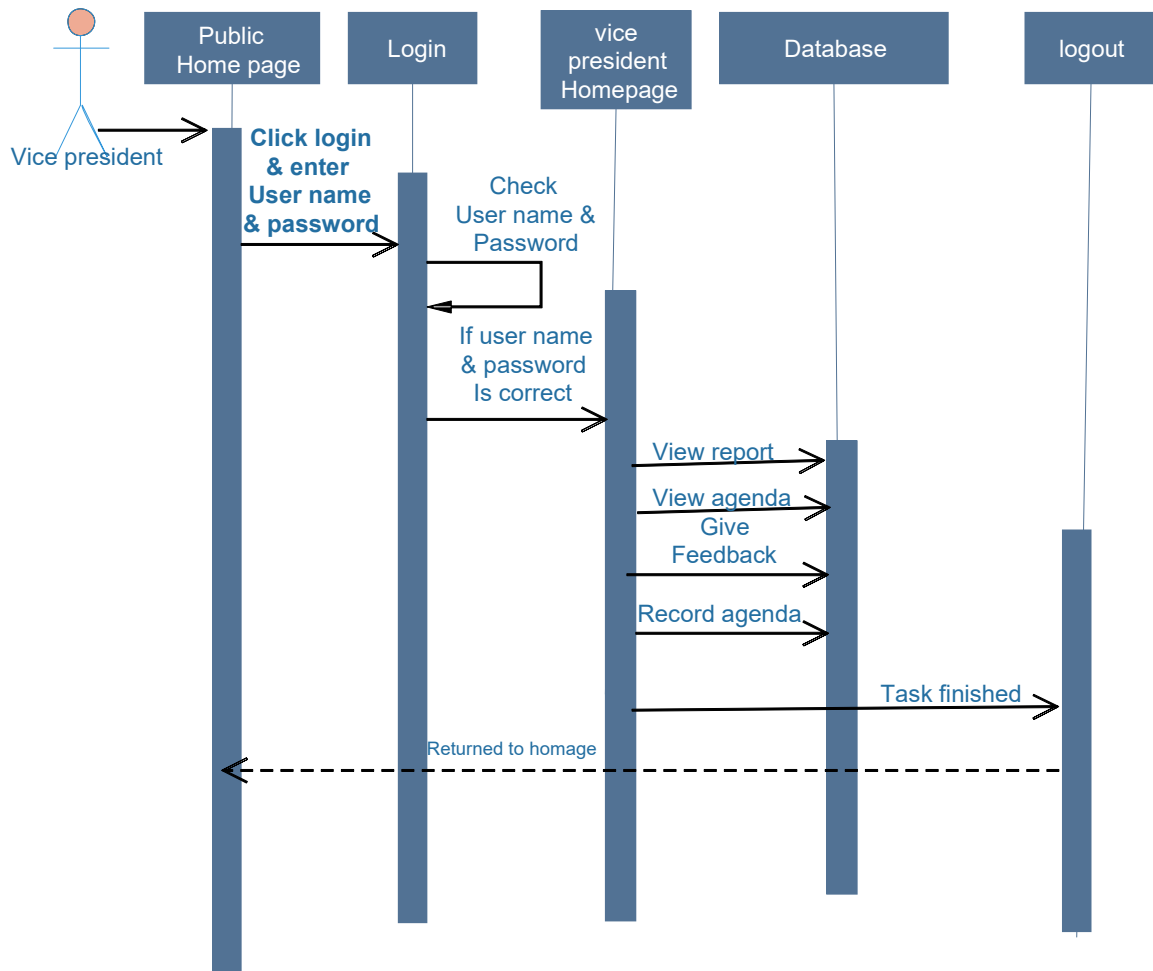


Figure 6, sequence diagram for vice president.

