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**Project Title: School management system for Nafyad School**

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### **Preface**

This report is all about the project “School Management System for Nafyad School” that provides us a simple interface for maintenance of school information.

It can be used by Schools to maintain the record easily. Achieving this objective is difficult using a manual system as the information is scattered, can be redundant and collecting relevant information may be very time consuming. All these problems are solved using this project.

### **Acknowledgment**

First of all, we thank Almighty God who praise us with the ability to think, work and deliver this project perfectly. Secondly, we are privileged to express our sense of gratitude to our respected teacher Mr. Anteneh Alemu.

We would also like to extend our sincere thanks to all of those who gives the kind support and help.

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## TABLE OF CONTENTS

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Table of Contents .....	3
List of Tables .....	5
List of Figures.....	6
Definition .....	7
CHAPTER ONE .....	8
1.1 Introduction.....	8
1.2 Background.....	8
1.2.1 Background of the organization .....	8
1.2.2 Background of study.....	8
1.3 Statements of problem .....	8
1.4 Purpose of the project .....	9
1.5 Objective of the project.....	9
1.5.1 General objective .....	9
1.5.2 Specific objective.....	9
1.6 Feasibility .....	9
1.6.1 Technical feasibility .....	9
1.6.2 Operational feasibility .....	9
1.6.3 Economical feasibility .....	10
1.7 Scope and Limitation .....	10
1.7.1 Scope.....	10
1.7.2Limitation .....	10
1.8 Methodology.....	10
1.9 Significance of the project.....	10
1.10 Team composition .....	11
1.11 Development tools.....	11
1.12 Task and Schedule .....	12
CHAPTER 2 .....	13
Description of the current system.....	13
2.1 INTRODUCTION .....	13
2.2. Major function of the current system.....	13
2.2.1 The Timetabling .....	14
2.1.1 Forms used in the current system.....	14
2.2 User of the current system.....	14
2.3 problems (Drawback) of the current system.....	15
2.4 Business rule of the current system. ....	16
2.5 Software process model.....	16

CHAPTER THREE .....	17
Proposed System.....	17
3.1 Overview of the proposed system.....	17
3.2 Functional requirement.....	17
3.3 Non-functional requirement.....	17
3.5 System model .....	18
3.5.1 Scenarios.....	18
3.5.2 Use Case Model.....	25
3.6 Object model.....	34
3.6.1 Data dictionary.....	34
3.6.2 Class diagram .....	35
3.7 Dynamic model .....	36
3.7.1 Sequence diagram .....	36
3.7.2 Activity diagram.....	40
3.7.3 State diagram.....	44

### List of Tables

TABLE 1. 1 TEAM COMPOSITION AND ROLE .....	11
TABLE 1. 2 PROJECT PLAN-TASK SCHEDULE .....	12
TABLE 2. 1 SAMPLE STUDENT MARK SHEET.....	14
TABLE 3. 1 USE CASE DESCRIPTION FOR LOGIN .....	28
TABLE 3. 2 USE CASE DESCRIPTION FOR REGISTRATION.....	29
TABLE 3. 3USE CASE DESCRIPTION FOR UPDATE SCHOOL MEMBER .....	29
TABLE 3. 4USE CASE DESCRIPTION FOR FEE PAYMENT .....	30
TABLE 3. 5 USE CASE DESCRIPTION TAKE ATTENDANCE .....	30
TABLE 3. 6USE CASE DESCRIPTION FOR SUBMIT MARK .....	31
TABLE 3. 7USE CASE DESCRIPTION CALCULATE STUDENT RESULT.....	31
TABLE 3. 8 USE CASE DESCRIPTION FOR VIEW PAYMENT REPORT.....	32
TABLE 3. 10 USE CASE FOR PREPARE SCHEDULE.....	33
TABLE 3. 11 USE CASE DESCRIPTION FOR SEARCH.....	33
TABLE 3. 12 DATA DICTIONARY .....	34

## List of Figures

FIGURE 3. 1 USE CASE DIAGRAM.....	ERROR! BOOKMARK NOT DEFINED.
FIGURE 3.2 CLASS DIAGRAM.....	ERROR! BOOKMARK NOT DEFINED.
FIGURE 3. 3 SEQUENCE DIAGRAM FOR LOGIN.....	ERROR! BOOKMARK NOT DEFINED.
FIGURE 3. 4 SEQUENCE DIAGRAM FOR TAKE ATTENDANCE.....	ERROR! BOOKMARK NOT DEFINED.
FIGURE 3. 5 SEQUENCE DIAGRAM FOR SUBMIT MARK.....	ERROR! BOOKMARK NOT DEFINED.
FIGURE 3. 6 SEQUENCE DIAGRAM FOR FEE PAYMENT.....	ERROR! BOOKMARK NOT DEFINED.
FIGURE 3. 7 SEQUENCE DIAGRAM FOR UPDATE.....	ERROR! BOOKMARK NOT DEFINED.
FIGURE 3. 8SEQUENCE DIAGRAM FOR REGISTRATION.....	ERROR! BOOKMARK NOT DEFINED.
FIGURE 3. 9 SEQUENCE DIAGRAM FOR CALCULATE MARK .....	ERROR! BOOKMARK NOT DEFINED.
FIGURE 3.10 SEQUENCE DIAGRAM FOR SEARCH.....	ERROR! BOOKMARK NOT DEFINED.
FIGURE 3. 11ACTIVITY DIAGRAM FOR ATTENDANCE.....	ERROR! BOOKMARK NOT DEFINED.
FIGURE 3. 12 ACTIVITY DIAGRAM FOR PAYMENT .....	ERROR! BOOKMARK NOT DEFINED.
FIGURE 3. 13 ACTIVITY DIAGRAM FOR SCHEDULE.....	ERROR! BOOKMARK NOT DEFINED.
FIGURE 3. 14ACTIVITY DIAGRAM FOR REGISTRATION .....	ERROR! BOOKMARK NOT DEFINED.
FIGURE 3. 15 ACTIVITY DIAGRAM FOR SUBMIT MARK .....	ERROR! BOOKMARK NOT DEFINED.
FIGURE 3. 16 ACTIVITY DIAGRAM FOR CALCULATE MARK .....	ERROR! BOOKMARK NOT DEFINED.
FIGURE 3. 17 ACTIVITY DIAGRAM FOR SEARCH.....	ERROR! BOOKMARK NOT DEFINED.
FIGURE 3. 18 ACTIVITY DIAGRAM FOR LOGIN.....	ERROR! BOOKMARK NOT DEFINED.
FIGURE 3. 19 STATE DIAGRAM FOR ATTENDANCE.....	ERROR! BOOKMARK NOT DEFINED.
FIGURE 3. 20 STATE DIAGRAM FOR CALCULATE MARK.....	ERROR! BOOKMARK NOT DEFINED.
FIGURE 3. 21 STATE DIAGRAM FOR LOGIN .....	ERROR! BOOKMARK NOT DEFINED.
FIGURE 3. 22 STATE DIAGRAM REGISTRATION .....	ERROR! BOOKMARK NOT DEFINED.
FIGURE 3. 23 STATE DIAGRAM FOR PAYMENT.....	ERROR! BOOKMARK NOT DEFINED.
FIGURE 3. 24 STATE DIAGRAM FOR SCHEDULE.....	ERROR! BOOKMARK NOT DEFINED.
FIGURE 3. 25 STATE DIAGRAM FOR SEARCH.....	ERROR! BOOKMARK NOT DEFINED.
FIGURE 3. 26 STATE DIAGRAM FOR SUBMIT MARK.....	ERROR! BOOKMARK NOT DEFINED.
FIGURE 3. 27 STATE DIAGRAM FOR UPDATE.....	ERROR! BOOKMARK NOT DEFINED.

### Definition

**System:**-project under design or project under development.

**Current system-** the exisisting manual system of Nafyad School.

**Proposed system-**the software we are going to develop.

**Grade-**In our sense grade means the total mark of each subject and average of all subjects.



## CHAPTER ONE

### 1.1 Introduction

This software is about “School Management System for Nafyad School”. These software gives many facilities to user to manage all administrative works of a school such as student management, staff management, fee Information and Scheduling etc. It also gives facility to prepare Mark sheet of a student. The School Management System will replace the paper-based data collection and information exchange system among the various branches of a particular school.

### 1.2 Background

#### 1.2.1 Background of the organization

Nafyad School is one of the private schools which established in the year 1993 in Adama Franko. Now, it has able to reach into eight branches at different locations, and reaching out to a vast community with good educational services. Each branch has KG, Grade 1-4, 4-8, high school, and preparatory school. The school is creating job opportunities for many peoples. Over 600 people are now working with the organization at its all branches.

The school has also been extending partial or total scholarships to students who are disabled, HIV-victims, orphans, for family who cannot afford to pay fees and those students who are academically outstanding in the school. The recent statics shows that the students have been performing quite well in academics and also registering a remarkable result in the national exams.

#### 1.2.2 Background of study

School Management System (SMS) consists of tasks such as registering students, attendance record keeping to control absentees, producing report cards, producing official transcript, preparing timetable and producing different reports.

School management system help schools to handle a large database system which manage school administration, finance and school member. It allows users to store and manage all schools information effectively. It is multi-user system which includes different type of user with different level of access to system.

### 1.3 Statements of problem

- The current manual system follows the traditional approach of delivering the information. The registration, attendance, student details, staff details and other details are either verbally told to the concerned persons or by hand-made reports on paper and lot of work has to be done in absence of computerized system.

The retrieval of information is very slow and time consuming and the processed information may not be 100% accurate, as with the case of computers.

### **1.4 Purpose of the project**

The purposes of this project are

- Changing school management activities to computerized system.
- Store school information in reliable database so that they can be accessed by users easily

### **1.5 Objective of the project**

#### **1.5.1 General objective**

The general objective of the project is to automate web-based SMS software to Nafyad School which uses a local area network

#### **1.5.2 Specific objective**

In order to attain the general objective, we set the following list of specific objectives:

- ✓ To develop registration system
- ✓ To facilitate attendance record keeping
- ✓ To facilitate various report generation
- ✓ To allow teachers view reports on students
- ✓ To produce a timetable
- ✓ To develop fee payment method

### **1.6 Feasibility**

#### **1.6.1 Technical feasibility**

The resources and technologies needed for the development our system are available. We will develop our proposed system using php, html, css, JavaScript, other tools (like Xamp server, MySQL) and the hardware resources (computers).