Sequence Diagram for Department

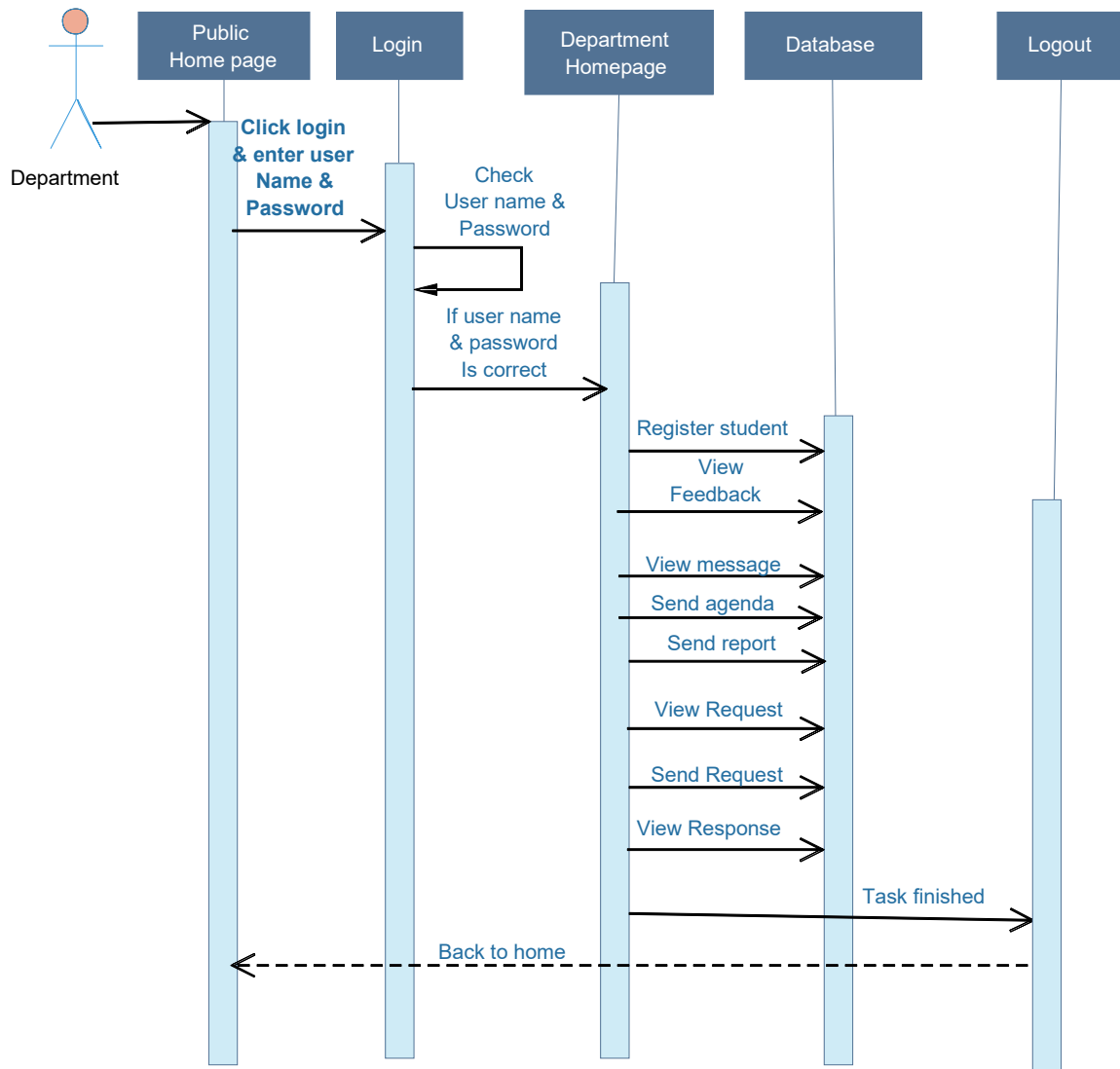


Figure 7, sequence diagram for department

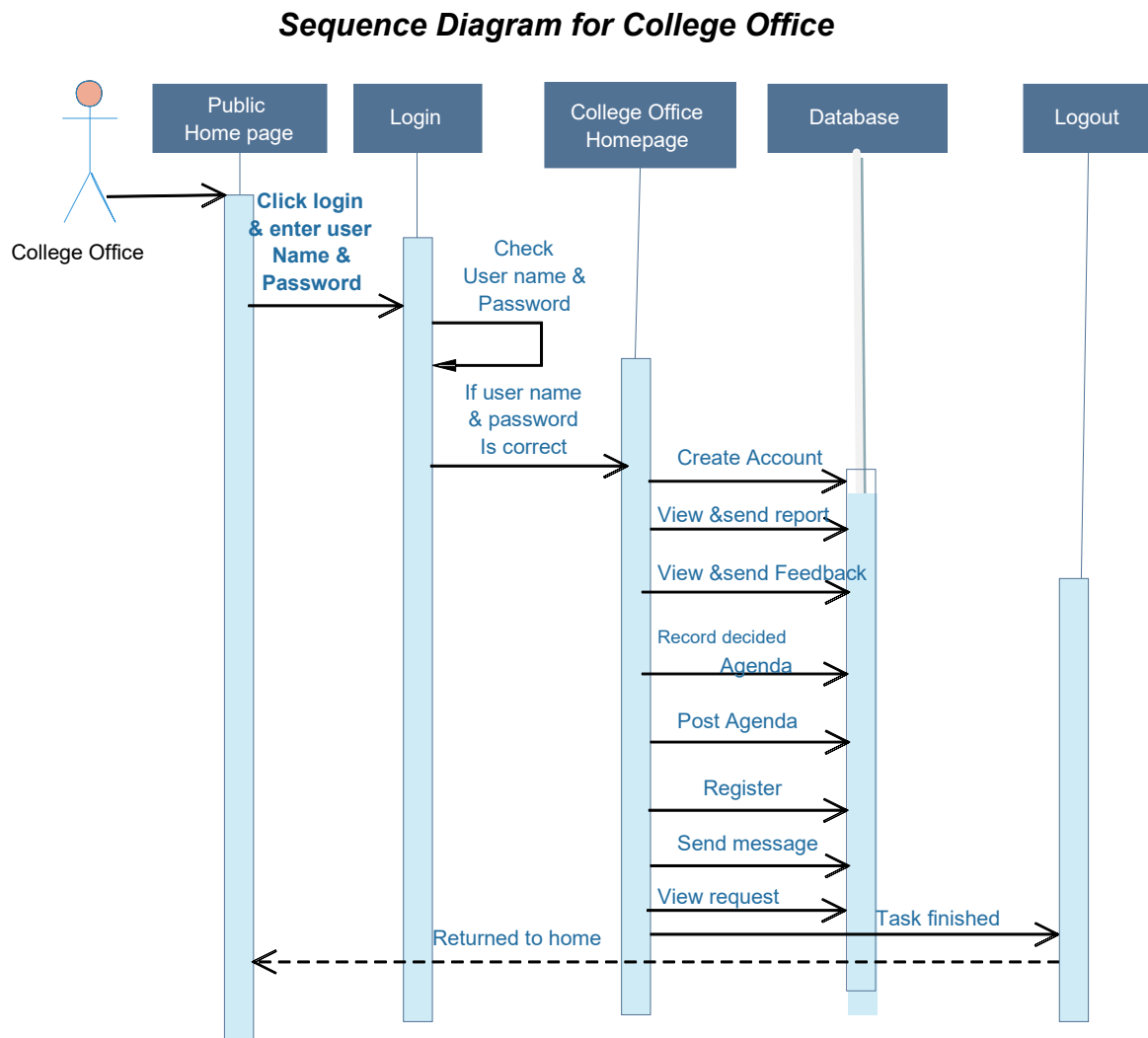


Figure 8, sequence diagram for college office

2.4.4. Activity Diagram

An activity diagram is a variation of a state machine in which the states represent the performance of actions or sub activities and the transitions are triggered by the completion of the actions or sub activities. It represents a state machine of a procedure itself.

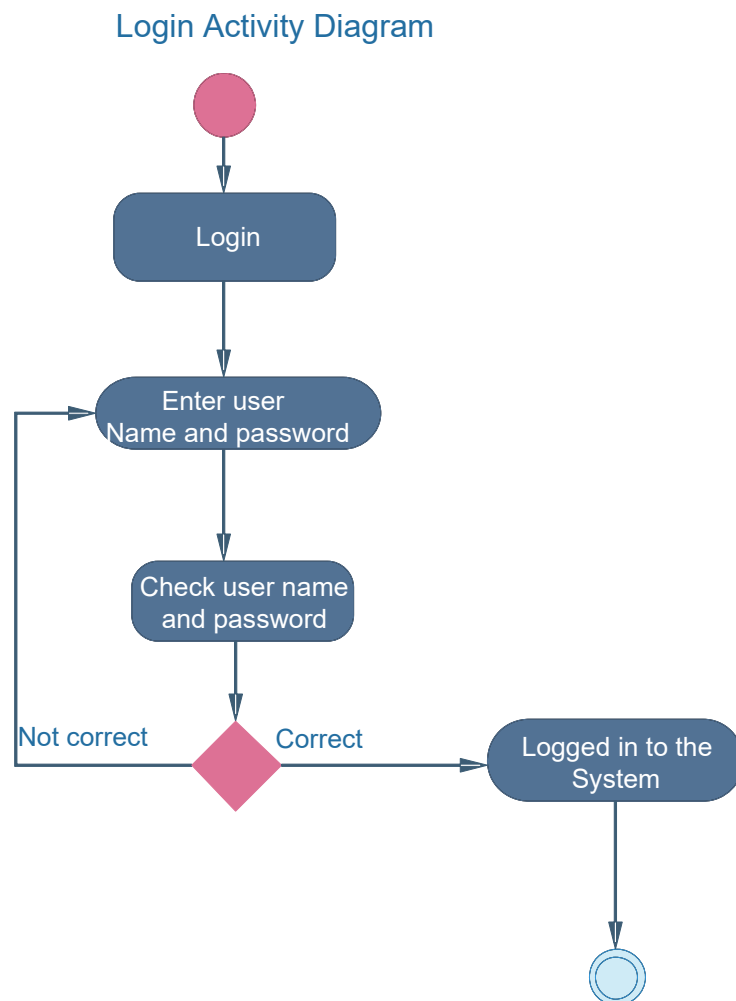


Figure 9, login activity diagram.

Academic vice President Activity Diagram

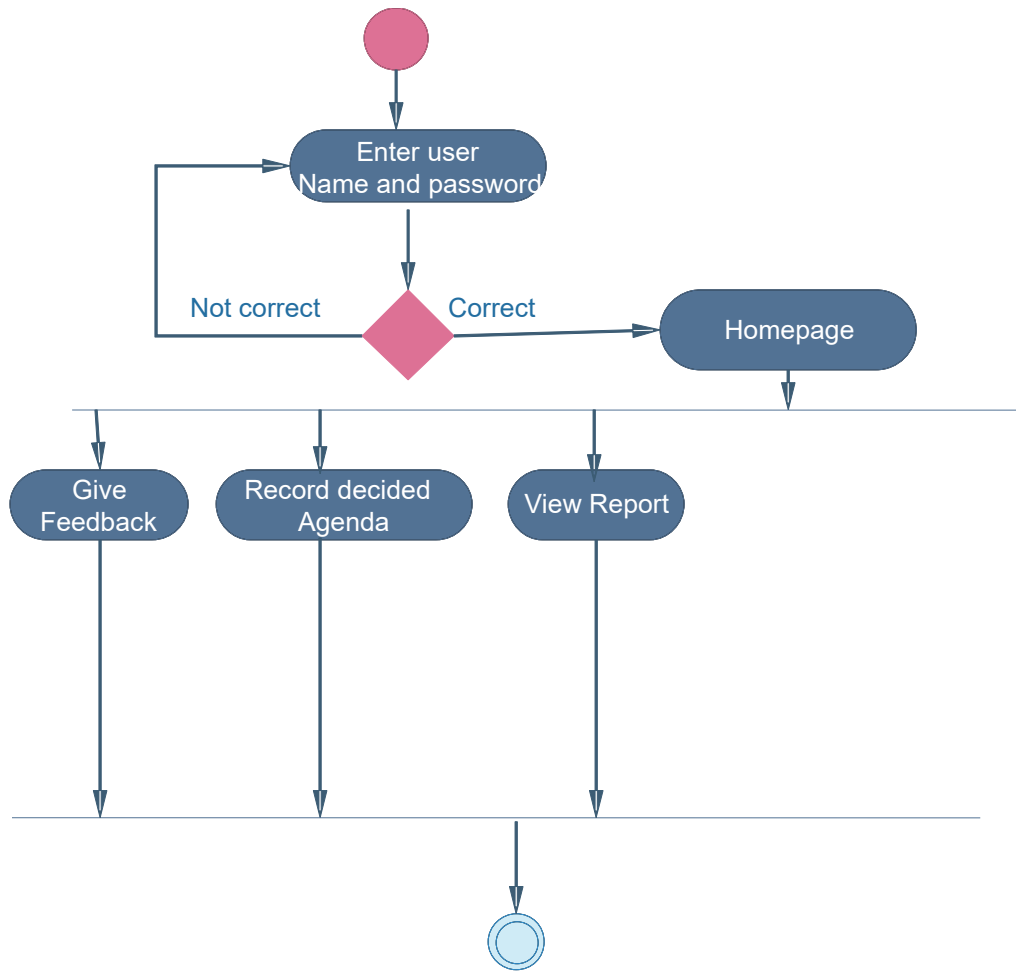


Figure 10, Academic Vice president Activity diagram

College Office Activity Diagram

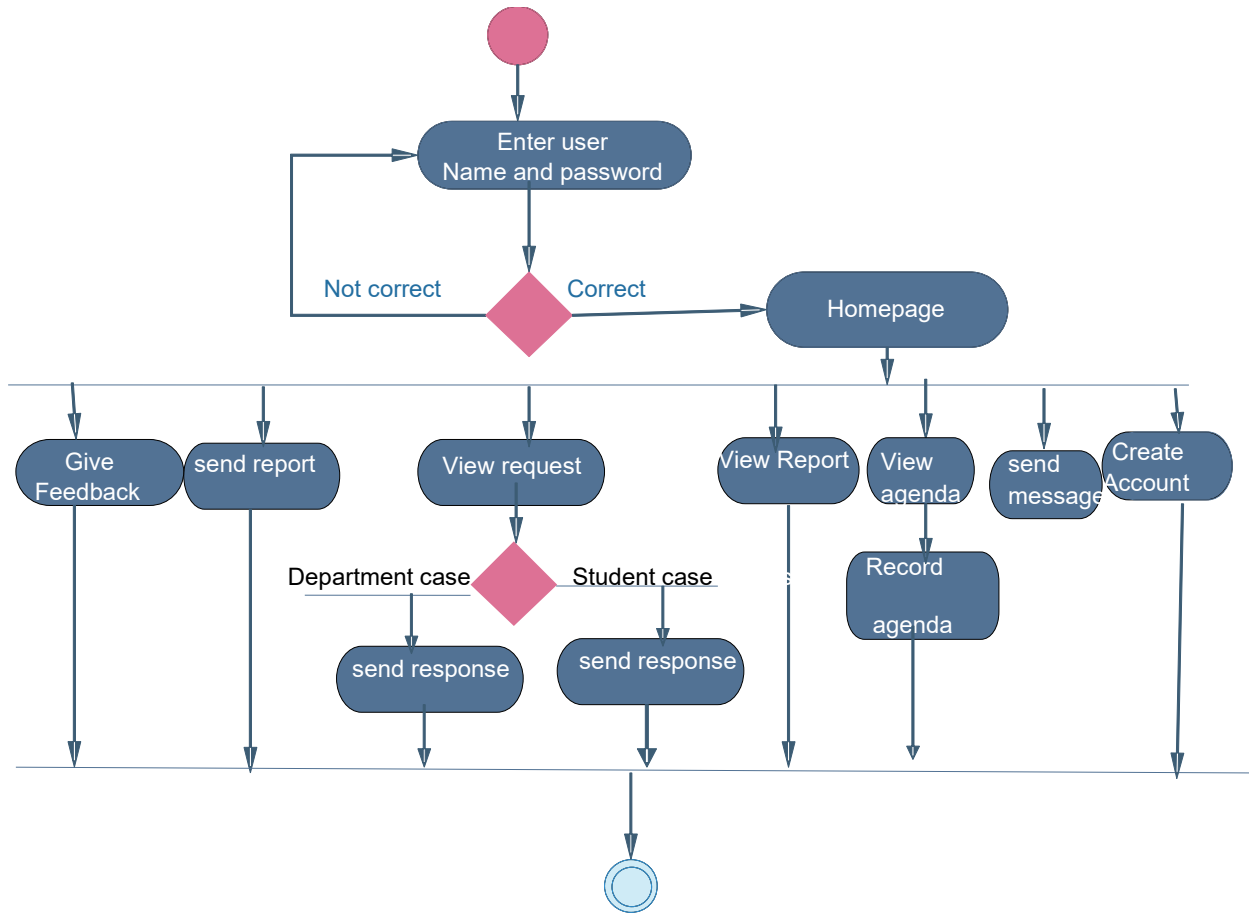


Figure 11, College Office Activity Diagram

AC Member Activity Diagram

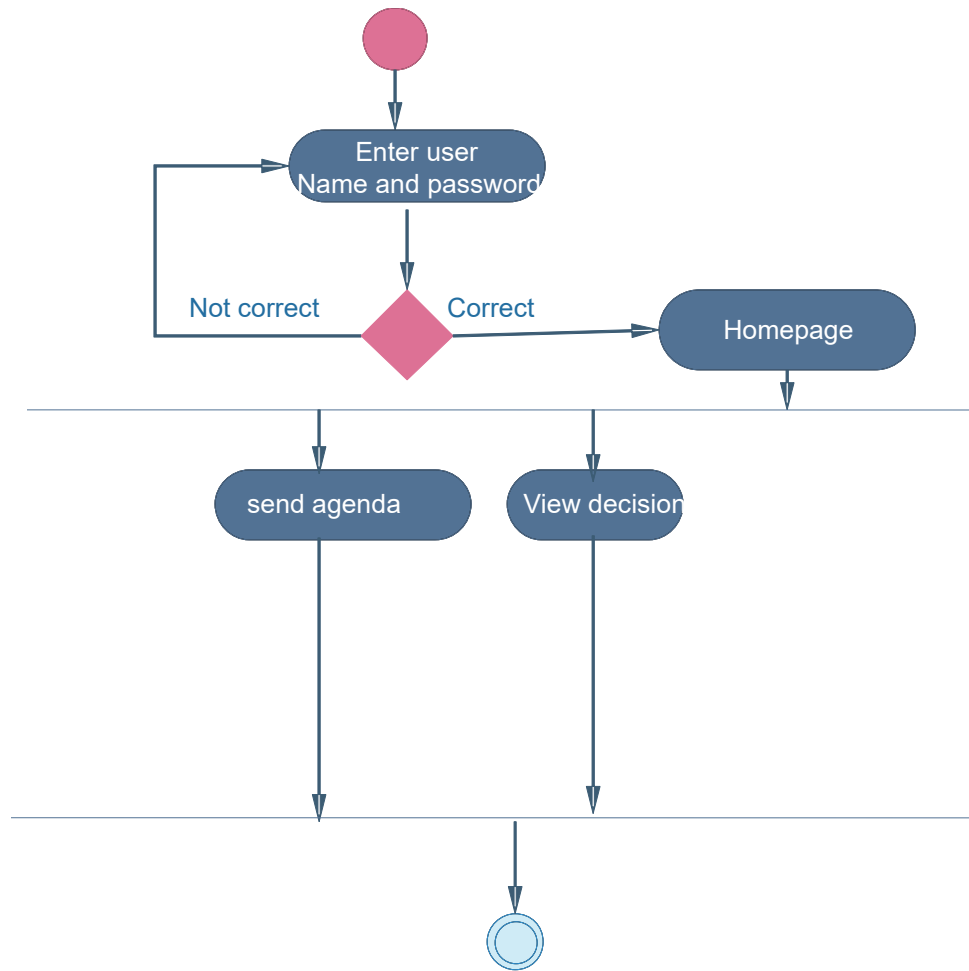


Figure 12, AC Member Activity Diagram

Student Activity Diagram

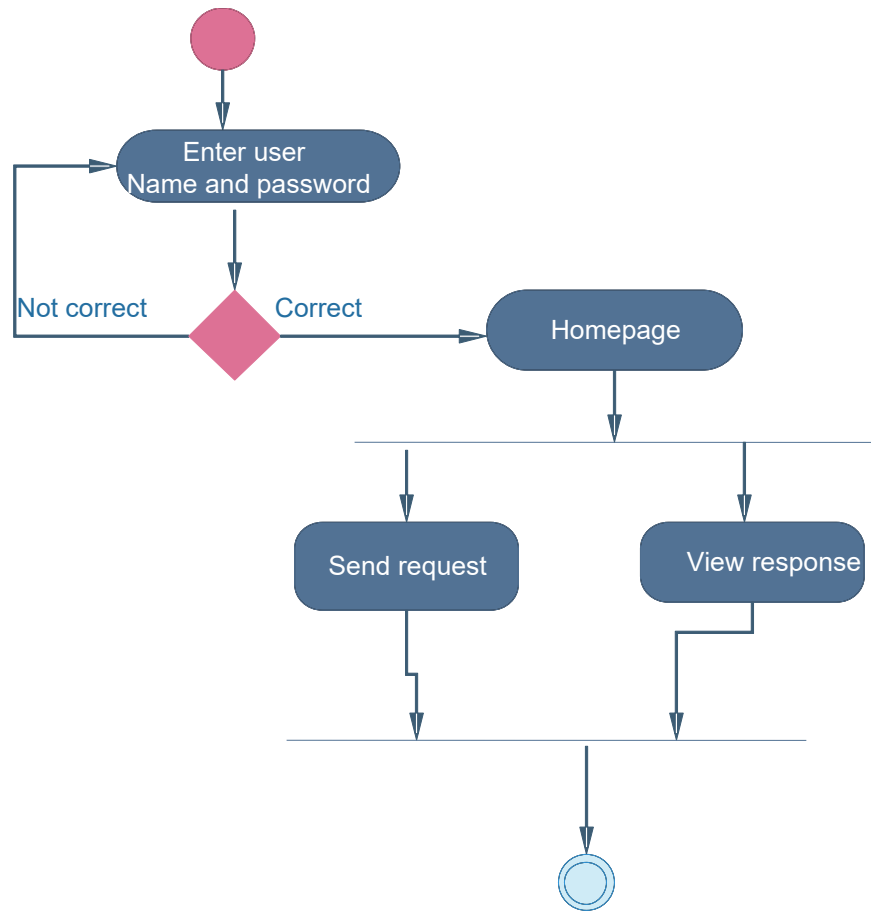


Figure 13, Student Activity diagram

Registrar Activity Diagram

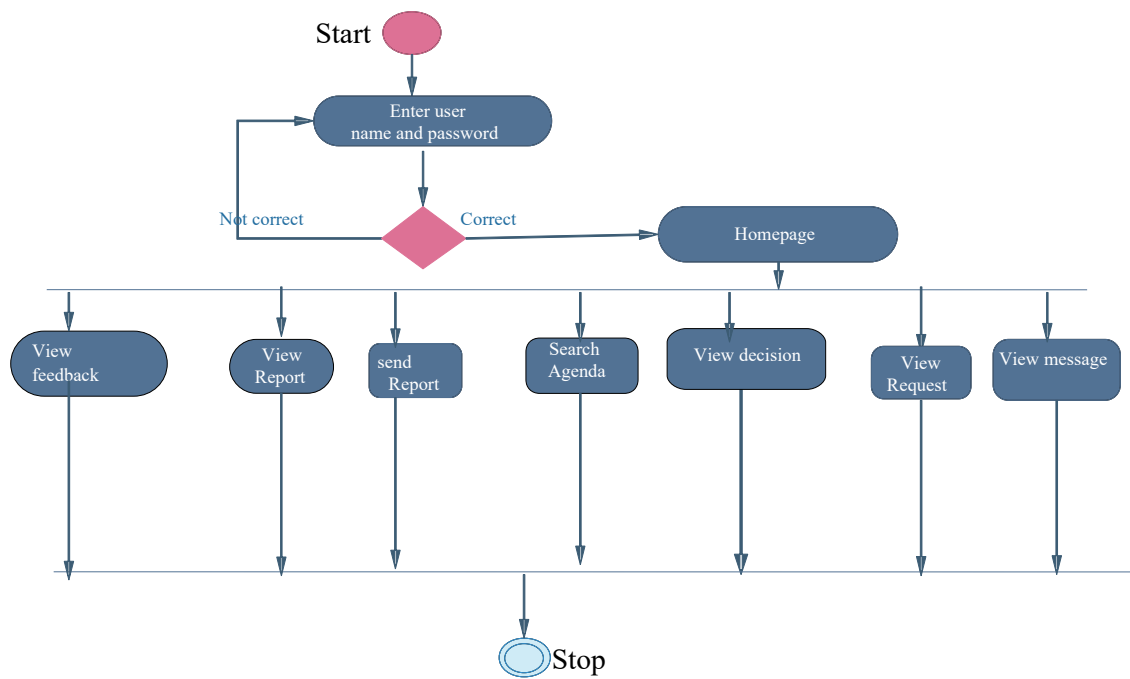


Figure 14, Registration Activity diagram

Continuing Education Activity Diagram

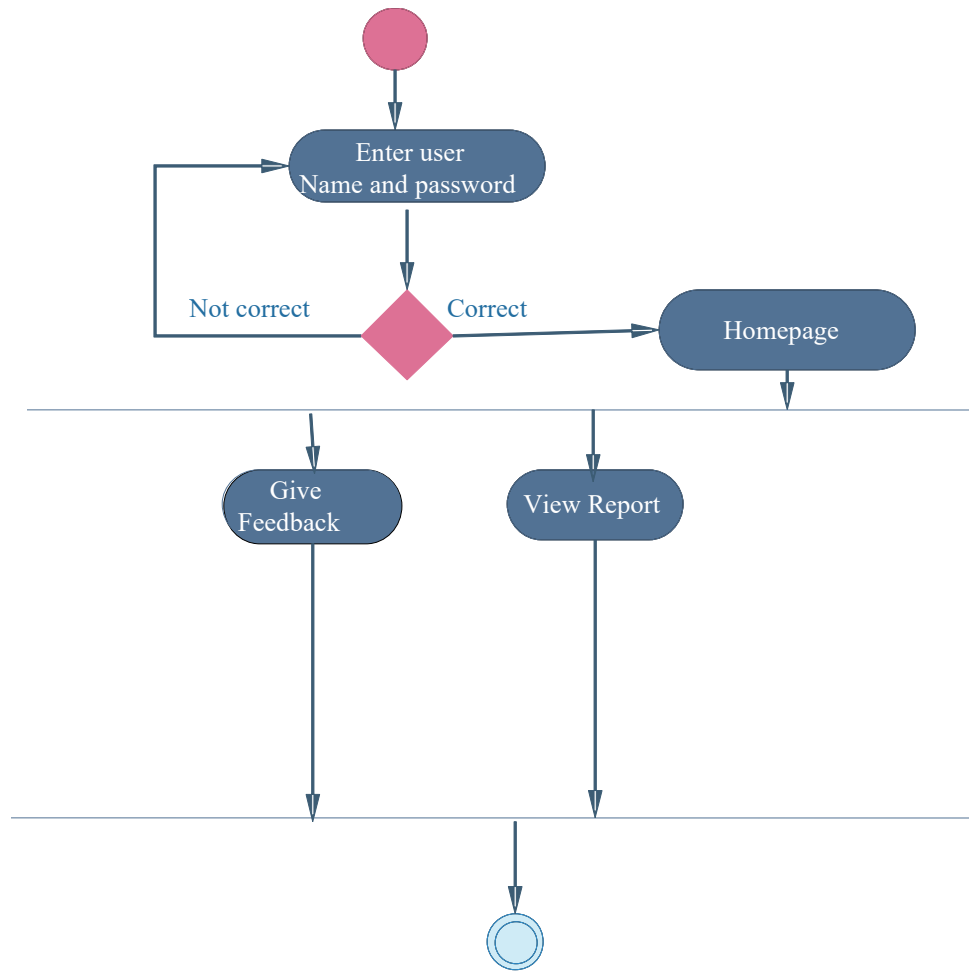


Figure 15, Continuing Education Coordinate Directorate Activity diagram

Department Activity Diagram

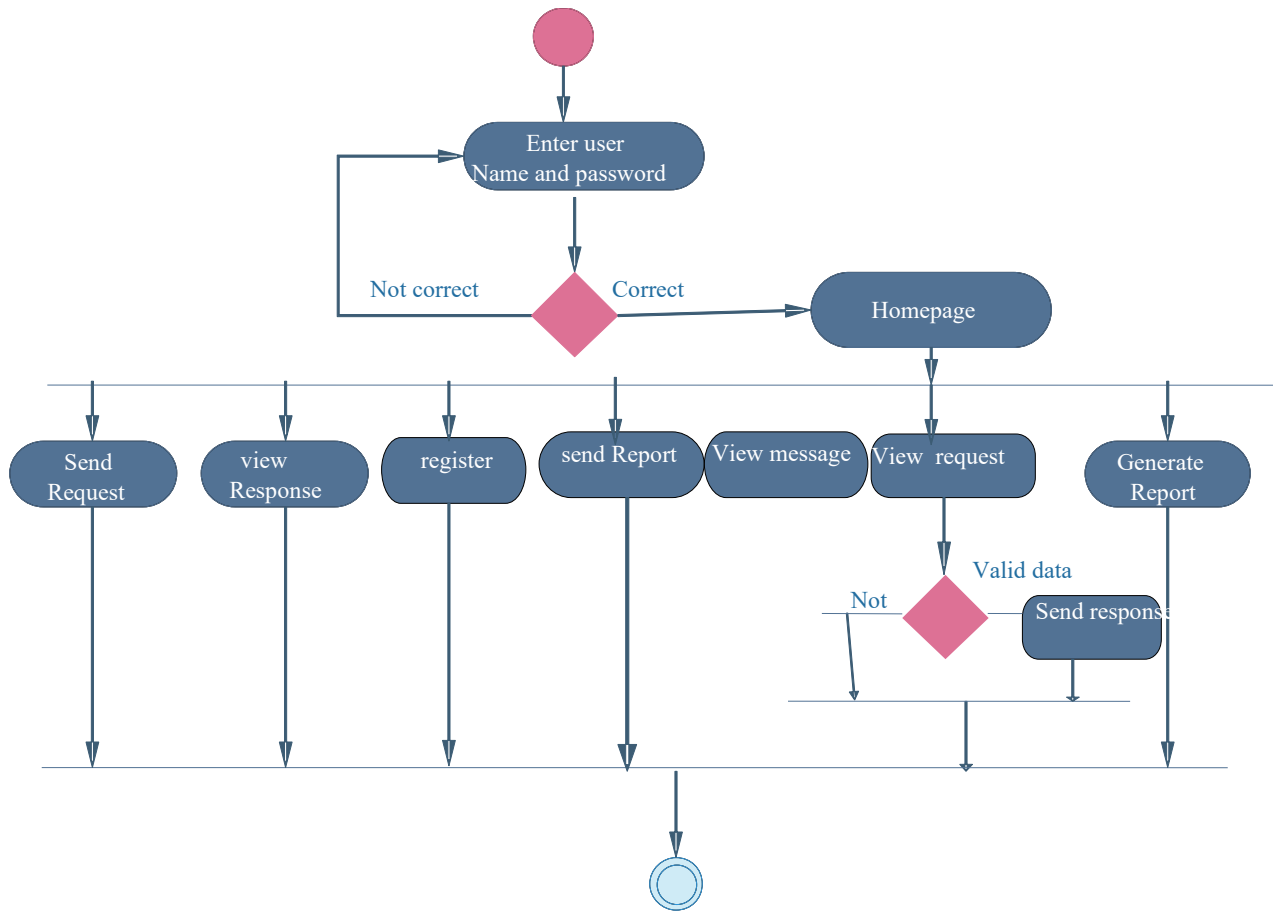


Figure 16, Department activity Diagram

Logout Activity Diagram

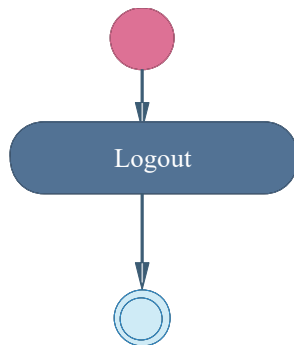


Figure 17, Logout Activity Diagram

2.4.5. Class Diagram (CD)

This section discusses classes and their variations, including templates and instantiated classes, and the relationships between classes association and the contents of classes (attributes and operations).

Class diagrams show the static structure of the model, in particular, the things that exist (such as classes and types), their internal structure, and their relationships to other.

The purpose of the class diagram is to model the static view of an application. the class diagrams are diagrams which can be directly mapped with object oriented languages.

So, the purpose of class diagram can be summarized as:-