All the resources needed for the development of the system as well as the maintenance is available on the internet that is free and open source software.

We are utilizing the resources which are already available. Also we have a team with the basic understanding of system development life cycle.

So, our system is technically sound.

#### **1.6.2 Operational feasibility**

The proposed system has definitely a positive impact on user's activity. It is good solution for problems occur in the existing manual system.

The new system has ability to handle a large data accurately, minimize the time for registration, searching data, calculating grade and generating report. Based on these points our proposed system is operational feasible.

### 1.6.3 Economical feasibility

- ❖ The cost for proposed School Management System is outweighing the cost and efforts involved in maintaining the registers, books, files and generation of various reports.
- ❖ The proposed system uses software and hardware tools that are available by low cost.
- ❖ The system also reduces the administrative and technical staff to do various jobs that single software can do. It can be analyzed that the cost of proposed system is much less than the benefits that can be derived from it. So we can accept it to be economically feasible.

## 1.7 Scope and Limitation

### 1.7.1 Scope

The scope includes:-

- Registration of school members and keep their record in database
- Student grading system, Student Fee system, Attendance system

### 1.7.2 Limitation

- Since it is local area network (LAN) only work on limited specific area.
- All school members can't use the software.

## 1.8 Methodology

Our method of developing the software project starts with gathering information about the school by interviewing director, teachers and students.

We also saw many documents and forms like attendance paper, registration slip, roster etc. After that we analyze their problems and come up with an idea to develop web-based software using Agile software model (combination of iterative and incremental model) since we are working as group in face-to-face conversation.

## 1.9 Significance of the project

By the time this software is implemented the school will have the following benefits.

- It provide well performed student management system among schools that will save the interrupted working methodology of old school management system.
- Reduce time loss in every management activity of the school.
- It decrease the auditing problems, there were in the old paper system.
- It increase the monitoring of every member of staff from low level school members(guards) up to high level school officials(supervisors & director).

### 1.10 Team composition


	NAME	ID NO	ROLL IN TEAM
1	Yonas Tatek	A/UR4648/09	Data collection/Designing/Analysis/Implementation and Programming/Testing/Coordinator
2	Mihratu Tamiru	A/UR4727/09	Data collection/Designing/Analysis/Implementation/Testing and Programming
3	Wondim Dejene	A/UR4122/09	Data collection/Designing/Analysis/Implementation and Programming
4	Mekuanent Molla	A/UR3939/09	Data collection/Designing/Analysis/Implementation and Programming
5	Henok Wbegizer	R/0631/08	Data collection/Designing/Analysis/Implementation and Programming


TABLE 1. 1TEAM COMPOSITION AND ROLE

### 1.11 Development tools


➤ **Hardware:** Laptop or desktop, Flash drive, Network cable


➤ **Software:-**

➤  **HTML** for developing structure of our web.

➤  **CSS** - CSS for giving style of our web

E.g. given text color, font, size and background colour.

➤  **JavaScript** to give functionality for our web

➤  **-Xampp** (including PHP ,Apache and MYSQL)PHP making connection between database(which is created by MYSQL)and web page



- **-Sublime text** for typing our code.
- **web browser**(chrome, Firefox)
- **Enterprise architectt** is a visual modeling and design tool.

## 1.12 Task and Schedule

	Phase	Duration
1	Requirement gathering and Analysis	Four weeks
2	Design	Three weeks
3	Implementation	Three weeks
4	Tasting	Two weeks
5	Maintenance	One week

TABLE 1. 2PROJECT PLAN-TASK SCHEDULE

## CHAPTER 2

### Description of the current system

#### 2.1 INTRODUCTION

At the beginning of each academic year which starts in September (Ethiopian New Year), the students get registered and assigned rooms. Each class (section) of students is assigned to a fixed room. Home room teachers are assigned to each class of students.

There are two semesters per year. Consequently the results of each class of students is collected, organized, ranked by the corresponding home room teacher and reported to each student. The homeroom teacher also records attendance of each student on each school day which is later organized by the attendance officer. A student who has been absent for more than twenty days is not allowed to take a semester final examination and will be forced to withdraw.

Transcripts are generated by the record officer. A student may request transcript when he/she wants to transfer to other school or when he/she has completed/graduated from the school and needs to join higher education or for some other purpose.

#### 2.2. Major function of the current system

The current manual system follows the traditional approach of delivering the information i.e. all paper work. The Registration, Student details, Staff details and other details are either verbally told to the concerned persons or by hand-made reports on paper and lot of work has to be done in absence of computerized system. The major function of the current system of Nafyad School is:

- **Keeping Student information record**
  - ✓ Every student record is kept in record office in shelf.
  - ✓ The record office kept every student profile (full information about the student, documents, rank of every semester, about their family...etc) in a documented paper.
- **Keeping Teachers and Employees information record**
  - ✓ Similar to student recording teachers and other employee's record (detailed information including their qualification document) is kept in record office.
- **Grading [Student result]**
  - ✓ Student results are compiled by each teacher according to the courses he or she handles by calculating each student's test and exam results.
  - ✓ For every student the teacher calculates the total mark. Then he/she submit to home room teacher.
  - ✓ The Home room teacher collect all subject's mark for each student from the subject teachers and he/she calculate total sum, rank as well average of the students.
  - ✓ After that is done the teachers rank the total mark in ascending order and submit each of student grades to the record office and to the student at the end of the year.

## 2.2.1 The Timetabling

School timetabling is a major administrative activity in any school. A number of subjects taught by the corresponding teachers are allocated into a number of available classrooms and a number of timeslots, subject to constraints.

The school timetabling is a weekly scheduling for all the classes of a school, avoiding teachers meeting two classes at the same time, and vice versa. This means that an event may be placed in the timetable only in such a way that it does not violate constraints.

### 2.1.1 Forms used in the current system

- Roster
  - ✓ contain student all total mark
- Student Attendance –
  - ✓ used to keep daily student activity
- Employee Attendance
  - ✓ used to keep daily workers attendance.
- Student mark sheet
  - ✓ used to record student marks.
  - ✓ It contain student full name, class, sex, age, mark

No	Name of student	sex	Age	10%	10%	20%	10%	10%	60%	40%	100%
1	Amanuel Alemu Telila	M	15	9	5	18	7	10	49	30	79
2	Adil Shemsu Hassen	M	14	7	7	15	6	9	44	25	69
3	Hinas Melaku Fikre	F	13	8	8	13	9	9	47	29	76
4	Kaleb Mebratu Ayalew	M	14	10	7	12	9	8	46	33	79
5	Mekdes Solomon Tefre	F	14	10	9	19	9	10	57	37	94
6	Meron Abera Tadese	F	13	9	7	13	8	8	45	35	80
7	Mikiyas Mideksa Jaano	M	15	3	6	16	9	9	47	34	81
8	Tamirat Solomon Asafa	M	16	6	10	20	8	10	54	36	90

TABLE 2. 1 SAMPLE STUDENT MARK SHEET

## 2.2 User of the current system

The main actors which are involved in the current school management system are:

### ● Student

- ✓ Register and
- ✓ pay fee (monthly payment)
- ✓ At the end of each semester they see their marks.

### ● Teacher

- ✓ Take assessment and record on mark sheet paper.
- ✓ Submit total mark of each student to home room teacher

### ● Home room Teacher

- ✓ Take daily student attendance

- ✓ Calculate total mark, average and rank and then prepare roster.

- **Vice-director**

- ✓ Controls all teacher and teaching activity.
- ✓ Works on Academics.
- ✓ Control teacher's daily activity.

- **Cashier**

- ✓ Collect fee from student.
- ✓ Pay money

- **Administrators**

- ✓ Works on general activity of the school other than academics.
- ✓ Control personals and other workers

- **Director**

- ✓ Control every activity of the school.
- ✓ Head of the school.

### 2.3 problems (Drawback) of the current system

- Problems we observed during our requirement gathering and questioning are that the way of handle, manage, conduct files and documents are unorganized and time consuming.
- The way of recording profile of the students, academic stuff workers, register students, conduct students monthly school fee, manage student attendance and record students grade are manual.
- The main drawback of the current system are:
  - Since it is manual, registering students needs a lot of effort.
  - Result a lot of error in reporting and gathering student information.
  - Time wastage when searching student or stuff members profile.
  - Lack of data accessibility on student record.
  - Since most of these works are done by paper there is a chance of losing these documents due to several reasons.
  - Difficult to generate report card of student and attendance sheet.
  - Inefficiency during student monthly fee payment.
  - Does not allow simultaneous access of many users on certain information of students and other members of the academic stuff.
- As we noticed the main drawback of the current manual system is the lack of retrieval of fast and accurate information.
- The consumption of time is another major disadvantage as it finally results in loss of money, which is a vital resource. So to overcome or solve these problems the software that we come-up with is going to improve the mechanism on which these works are done.



### **2.4 Business rule of the current system.**

1. The student must register.
2. The student must pay monthly fee.
3. Students who have had not got pass mark are forced to continue that grade.
4. They should have to attend class regularly.
5. All school members must attend daily.

### **2.5 Software process model**

In our software project we use agile software model because it's very realistic, promotes team working, resource requirement are minimum, documentation easily employed and easy to manage.

## CHAPTER THREE

### Proposed System

#### 3.1 Overview of the proposed system

The proposed system supports the existing system very efficiently and able to solve the problems occurred in the existing system.

This system will maintain all the information properly and overcome the limitations of the existing system with following important features:

- Providing a strong administration over whole system
- Safe and sophisticated system of record keeping
- Compatible to utilize available resources to the optimum level
- Capable to retrieve information from database within short time.
- Capable to keep proper information about staff, student, time table and, fee.
- Capable to check whether the input data is valid or not.
- Provide facility to print reports.

#### 3.2 Functional requirement

- ❖ **Register student and employees**
  - Interface for new and existing students, teachers and employees registration.
- ❖ **Manage user account**
  - Create, update, edit and delete users.
- ❖ **Record attendance of student**
- ❖ **Compute Student mark**
  - The system calculates total marks of student after all marks for each subjects are submitted.
- ❖ **Grade submission**
  - The system provide interface for the teacher to submit students mark to home room teacher after he finish the assessment
- ❖ **Generate timetable**
  - The system will generate time table for every class after filling required information.
- ❖ **Prepare Roster**
- ❖ **Generate Report**

#### 3.3 Non-functional requirement

- ✓ The system should have consistent interface formats and button sets for all forms in the application.
- ✓ It should have a form based interface for all data entry and viewing formats.
- ✓ The system can generate reports that are formatted in a table and that should look like the existing manual report formats for user friendliness.
- ✓ Security requirements are important factors in this system as classified data will be stored in the database.