- Analysis and design of the static view of an application
- Describe responsibilities of a system
- Use forward and reverse direction to show the sequences of data.

Academic council information management in technology college Class Diagram

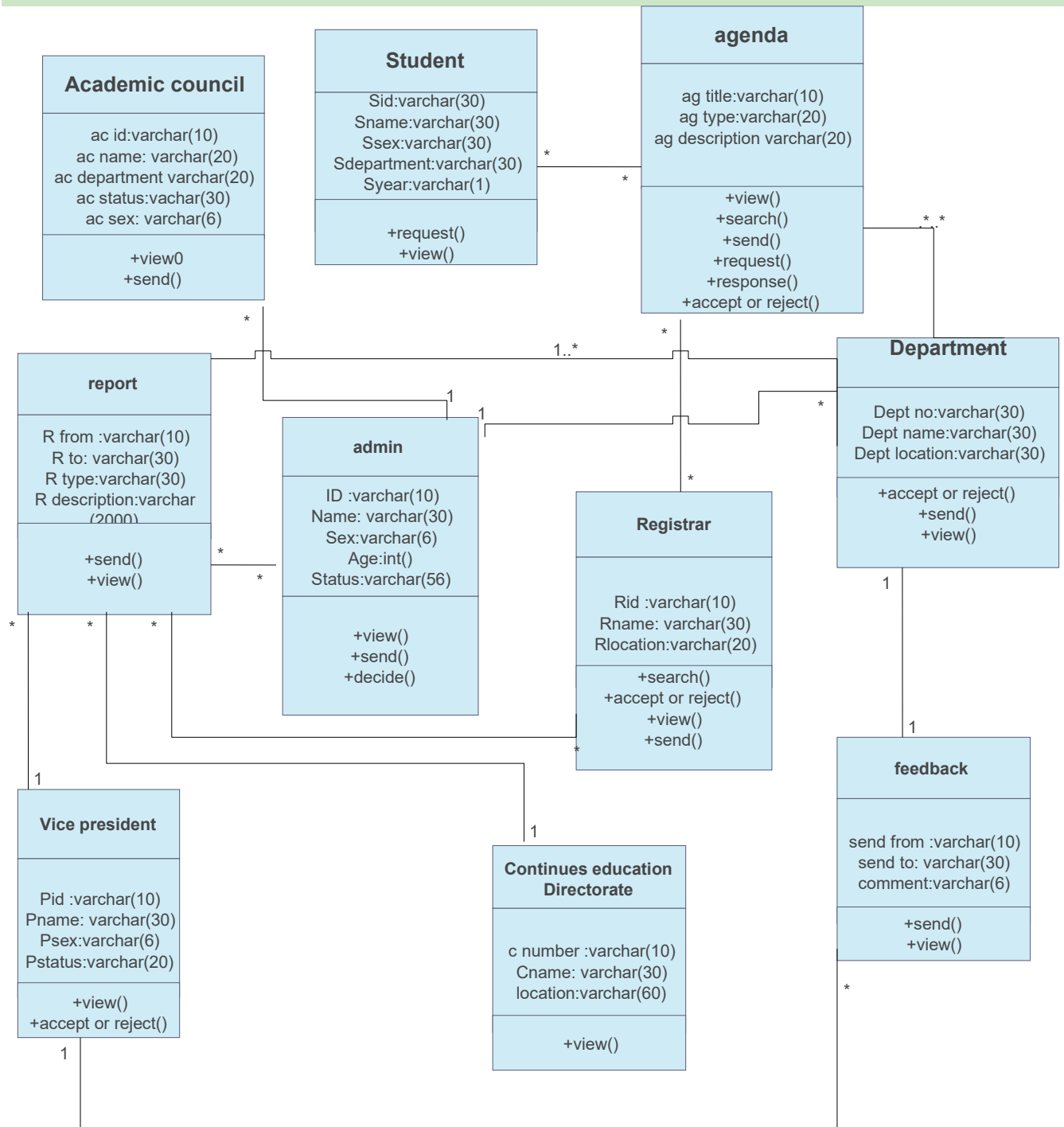


Figure 18, Class Diagram

CHAPTER THREE

3. System design

The purpose of design is to **determine** how the system is going to build and to obtain the information needed to drive the actual implementation of the system. It focuses on understanding the model how the system will be built. System design is the detail investigation of system elements from logical view.

3.1. Design Goals

The design goals represent the desired qualities of the system and provide a consistent set of criteria that must be considered when making design decisions. Based on the nonfunctional requirements and the information elicited from the users, the following design goals are identified.

3.1.1. Performance Criteria

- ✓ Our system is built to enable online academic council information management in Debre Markos . Students, departments and Technology College can make their requests to the concerned body as a client. Technology College, vice president, continuing education and registrar can make their response to those request them. Thus the system achieves its performance by allowing requests, responses, feedbacks, online sharing of information among state holders in Technology College.

3.1.2. Maintenance Criteria

◆ *Modifiability*

The system is easily modifiable when the Debre Marko's Academic Council Information management system for Technology College changes the manual way of information exchange to online system.

◆ *Portability*

The system is portable for those which support windows explorer or Firefox and many other modern browsers. This is due to our system is done using php and mysql which supports online transactions.

◆ *Readability*

The source code of the system is restricted to be understood by the programmer of the system or a person who has a great knowledge on Microsoft web developing languages and anyone who uses the system view only the effects. Our system is reliable to do online transaction since the system is built using the following software's such us:

- Wamp server
- CSS
- HTML
- PHP
- Mysql

3.1.3. End User Criteria

Users of this system must have the appropriate username and password in order to use the system effectively. Without the proper username and password no one can be use the system.

3.1.4. Reliability requirement

- A **reliability requirement** is a dependability requirement that specifies a required amount of reliability, which is a quality factor that is defined as follows:
 - Reliability
 - The degree to which something operates without failure under given conditions during a given time period.

3.1.5. Security requirement

Security For users of the system

- ✓ The system provides privileges to allow only authorized users can create user name and password to log in to the system.

- ✓ And also system has another security keeping mechanism, which is called Session and cookies which can help users to log in to the system and cannot back to the securable pages such as user name and password.

3.2. Design class diagram

Academic council information management in technology college Class Diagram

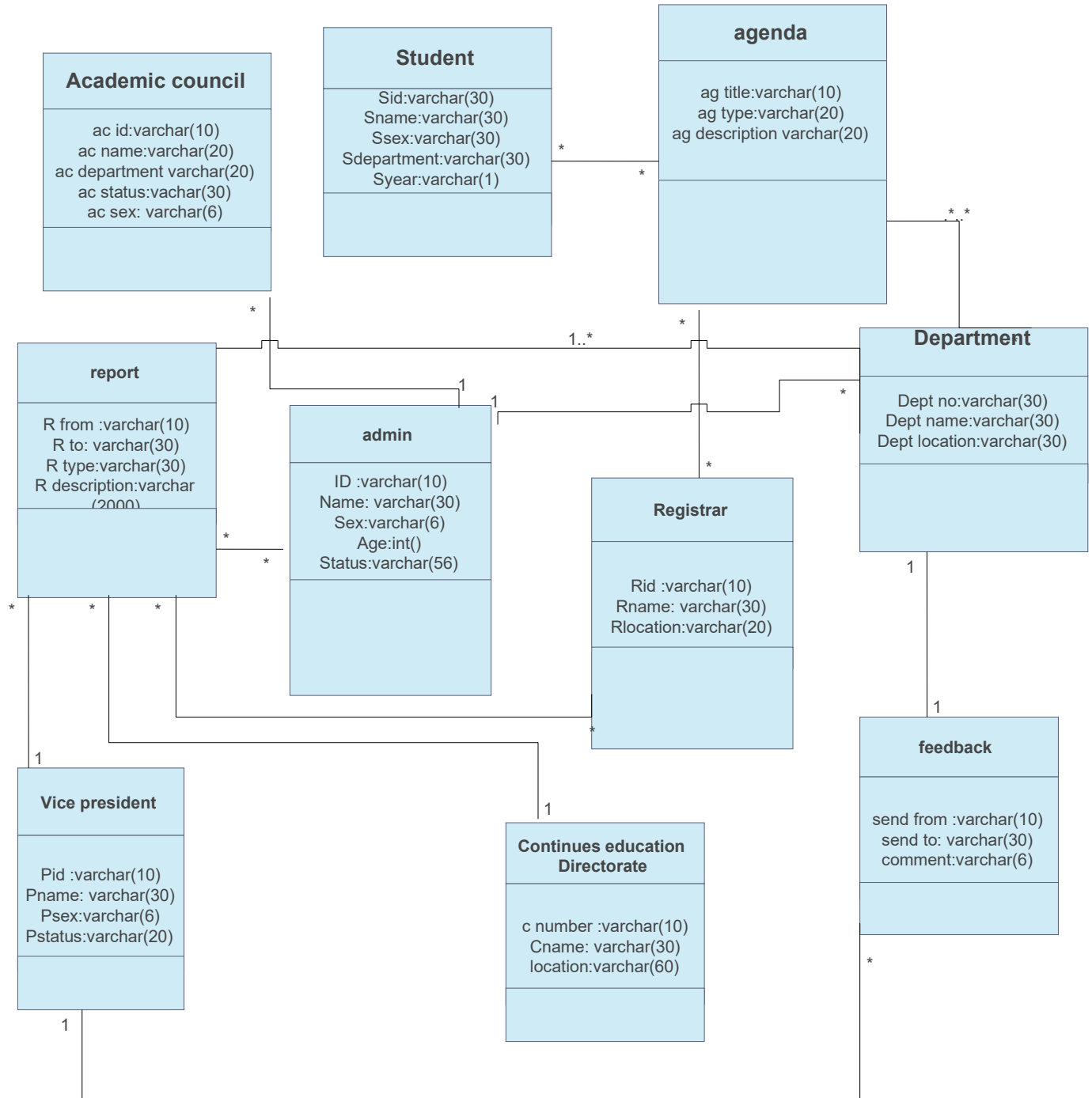


Figure 19, design class diagram

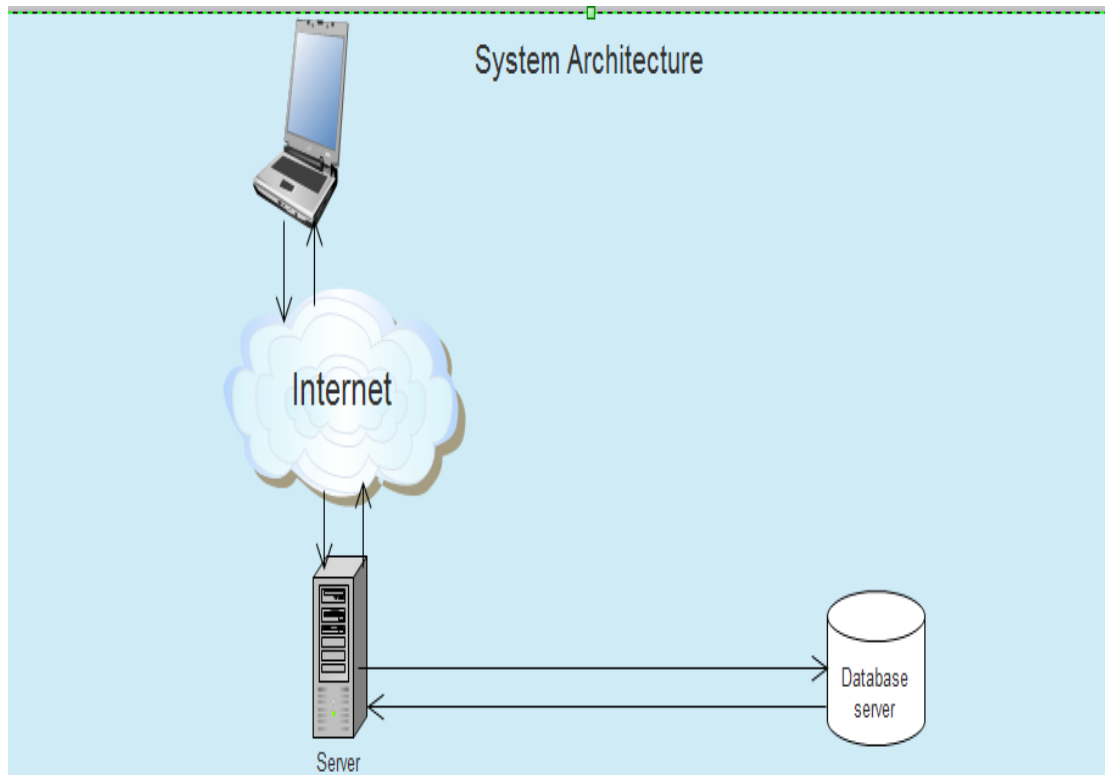
Table 17, Design class diagram

Class Name	attribute	description
College office	cid() Name() Sex() Age() Status()	primary key, not null and varchar varchar, not null char, not null int,not null char, not null
department	Dnumber() Dname() Dlocation() cid()	primary key, not null, varchar varchar, not null varchar, not null foreign key from college
student	Sid() Sname() Sex() Department() Year() Dnumber()	primary key, not null and varchar varchar, not null varchar, not null varchar, not null varchar, not null Foreign key from department.
registrar	Rid() Rname() Rlocaton()	primary key, not null and varchar varchar, not null varchar, not nul
Vice president	PId() Pname() sex() Page() Pstatus()	primary key, not null and varchar varchar, not null char, not null

AC member	Ac id() Ac name() Ac department()	primary key, not null and varchar varchar, not null varchar, not null
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3.3. System Architecture

The system architecture shows the way the system works graphically. The figure below shows how users use the system from the server.



3.3.1. Communication Interface

User interface design or user interface engineering is the design of computers, machines, mobile communication devices, software applications, and websites with the focus on the user's experience and interaction. The goal of user interface design is to make the user's interaction as simple and efficient as possible, in terms of accomplishing user goals of the system user.

3.4. Subsystem Decomposition

Academic council information management system is composed of different sub system components including the following.

3.4.1 Login subsystem

This subsystem checks whether the user is legal or illegal. If the user is an authorized user he/she can use the system according to the privilege. The system users who involve in this subsystem include students, departments, college office, academic council members, vice president, continuing education directorate and registrar.

3.4.2 Feedback subsystem

In this subsystem there are two process namely give feedback and view feedback. College office can give feedback for departments, continuing education directorate and vice president can give their feedback for college office and the registrar.

3.4.3 Request subsystem

In request sub system students request to departments, departments can request college office, college office can request vice president. After viewing the request the body who is requested gives his response.

3.4.4 Registration subsystem

In registration subsystem departments register students, college office register departments, and academic council members.

3.5. Component diagram

Component diagram show the interaction and dependencies between software components. It helps to model the physical aspects of an object oriented software system. Those software components including run-time components, execute components and source code of components. The component diagram for the academic council information management looks like the following.