- ✓ User validation will be done during login to insure that the user is valid and that the user only has access to his or her permission data.
- ✓ General users will only have access through the user interface.
- ✓ The system will be easily maintained by the developer or other authorized trained person.
- ✓ The system shall respond as fast as possible in generating report and producing the timetable.
- ❖ Our system must consider the following non functional requirements:
  - **Security**
    - The system we are going to develop uses local area network which is free from vulnerable internet based attack.
    - Not accessed by un-authorized user:-each user have its own unique user name and password.
    - All authorized user have different access.
  - **Availability**
    - The system we are going to develop is available at every time for who is in school system.
    - Our system does not stop giving service except electric power is lost and system problem has been occurred.
  - **Compatibility**
    - The system we are going to develop is web based so; it is compatible with any operating system using any browser.
  - **User interface**
    - The interface of our proposed system is simple to use.
    - In the login window the user can easily entered the desired password and login name. Then it will give the successfully login message or error message and allow them to try again if either username or password or both of them is not correct.
    - From each and every window or page the user can easily go to any desired window. That is there will be an absolute and relative linking.
    - The design or layout of every form will be very clear.
  - **Usability**
    - Since our software have instruction how to use it ,so it can be easily understand by its users.

### 3.5 System model

#### 3.5.1 Scenarios

**Scenario: 1**

**Name of use case:** Login

**Participating instance actor:** All users

**Entry condition:**

- Local network connection (LAN) must be available.
- They have to enter to school website.

- The user must be legal employee of school and must have available user name and password.

**Flow of events:**

- User put username and password in login page and push login button
- User login into the system

**Alternative conditions:**

- If user fills unavailable password or username in the login page the system will display incorrect input and prevent user from entering in to system.

**Exit Condition:** the user logout from system.

**Scenario: 2**

**Name of use case:** Register

**Participating instance actor:** administrative office

**Entry condition:**

- Local network connection (LAN) must be available.
- They have to enter to school website.
- The user must be legal employee of school and must have available user name and password.

**Flow of events:**

- User put username and password in login page and push login button
- User login into the system
- System will display registration page.
- User click on register and select type of member (student, teacher or other employees) and input member information on register form page and submit.

**Alternative conditions:**

- If user fills unavailable password or username in the login page the system will display incorrect input and prevent from user entering to system.
- If input in register form page are incorrect the system display incorrect input.
- If member already register it will display the member already register.

**Exit Condition:**

- The user logout from system.
- The user can exit registration form page and navigate to home page of registration page.

**Special requirement:**

- Local area network must available.

### **Scenario: 3**

**Name of use case:** Update

**Participating instance actor:** administrative office

#### **Entry condition:**

- Local network connection (LAN) must be available.
- They have to enter to school website.
- The user must be legal employee of school and must have available user name and password.

#### **Flow of events:**

- User put username and password in login page and push login button
- User login into the system
- System will display registration page.
- User search school member and select any member and click 'update' button and can edit members information listed on page.
- After finished editing click 'OK' button to save changes or 'Cancel' button to cancel updating the information.

#### **Alternative conditions:**

- If user fills unavailable password or username in the login page the system will display incorrect input and prevent user from entering to the system.

#### **Exit Condition:**

- The user logout from system.
- The user can exit update page and navigate to home page of registration page.

#### **Special requirement:**

Local area network must available

### **Scenario: 4**

**Name of use case:** Fee Payment

**Participating instance actor:** administrative office

#### **Entry condition:**

- Local network connection (LAN) must be available.
- They have to enter to school website.

- The user must be legal employee of school and must have available user name and password.

### **Flow of events:**

- User put username and password in login page and push login button
- User login into the system
- System will display Cashier page.
- User search student and select any student and mark their payment status(click 'fee payee' button to approve that student pay his/her fee).
- After finishing click 'OK' button to save changes or 'Cancel' button to cancel the approval.

### **Alternative conditions:**

- If user fills unavailable password or username in the login page the system will display incorrect input and prevent user from entering to the system.
- If the student already payee show that student already payee his/her fee.

### **Exit Condition:**

- The user logout from system.
- The user can exit update page and navigate to home page of Cashier page.

**Special requirement:** Local area network must available.

### **Scenario: 5**

**Name of use case:** Student Attendance

**Participating instance actor:** Home Room Teacher

### **Entry condition:**

- Local network connection (LAN) must be available.
- They have to enter to school website.
- The user must be legal employee of school and must have available user name and password.

### **Flow of events:**

- User put username and password in login page and push login button
- User login into the system
- System will display Teacher page.
- Teacher will click 'Attendance' button and attendance page will displayed and user point to student who are absent
- After finishing filling attendance from click 'Ok' button to save changes or 'Cancel' button to cancel on attendance page

**Alternative conditions:**

- If users fill unavailable password or username in the login page the system will display incorrect input and prevent from user entering to system.

**Exit Condition:**

- The user logout from system.
- The user can exit attendance page and navigate to home page of Teacher page.

**Special requirement:**

- Local area network must available.

**Scenario-6**

**Name of use case:** Submit mark

**Participating instance actor:** Academic employee

**Entry condition:**

- Local network connection (LAN) must be available.
- They have to enter to school website.
- The user must be legal employee of school and must have user name and password.

**Flows of event:**

- The teacher enters user name and password then click login button to login in to the system.
- The system will display Teacher page.
- Click mark button.
- Select Class, Section and Subject.
- The teacher enters the mark for each student.
- Finally he click submit button to finish.

**Alternate condition:**

- If users fill unavailable password or username in the login page the system will display incorrect input and prevent user from entering to system.

**Exit Condition:**

- The user logout from system.
- The user can exit the page and navigate to home page.

**Scenario-7**

**Name of use case:** Calculate student result

**Participating instance actor:** Home room teacher

**Entry condition:**

- Local network connection (LAN) must be available.
- They have to enter to school website.
- The user must be legal employee of school and must have user name and password.

**Flows of event:**

- The teacher enters user name and password then click login button to login in to the system.
- The home room teacher page displayed.
- Click mark button.
- Select Class and Section.
- The system can display student list and their marks
- Click calculate mark button
- The system calculates the total and average of each student and gives rank based on their average mark.

**Alternate condition:**

- If user fills unavailable password or username in the login page the system will display incorrect input and prevent user from entering to the system.

**Exit Condition:**

- The user logout from system.
- The user can exit attendance age and navigate to home page of Teacher page.

**Scenario-8**

**Name of use case:** View Report

**Participating instance actor:** Administrative office and Director

**Entry condition:**

- Local network connection (LAN) must be available.
- They have to enter to school website.
- The user must be legal employee of school and must have user name and password.

**Flows of event:**

- The user enters user name and password to login in to the system.
- User login into the system.
- User page displayed.
- Click Report button.
- Select student payment.
- The system displays the page that shows which student pay monthly fee and which not.

**Alternate condition:**



- If users fill unavailable password or username in the login page the system will display incorrect input and prevent user from entering to system.

**Exit Condition:**

- The user logout from system.
- The user can exit from the page and navigate to home page.

**Scenario: 9**

**Name of use case:** View employee Information

**Participating instance actor:** Administrative office and Director

**Entry condition:**

- Local network connection (LAN) must be available.
- They have to enter to school website.
- The user must be legal employee of school and must have user name and password.

**Flow of events:**

- The user has to insert user name and password and click the login button.
- Select Employee Information from the menu.
- Type for specific employee in the search bar and click search button.
- Full information of the employee will be displayed.

**Alternate condition:**

- If user fills the form incorrectly then the system will generate an error message.

**Exit condition:**

- The user logout from system.
- The user can exit from the page and navigate to home page.

**Scenario: 10**

**Name of use case:** search school members

**Participating instance actor:** Administrative office and Academic employee

**Entry condition:**

- Local network connection (LAN) must be available.
- They have to enter to school website.
- The user must be legal employee of school and must have available user name and password.

**Flow of events:**

- The user has to insert user name and password and click the login button.
- Click on the search bar.

- Type a specific person by providing valid name and click search button.
- View members profile and current status.

**Alternate conditions:** The search scope is limited to the user.

### Scenario: 11

**Name of use case:**Generate time table

**Participating instance actor:** Vice director

**Entry condition:**

- Local network connection (LAN) must be available.
- They have to enter to school website.
- The user must be legal employee of school and must have available user name and password.

**Flow of events:**

- The user has to insert user name and password and click the login button.
- Click schedule button on the menu.
- List of schedules displayed.
- Click on create schedule.
- Save and exit the page.

**Alternate condition:**

- Error message will appear when there is duplicate input.

**Exit condition:**

- The system saves all changes made to the schedule and lives the page

### 3.5.2 Use Case Model

**Actor identification**

**Actor 1:**

Home room teacher

**Description:**Home room teacher is academic professional which teaches student in class and he is responsible for one class.

**Role:**

- submit student mark
- calculate student mark
- Making roaster(Grade report)
- Taking student attendance

- View student information

### **Actor 2:**

Academic employee

**Description:** Academic employees are employee whose job is concerning about school learning and teaching process.

### **Role:**

- Taking student attendance
- View student information
- Submit student mark

### **Actor 3:**

Administrative office

**Description:** Administrative office is office which controls school financial and administration.

### **Role:**

- Making report in number students who paid their fee.
- Controls student fee payment
- Register school members
- Updating member information.

### **Actor 4:**

Administrative head

**Description:** Administrative head is head of Finance and Administrative which job is control overall finance and administration of school.

### **Role:**

- View report of registration member in school.
- View report of fee status of student.

### **Actor 5: Director**

**Description:** Director is head of School (Academic and Finance and Administrative level) which job is control overall finance and administration of school.

### **Role:**

- View all school member information
- View the overall Academic and (Finance and Administrative) history.