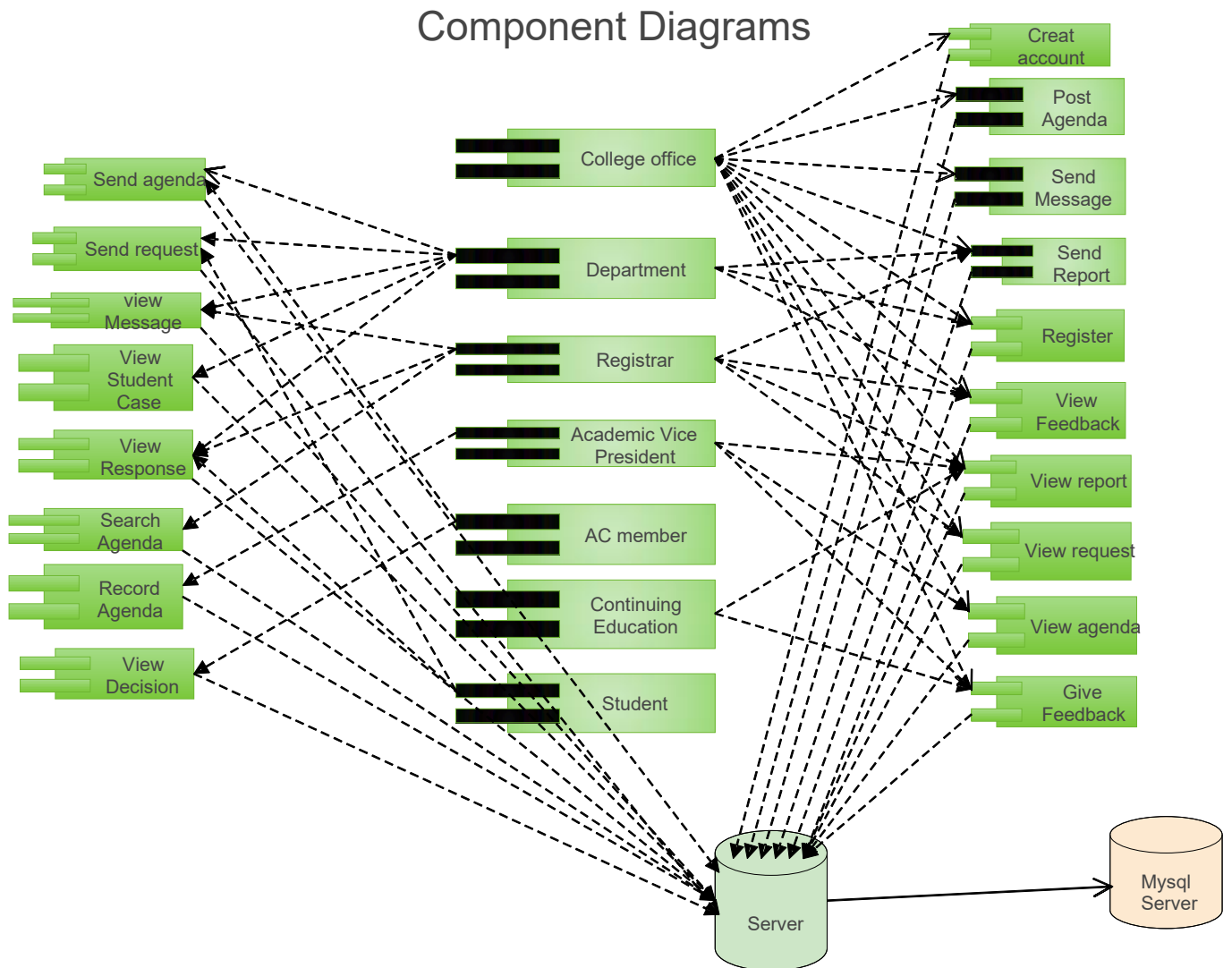


Figure 20, Component diagram

3.6. Data Base Design

Table 18, agenda

#	Name	Type	Collation	Attributes	Null	Default	Extra	Action
☐	1 C_id	varchar(33)	latin1_swedish_ci		No	None		Change Drop Primary Unique Index Spatial Fulltext More
☐	2 V_id	varchar(33)	latin1_swedish_ci		No	None		Change Drop Primary Unique Index Spatial Fulltext More
☐	3 agendatype	varchar(100)	latin1_swedish_ci		No	None		Change Drop Primary Unique Index Spatial Fulltext More
☐	4 date	datetime	Swedish, case-insensitive		No	None		Change Drop Primary Unique Index Spatial Fulltext More
☐	5 agendadescription	varchar(100)	latin1_swedish_ci		No	None		Change Drop Primary Unique Index Spatial Fulltext More
☐	6 name	mediumtext	latin1_swedish_ci		No	None		Change Drop Primary Unique Index Spatial Fulltext More

☐ Check All With selected: Browse Change Drop Primary Unique Index

Print view Relation view Propose table structure Move columns

Add column(s) ☒ At End of Table ☐ At Beginning of Table ☐ After

Table 19, Student

#	Name	Type	Collation	Attributes	Null	Default	Extra	Action
☐	1 id	varchar(23)	latin1_swedish_ci		No	None		Change Drop Primary Unique Index Spatial Fulltext Distinct values
☐	2 name	varchar(23)	latin1_swedish_ci		No	None		Change Drop Primary Unique Index Spatial Fulltext Distinct values
☐	3 fname	varchar(66)	latin1_swedish_ci		No	None		Change Drop Primary Unique Index Spatial Fulltext Distinct values
☐	4 sex	varchar(6)	latin1_swedish_ci		No	None		Change Drop Primary Unique Index Spatial Fulltext Distinct values
☐	5 dept	varchar(2309)	latin1_swedish_ci		No	None		Change Drop Primary Unique Index Spatial Fulltext Distinct values
☐	6 year	varchar(23)	latin1_swedish_ci		No	None		Change Drop Primary Unique Index Spatial Fulltext Distinct values
☐	7 status	varchar(23)	latin1_swedish_ci		No	None		Change Drop Primary Unique Index Spatial Fulltext Distinct values

☐ Check All With selected: Browse Change Drop Primary Unique Index

Table 20, Feedback

#	Name	Type	Collation	Attributes	Null	Default	Extra	Action
1	<u>id</u>	int(4)			No	None	AUTO_INCREMENT	Change Drop Primary Unique Index Spatial More
2	C_id	varchar(33)	latin1_swedish_ci		No	None		Change Drop Primary Unique Index Spatial More
3	c_eid	varchar(66)	latin1_swedish_ci		No	None		Change Drop Primary Unique Index Spatial More
4	deptid	varchar(56)	latin1_swedish_ci		No	None		Change Drop Primary Unique Index Spatial More
5	date	datetime			No	None		Change Drop Primary Unique Index Spatial More
6	comment	varchar(6000)	latin1_swedish_ci		No	None		Change Drop Primary Unique Index Spatial More

Check All With selected: Browse Change Drop Primary Unique Index

Print view Relation view Propose table structure Move columns

Figure 21, department

Academic Council management system

php?db=acims&table=feedback&target=tbl_structure.php&token=a60757cd1731a8dc9d79ee6cd929fb10#PMAURL-3:tbl_struct

localhost » acims » department

#	Name	Type	Collation	Attributes	Null	Default	Extra	Action
1	<u>deptid</u>	varchar(33)	latin1_swedish_ci		No	None		Change Drop Primary Unique Index Spatial Fulltext Distinct values
2	deptname	varchar(33)	latin1_swedish_ci		No	None		Change Drop Primary Unique Index Spatial Fulltext Distinct values
3	dlocation	varchar(33)	latin1_swedish_ci		No	None		Change Drop Primary Unique Index Spatial Fulltext Distinct values

Check All With selected: Browse Change Drop Primary Unique Index

3.7. User Screen Shoots

The following figure is about the system interface homepage.