## Use case identification:

- Login
- Register school member
- Update school member
- Pay fee
- Take attendance
- Submit mark
- Calculate student result
- View Report
- Generate time table
- View employee information
- Search

## Use case diagram

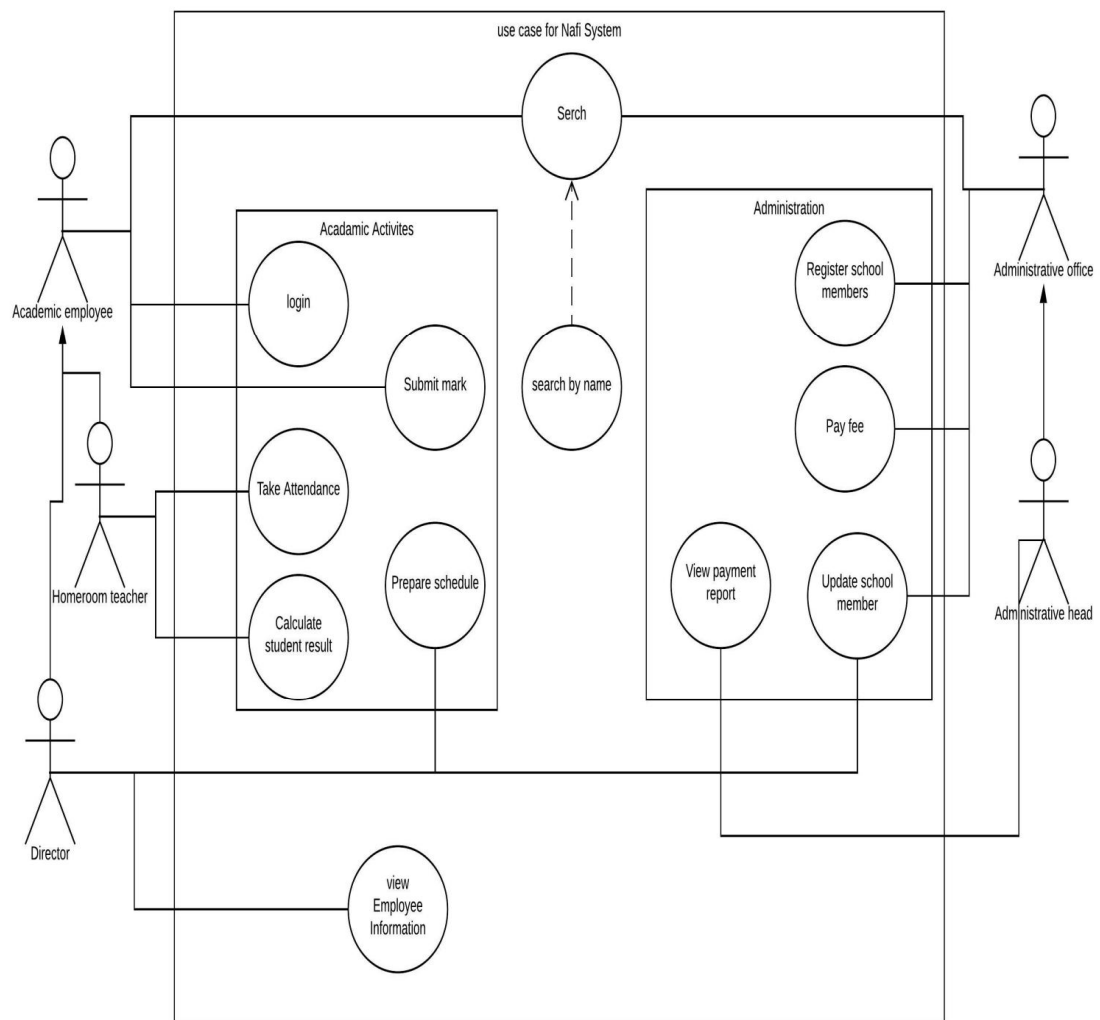


Figure 3. 1 use case diagram

## Use case description

<b>Use case ID</b>	<b>1</b>
<b>Use case name</b>	Login
<b>Actors</b>	School Academic Professional employee( teacher and vice director) ,Financial Administrative Employee(Administrative head, Cashier, Registrar) and Director
<b>Description</b>	User login to system using his/her own username and password
<b>Precondition</b>	1. The user must be legal employee of school and must have available user name and password.
<b>Post-condition</b>	1. Username and password of user are stored in the database.
<b>Normal flow</b>	<ol style="list-style-type: none"> <li>1. The user enters username and password.</li> <li>2. The user submits username and password.</li> <li>3. The system validates the username and password.</li> <li>4. The system displays the user's home page.</li> </ol>
<b>Exception</b>	<p>3a Missing username and password</p> <ol style="list-style-type: none"> <li>1. The system prompts for username and password.</li> <li>2. Use case resumes at main flow step 1.</li> </ol> <p>4a Invalid username and password</p> <ol style="list-style-type: none"> <li>1. The system displays "invalid username or password"</li> <li>2. The system prompts for username and password.</li> <li>3. Use case resumes at main flow step 1.</li> </ol>

TABLE 3. 1 USE CASE DESCRIPTION FOR LOGIN

<b>Use case ID</b>	<b>2</b>
<b>Use case name</b>	Register school members
<b>Actors</b>	Administrative office
<b>Description</b>	Register new member of school as well as
<b>Precondition</b>	<ol style="list-style-type: none"> <li>1. A student has to be eligible (has to be from the pre-specified junior schools that the school will accept).</li> <li>2. An employees are to be legal employee of the school.</li> </ol>
<b>Post condition</b>	1. The system saves the registered data in the database.
<b>Normal flow</b>	<ol style="list-style-type: none"> <li>1. The user select registration page.</li> <li>2. The system display registration page.</li> </ol>

## SCHOOL MANAGEMENT SYSTEM FOR NAFYAD SCHOOL

	<p>3. The user fills the required form.</p> <p>4. The user submits the form.</p> <p>5. The system validates the registration form.</p> <p>4. The system saves the form in the database.</p>
<b>Exception</b>	<p>5a Invalid inputs</p> <p>1. If the user enters incorrect inputs the system prompts to enter again.</p> <p>2. If member already register “already register” message displayed.</p> <p>3. Use case resumes at main flow step 1.</p>

TABLE 3. 2 USE CASE DESCRIPTION FOR REGISTRATION

<b>Use case ID</b>	<b>3</b>
<b>Use case name</b>	Update school member
<b>Actors</b>	Administrative office
<b>Description</b>	Update School member information.
<b>Precondition</b>	The user must be legal employee of school and must have available user name and password.
<b>Post-condition</b>	The updated information must be stored in school database.
<b>Normal flow</b>	<p>1. The user select registration page.</p> <p>2. The system display update page.</p> <p>3. The user search school member.</p> <p>4. The system displays the required page that will be updated.</p> <p>5. The user edits and updates the detail.</p> <p>6. The system will save the change.</p>
<b>Exception</b>	<p>3a Member not found</p> <p>1. If the member is not found the system, error message will be display.</p> <p>5a Invalid inputs</p> <p>1. If the user enters incorrect inputs the system prompts to enter again.</p> <p>2. Use case resumes at main flow step 1.</p>

TABLE 3. 3USE CASE DESCRIPTION FOR UPDATE SCHOOL MEMBER

## SCHOOL MANAGEMENT SYSTEM FOR NAFYAD SCHOOL

<b>Use case ID</b>	<b>4</b>
<b>Use case name</b>	Collect fee
<b>Actors</b>	Administrative office
<b>Description</b>	Recording students paying fee status
<b>Precondition</b>	The user must be legal employee of school and must have available user name and password.
<b>Post-condition</b>	The student who approved are listed in approved page
<b>Normal flow</b>	<ol style="list-style-type: none"> <li>1. The user selects payment page</li> <li>2. System will display payment page.</li> <li>3. The user searches the student.</li> <li>4. The system retrieves the student list.</li> <li>5. The user approves the student payment.</li> <li>6. The system will save the change.</li> <li>7. Use case ends.</li> </ol>
<b>Exception</b>	<p>5a Already paid</p> <ol style="list-style-type: none"> <li>1. If the students already paid the system will display already paid message.</li> <li>2. Use case ends.</li> </ol>

TABLE 3. 4USE CASE DESCRIPTION FOR FEE PAYMENT

<b>Use case ID</b>	<b>5</b>
<b>Use case name</b>	Take Attendance
<b>Actors</b>	Home Teacher
<b>Description</b>	Taking student attendance
<b>Precondition</b>	A home room teacher must login as the home room teacher of the class to record attendance.
<b>Post-condition</b>	1. The student who is absent will be in absent page.
<b>Normal flow</b>	<ol style="list-style-type: none"> <li>1. User login into the system.</li> <li>2. System will display attendance page.</li> <li>3. Home Teacher records absentees and submits.</li> <li>4. System acknowledges.</li> <li>5. Use case ends.</li> </ol>
<b>Exception</b>	<p>3a User is not a home room teacher of the class</p> <ol style="list-style-type: none"> <li>1. User can't record attendance for the required class of students</li> <li>2. Use case ends</li> </ol>

TABLE 3. 5 USE CASE DESCRIPTION TAKE ATTENDANCE

<b>Use case ID</b>	<b>6</b>
<b>Use case name</b>	Submit mark
<b>Actors</b>	Academic employees

<b>Description</b>	Used to keep student marks on the system at any time.
<b>Precondition</b>	1. User must have to navigate to the school website. 2. The user must logged in to the system
<b>Post-condition</b>	The system kept the submitted marks on a school database.
<b>Normal flow</b>	1. The teacher must logged in to the system.. 2. The system will display mark list page. 3. The user Select Class/Section/subject and enters the mark for each student. 4. The user submits the mark to respective user.

TABLE 3. 6USE CASE DESCRIPTION FOR SUBMIT MARK

<b>Use case ID</b>	7
<b>Use case name</b>	Calculate student result
<b>Actors</b>	Home room teacher
<b>Description</b>	-This is used to calculate all student mark easily.  -After each subjects mark is submitted, the system calculate total mark of every student.
<b>Precondition</b>	1. The user must log in to the system. 2. There must be submitted mark.
<b>Post-condition</b>	1. The system should calculate the total mark for each student when the calculate button is clicked. 2. The system stores everything in the database.
<b>Normal flow</b>	1. The user must log in to the system. 2. The system display calculate mark page. 3. The user enters Class/Section and Subject. 4. The system calculates the grade. 5. Use case ends.
<b>Exception</b>	4a No mark exists  1. If all subject mark is not submitted to the database the system does not calculate result. 2. Use case ends.

TABLE 3. 7USE CASE DESCRIPTION CALCULATE STUDENT RESULT

<b>Use case ID</b>	8
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<b>Use case name</b>	View payment report
<b>Actors</b>	Administrative head and director
<b>Description</b>	-The administrator and director can view which student pay or not monthly fee, the amount, the date, the cashier who collect fee.
<b>Precondition</b>	1. The cashier must prepare student payment report and submit to the system.  2. The Administrator and director have no privilege to edit/alter the student fee payment page.
<b>Post-condition</b>	-The system must show the report page to administrator and director.
<b>Normal flow</b>	1. The user must log in to the system.  2. The system will display user page.  3. The user select report button from menu.  4. The users select student fee payment report.  5. The system displays the fee payment page.  6. Use case ends.
<b>Exception</b>	5a No report  1. If the cashier cannot prepare the fee report the system can't display the report page to administrator or director.

TABLE 3. 8 USE CASE DESCRIPTION FOR VIEW PAYMENT REPORT

<b>Use case ID</b>	<b>9</b>
<b>Use case name</b>	view Employee Information
<b>Actors</b>	Director and administrative head
<b>Description</b>	Used to view profile and information of staff employees
<b>Precondition</b>	Profile of employees has to be uploaded
<b>Post-condition</b>	Display teachers detailed information.
<b>Normal flow</b>	1. The user has to insert user name and password and click the login button. 2. Select Employee Information from the menu. 3. Type for specific employee in the search bar and click search button. 4. Full information of the employee will be displayed.

## SCHOOL MANAGEMENT SYSTEM FOR NAFYAD SCHOOL

<b>Exception</b>	Error message will appear when unauthorized person tries to login and display Employees information.
------------------	--

Table 3. 9 Use case description for view Employee Information

<b>Use case ID</b>	<b>10</b>
<b>Use case name</b>	Prepare schedule
<b>Actors</b>	Director
<b>Description</b>	Used to create class schedule for all the class and view schedule
<b>Pr-condition</b>	The user must be legal employee of school and must have available user name and password.
<b>Post-condition</b>	Save the schedule in to the database.
<b>Normal flow</b>	<ol style="list-style-type: none"> <li>1. The user has to insert user name and password and click the login button.</li> <li>2. Click schedule button on the menu.</li> <li>3. List of schedules displayed.</li> <li>4. Click on create schedule.</li> <li>5. Save and exit the page.</li> <li>6. Use case ends.</li> </ol>

TABLE 3. 10 USE CASE FOR PREPARE SCHEDULE

<b>Use case ID</b>	<b>11</b>
<b>Use case name</b>	Search
<b>Actors</b>	Academic employee and Administrative office
<b>Description</b>	Used to search for a specific person profile (students, teachers ,other stuff employees)
<b>Normal flow</b>	<ol style="list-style-type: none"> <li>1. The user has to insert user name and password and click the login button.</li> <li>2. Click on the search bar.</li> <li>3. Search a specific person by its name.</li> <li>4. View its profile and current status.</li> <li>5. Use case ends.</li> </ol>
<b>Exception</b>	<p>3a Not found</p> <ol style="list-style-type: none"> <li>1. Error message will appear if valid name of the person is not provided in order to get the needed information.</li> </ol>

TABLE 3. 11 USE CASE DESCRIPTION FOR SEARCH

### 3.6 Object model

#### 3.6.1 Data dictionary

<b>class</b>	<b>Attribute</b>	<b>method</b>
Academic employee	name, age, sex, address, phone no.	Submit mark() ,search(), login()
Homer room teacher	name, age, sex, address, phone no.	Submit mark() ,search(), login(),take attendance(), calculate mark()
Director	name, age, sex, address, phone no.	Submit mark() ,search(), login(),view employee info()  Prepare schedule(),update school members()
Student	Id, name, age, sex, address, phone no.	Register(),pay fee(),search()
Administrative head	name, age, sex, address, phone no.	update school members(),  Pay fee(), Search(),Register()  View payment report(), search()
Administrative office	name, age, sex, address, phone no.	update school members(), search()  Pay fee(), Search(),Register(),
Student Mark	Subject name, date, result	Submit(),calculate mark()
schedule	Name, date	Prepare schedule()
payment	id ,date, fee status	Pay fee(),view payment report()
Other employee	name, age, sex, address, phone no.	Register()