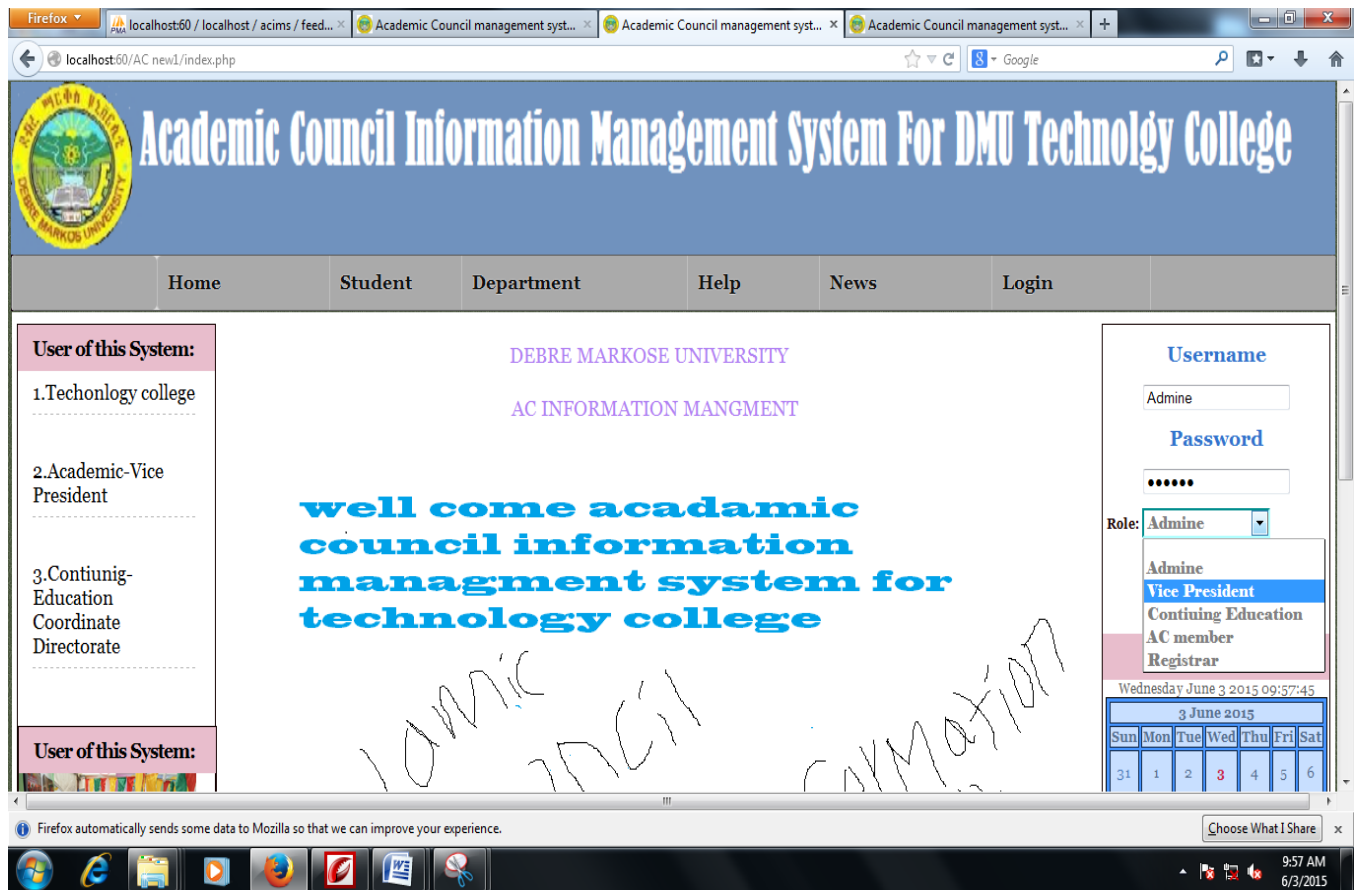


Figure 22, Home page Screen shoot

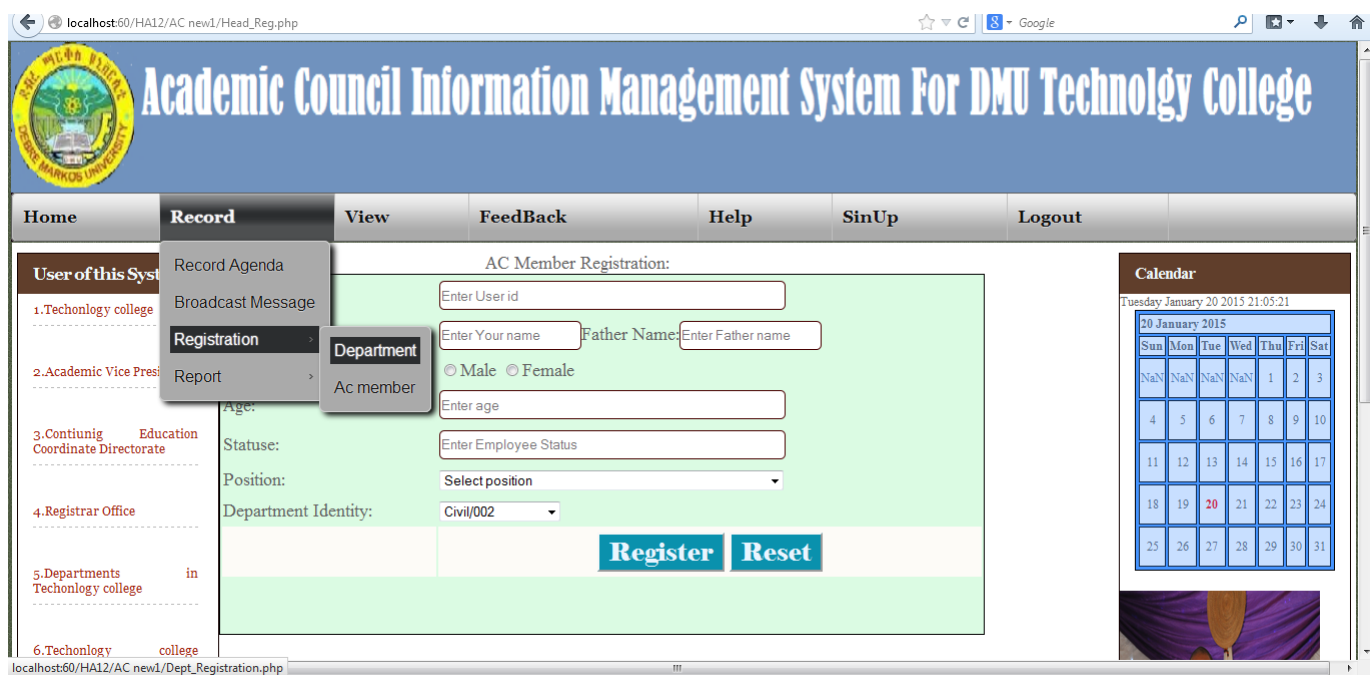


Figure 23, AC member Registration form Screen Shoot

The screenshot shows the 'Academic Council Information Management System For DMU Technology College' interface. The 'View' menu is open, showing options: College Feedback, Student Case, Broadcast Message, and College Response. The 'Student Case' option is selected. Below the menu is a table with columns: Student ID, Student Name, Sex, Department, Short Description, Read More, Response, and Action.

Student ID	Student Name	Sex	Department	Short Description	Read More	Response	Action
ter/354/04	Abebe	male	Water Engineering Department	The mission of Technology College in Debre Markos University is:	CODELABSTER.txt	Request-To-College Response-To-Student	
ter/3544/04	Amare	male	Water Engineering Department	3.Providing demand driven community and consultancy services.	Introduction.docx	Request-To-College Response-To-Student	
ter/355/04	Amarech	Female	Electrical Engineering Department	3.Providing demand driven community and consultancy services.	Competency Certification for ICT Professionals, ICT Service Providers and ICT Trainers.doc	Request-To-College Response-To-Student	

On the left, under 'User of this System:', there are links for: 1.Techonlogy college, 2.Academic Vice President, 3.Contiunig Education Coordinate Directorate, 4.Registrar Office, 5.Departments in Technology college, and 6.Techonlogy college.

Figure 24, display data for student case

The screenshot shows the 'Student Home Page' of the 'Academic Council Information Management System For DMU Technology College'. The page has a navigation bar with links: Home, Student, Department, Help, News, and Login. The main content area includes a 'Use this system for:' section with instructions for students, a login form, and a calendar.

Use this system for:

- ..for Correcting grade.
- ..To request add and drop.
- ..Ask for messing exam.
- ..To ask widrow.

Students are one of the member of Debre markos Univerisity who has responsibility to use an Accademic Information management system for their accademic case.

For to use the system Students must be use:

- o Use their ID number for login to the system like ter/9999/07 as user name and password
- o If user name and password is incorrect try again unles can not be access to the system.

Login Form:

Username:

Password:

☐ Keep me logged in

Calendar:

Wednesday June 3 2015 09:59:39

3 June 2015

Sun	Mon	Tue	Wed	Thu	Fri	Sat
31	1	2	3	4	5	6

Figure 25, Student Home Page

CHAPTER FOUR

4. Conclusion and recommendation

4.1 Conclusion

Academic council information management system was designed to replace the manual system of Hibre Biher College 's technology college information management system. The new system solves the problems that were seen in recording and managing of information in the college. In the system users of the system can easily share information without time loosing and in an efficient manner. The technology college, students in the college, Academic council members, department heads, the registrar and continuing directorate can benefit from the system to accomplish their own task automatically in a short manner.

The system should have an administrator to control the overall activities of system users. He is responsible for administrating the system.

After developing this system to be compatible for the academic council information management in Technology College for Hibre Biher College we conclude that information management is possibly to do it web based system. That is this system replaces the previous manual type of managing information in an automated system. When the system fully implemented for departments, students, academic council members, the college dean, the vice president and others can easily share information with in them.

4.2. Recommendation

We develop this system for technology College academic council information management system. We recommended the next system developer who needs to develop this system he/she should include other colleges, departments with their students, the president office and the like in the campus community.

4.3. Reference

http://www.asa.mnscu.edu/councils/infotechnology/meeting_materials/2013/december/Charge%20Document_Revised_handout.pdf

http://mnscuims.mnscu.edu/imsac/documents/Charter_DocumentIMS.pdf

<https://www.wisconsin.edu/systemwide-it/councils/luw-exec/>

<https://www.wisconsin.edu/systemwide-it/councils/csrg/>