TABLE 3. 12 DATA DICTIONARY

## 3.6.2 Class diagram

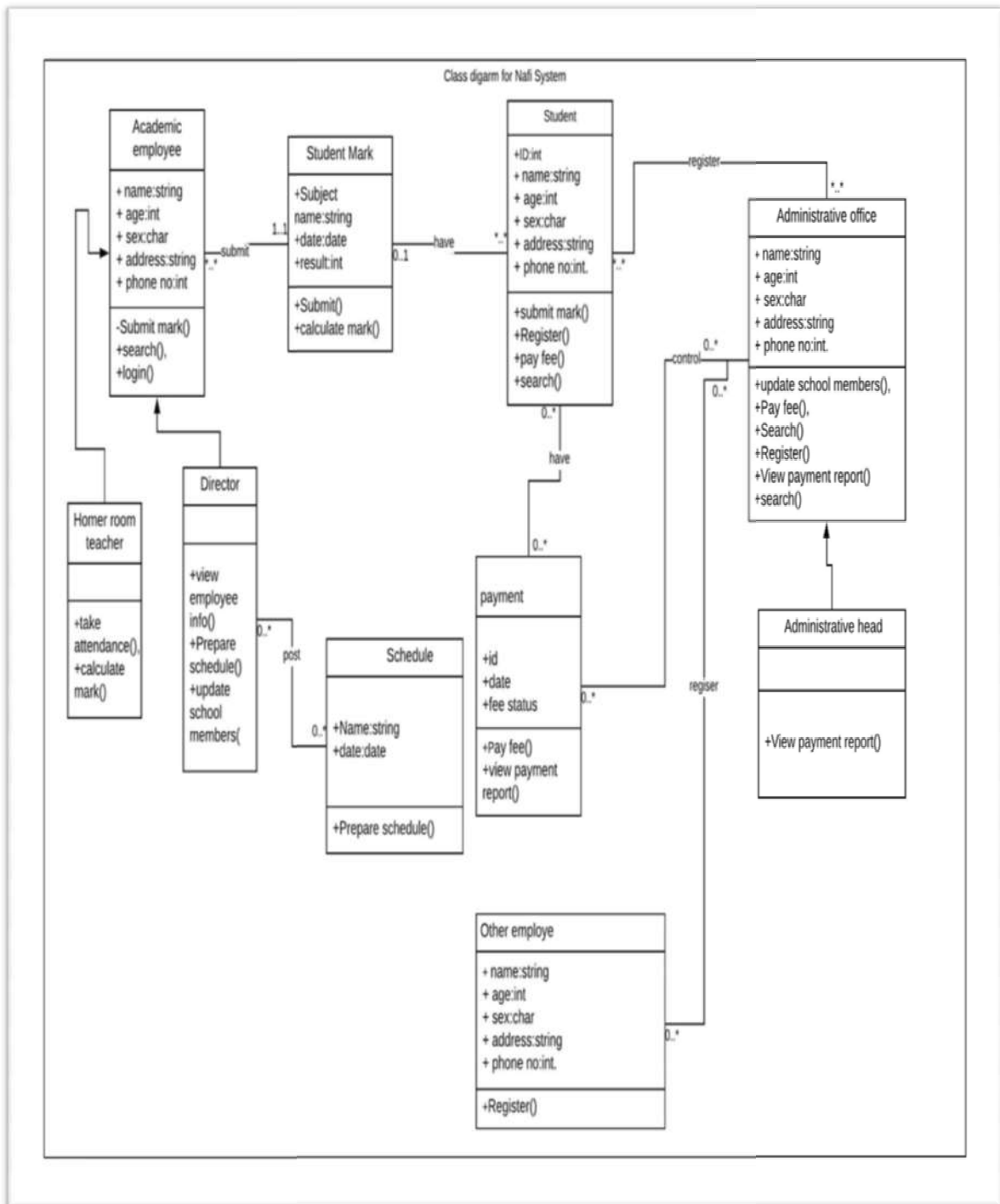


Figure 3.2 Class diagram

## 3.7 Dynamic model

### 3.7.1 Sequence diagram

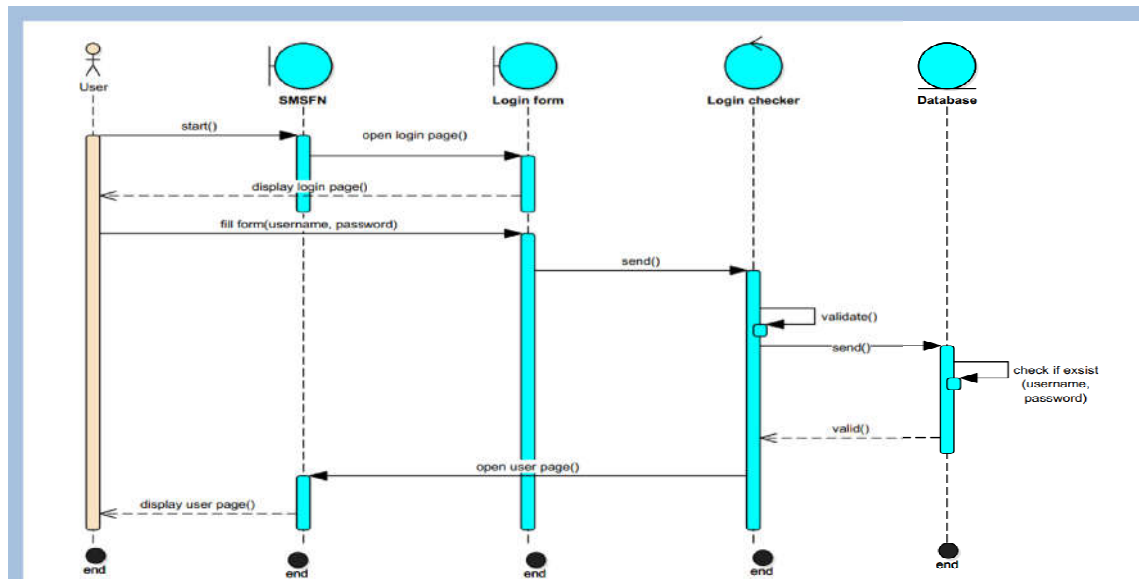


Figure 3. 3 sequence diagram for login

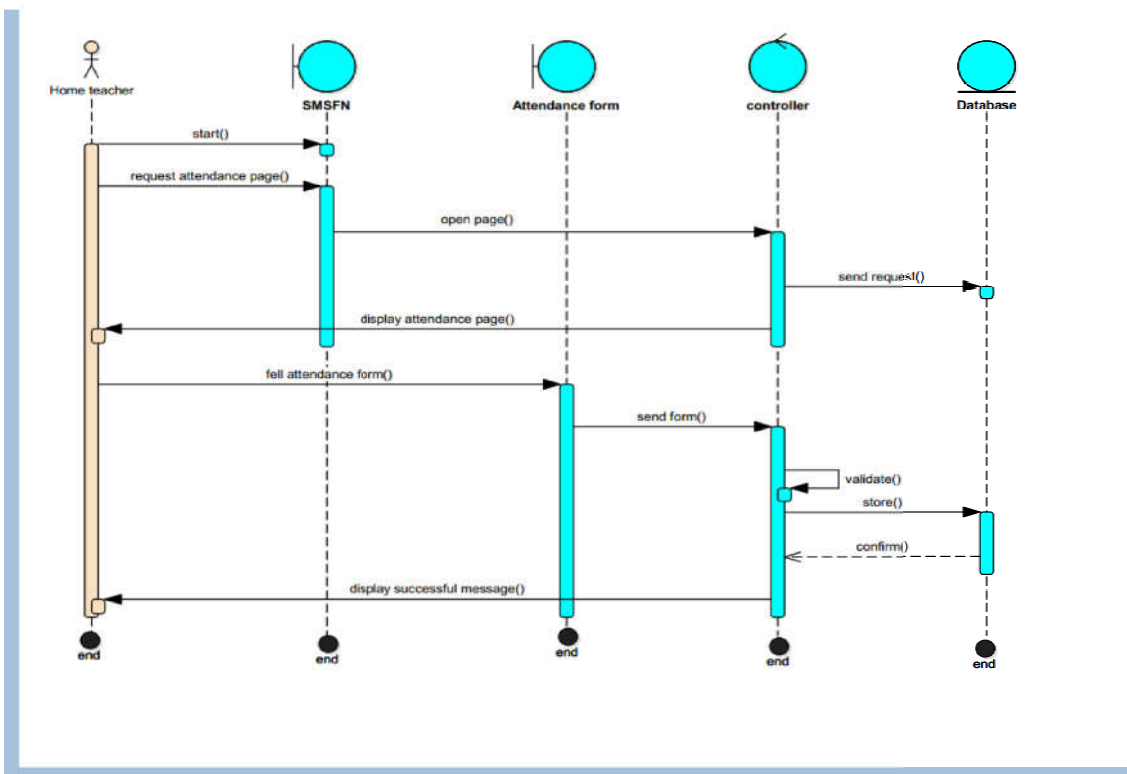


Figure 3. 4 sequence diagram for take attendance

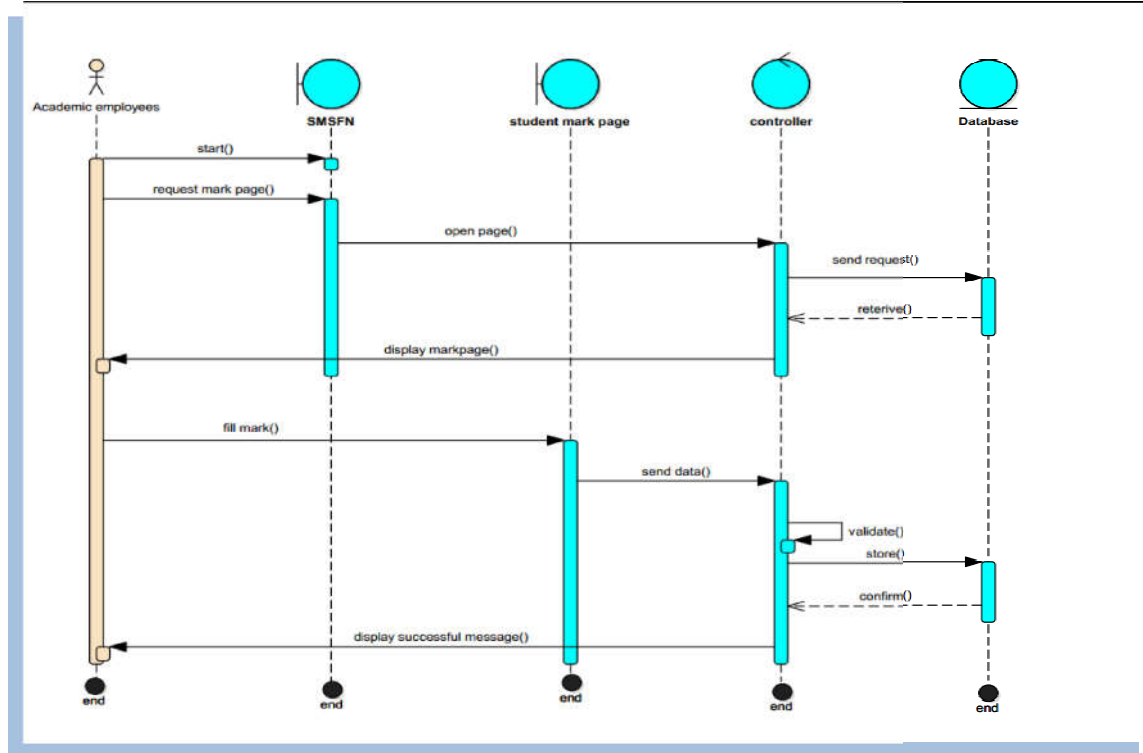


Figure 3. 5 sequence diagram for submit mark

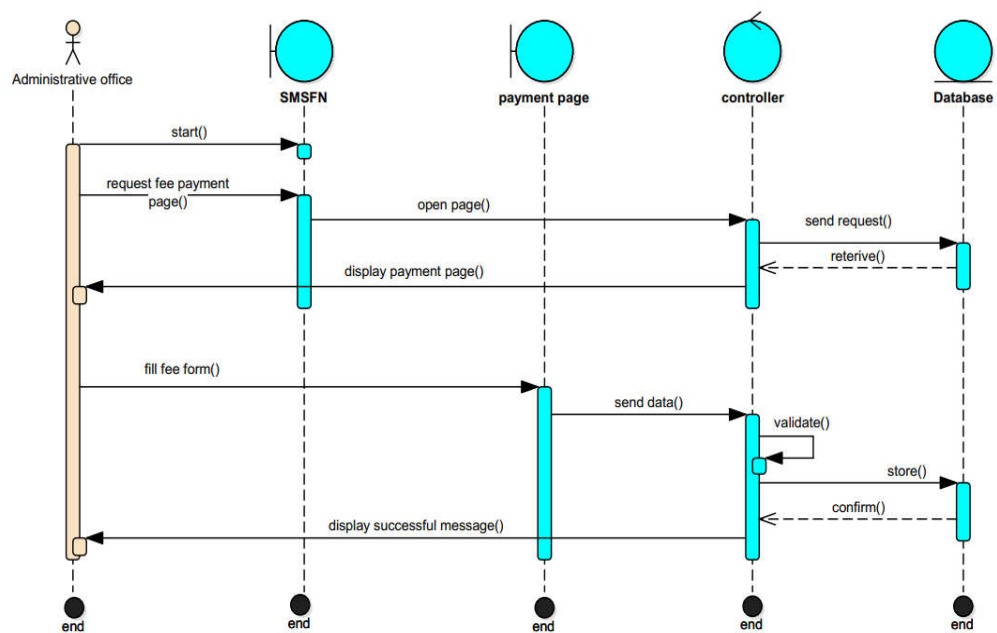


Figure 3. 6 sequence diagram for fee payment

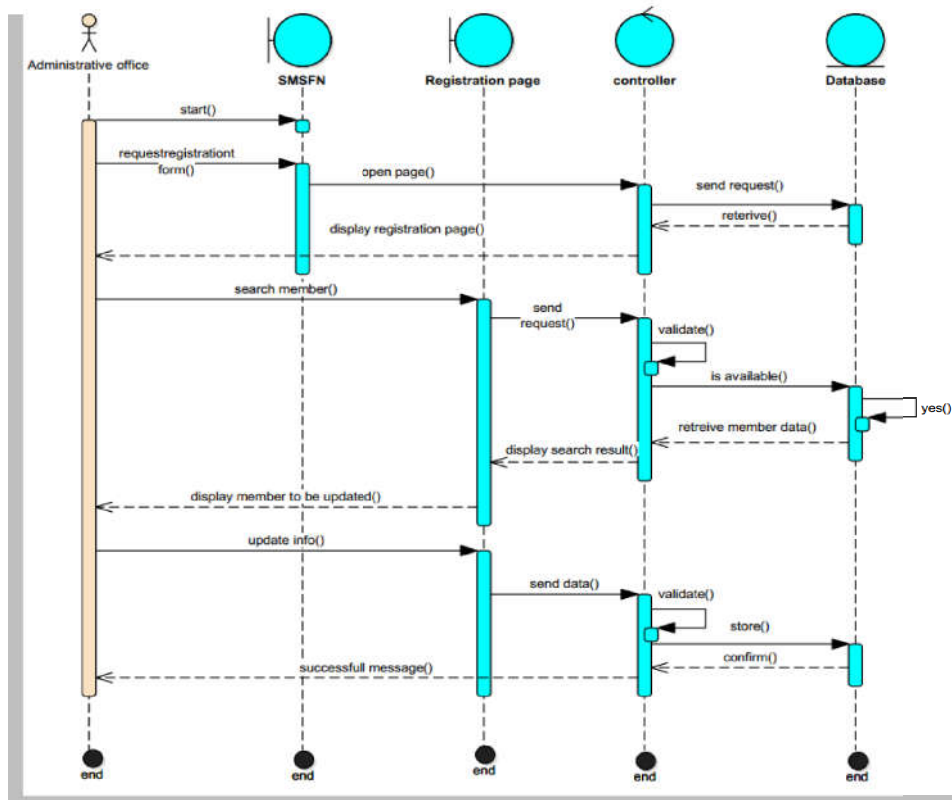


Figure 3. 7 sequence diagram for update

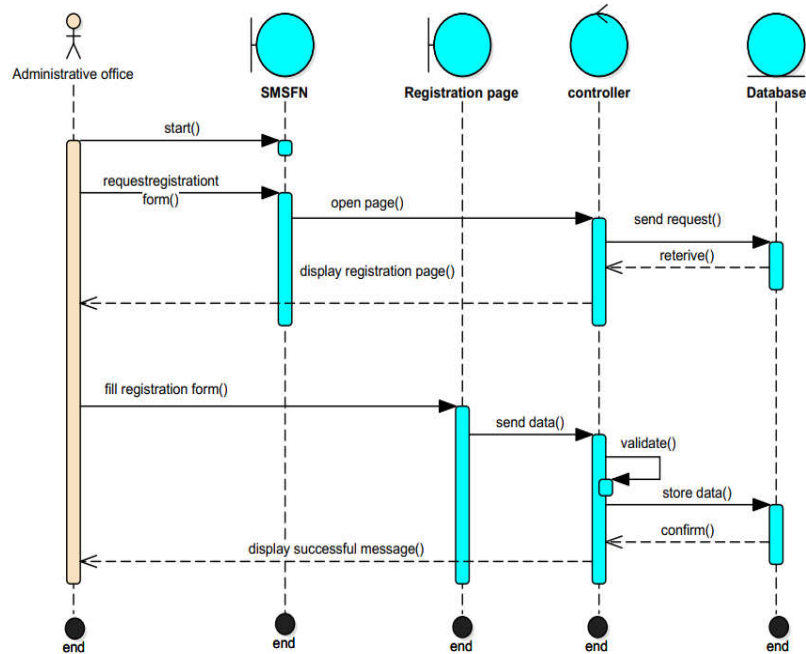


Figure 3. 8 sequence diagram for registration

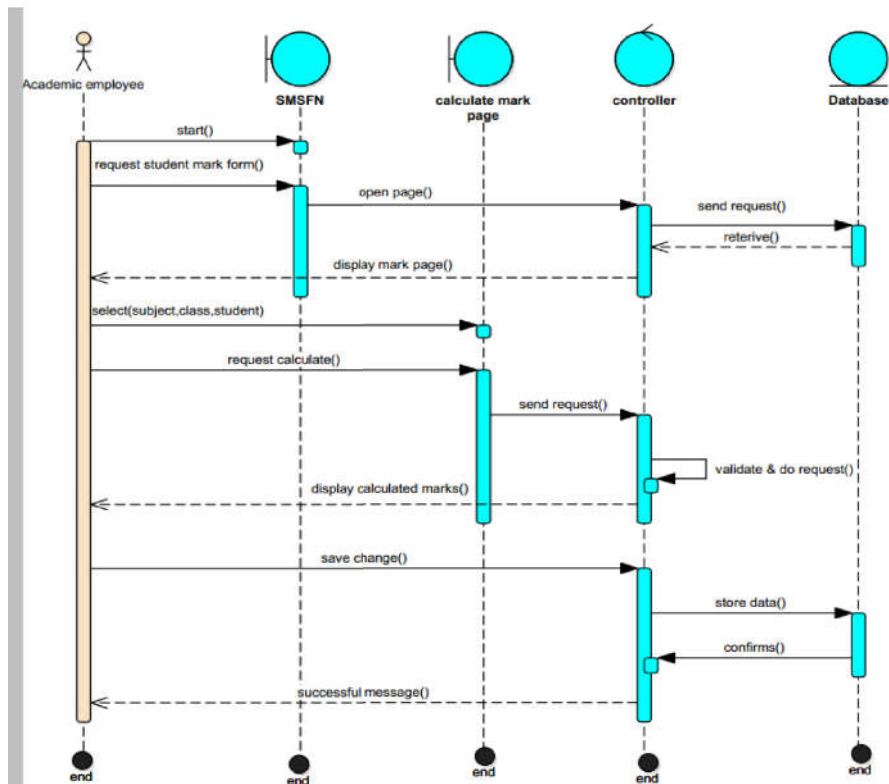


Figure 3. 9 sequence diagram for calculate mark

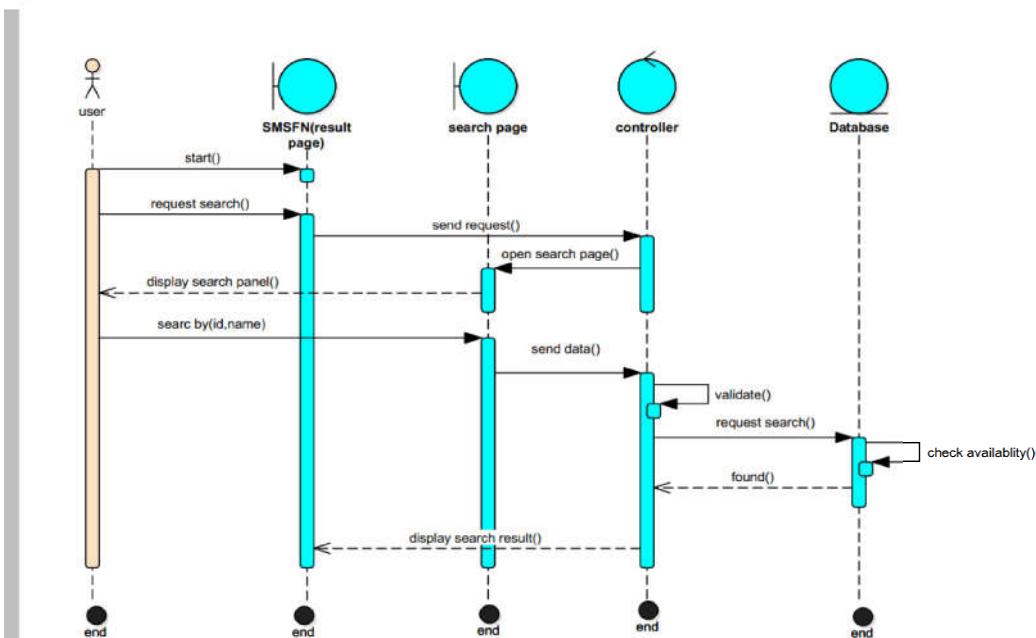


Figure 3.10 sequence diagram for search



### 3.7.2 Activity diagram

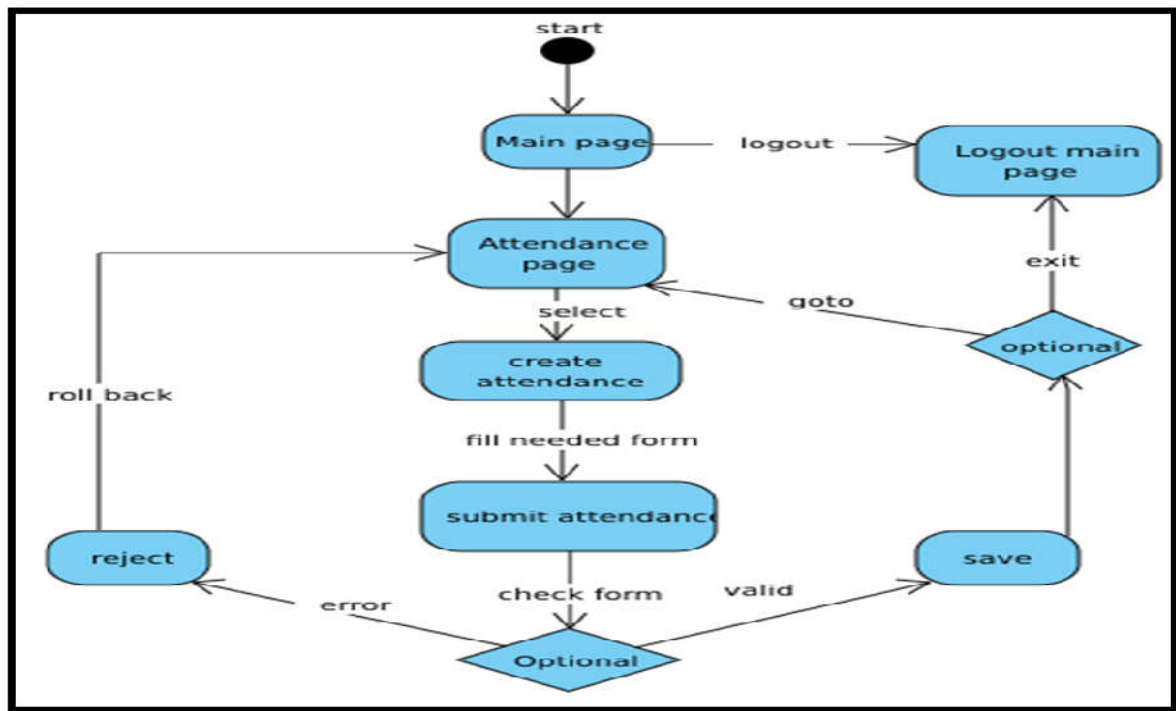


Figure 3. 11 Activity diagram for attendance

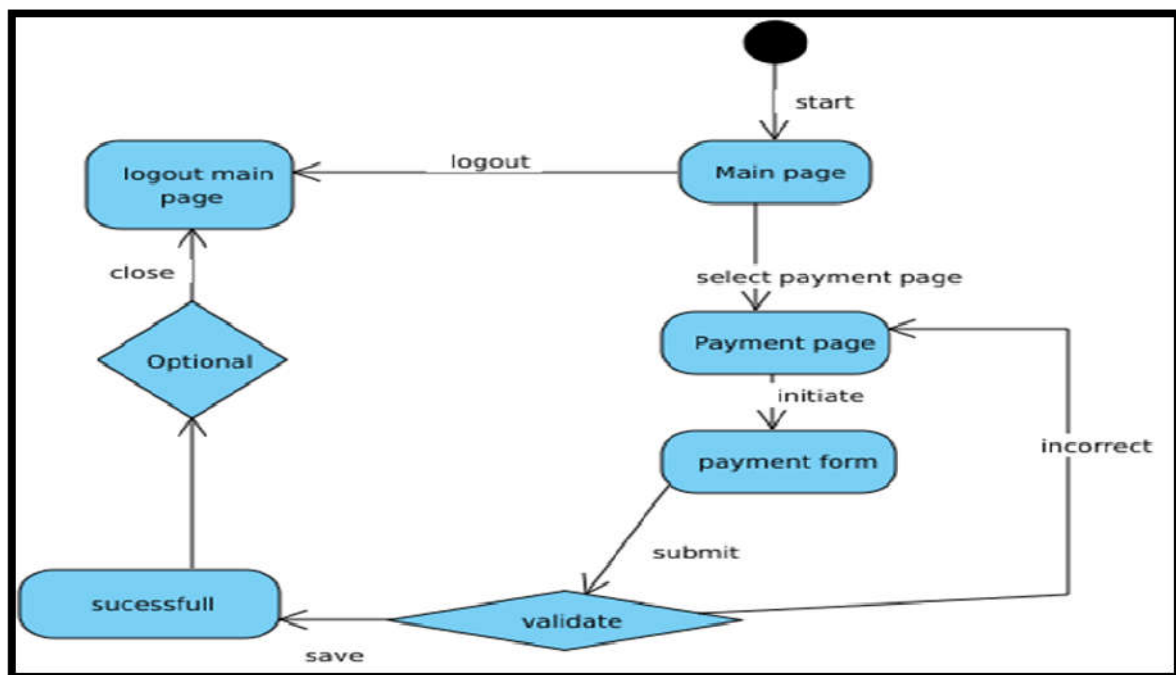


Figure 3. 12 Activity diagram for fee payment

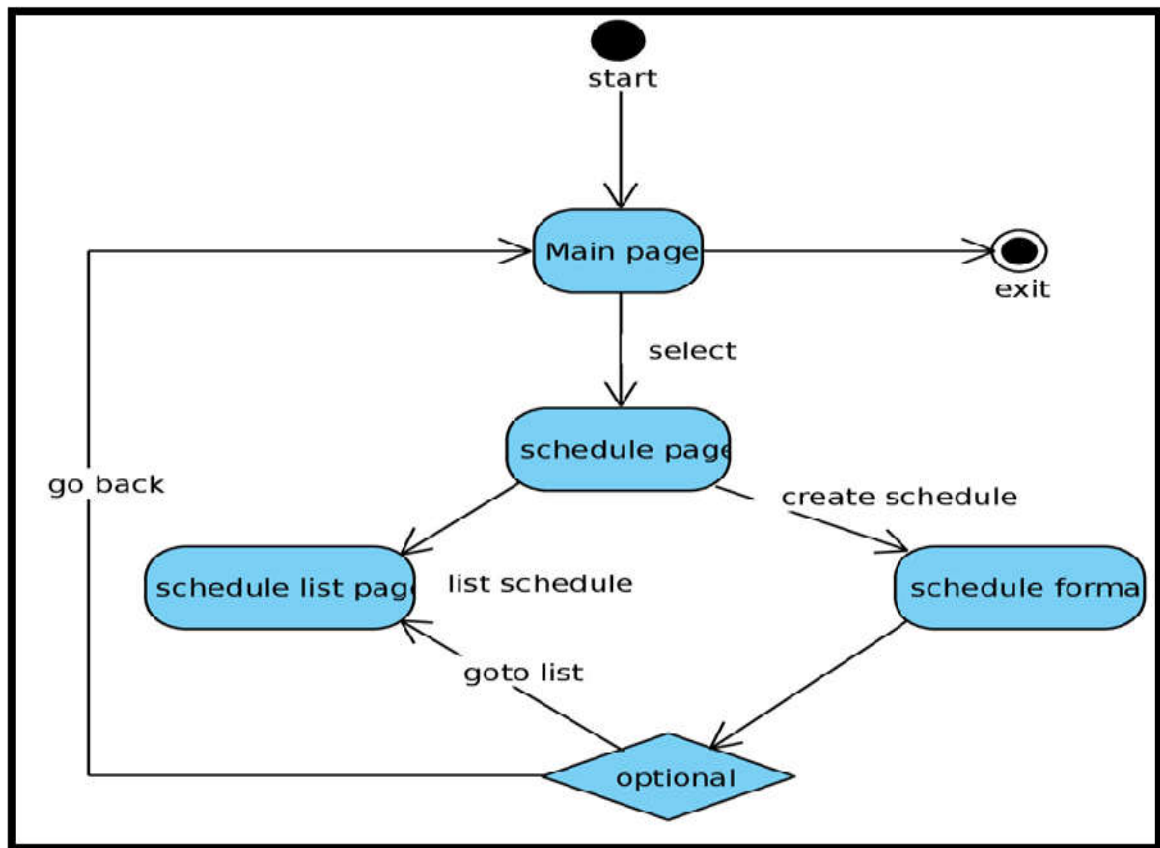


Figure 3. 13 Activity diagram for generate timetable

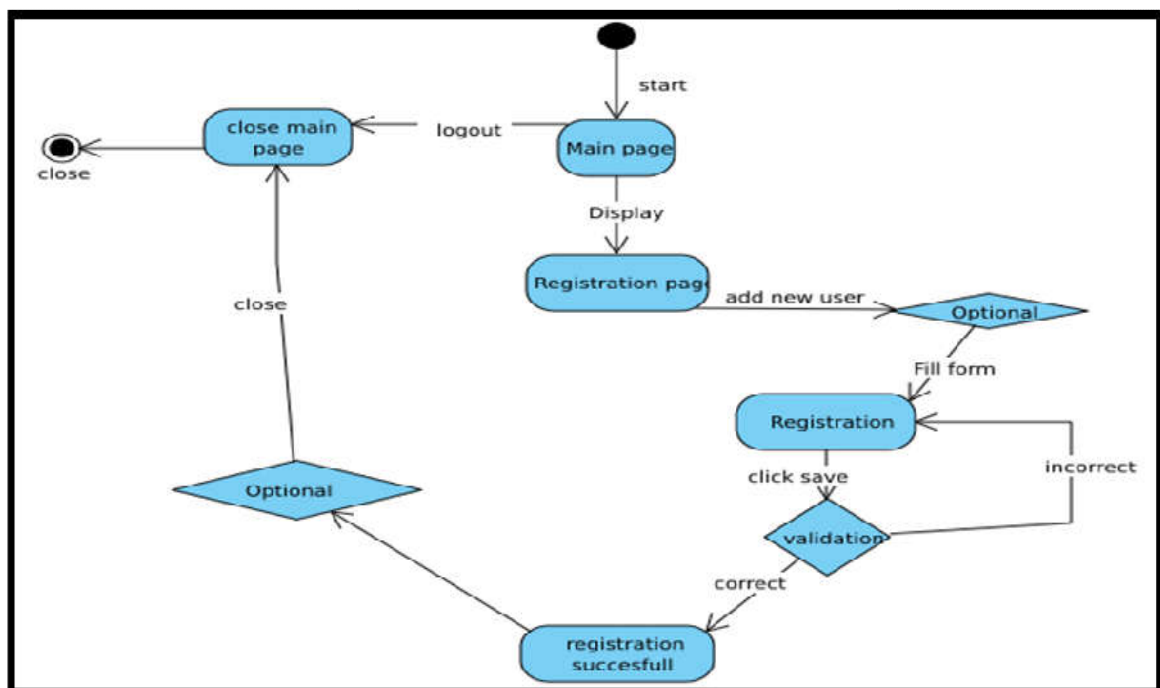


Figure 3. 14Activity diagram for registration

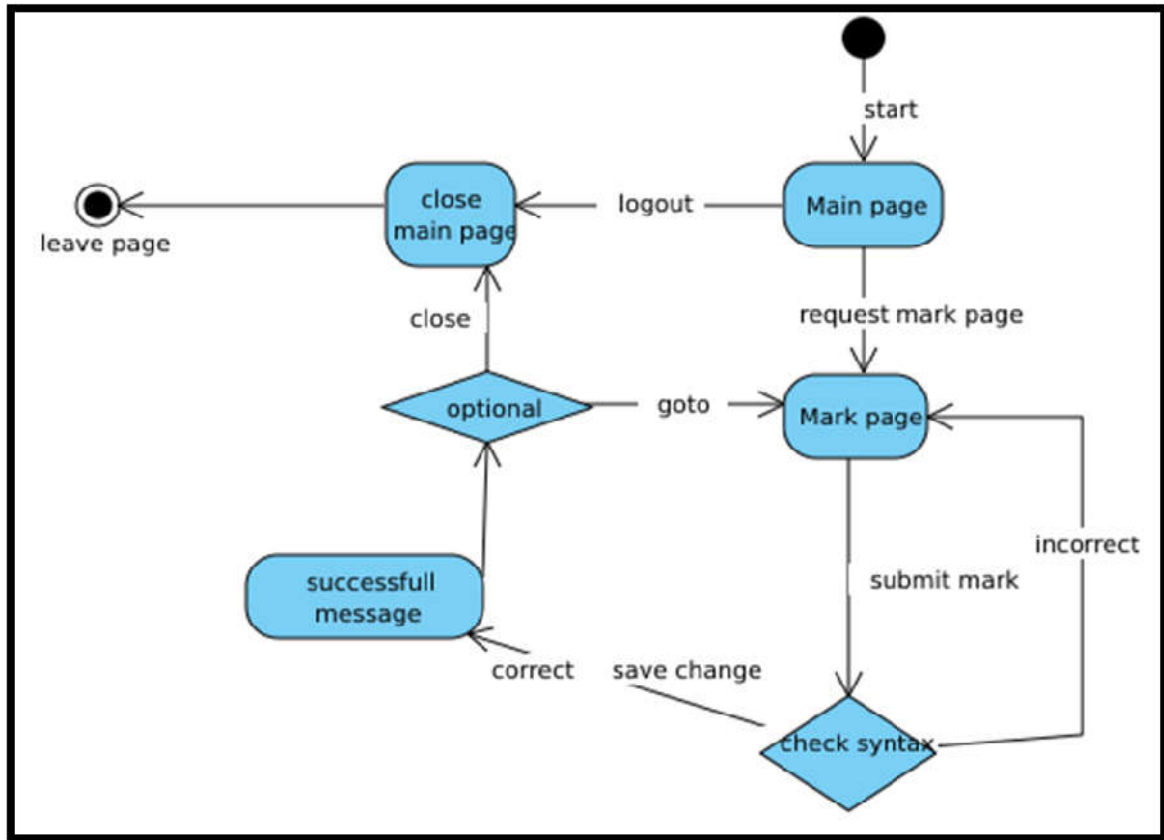


Figure 3. 15 Activity diagram for submit mark

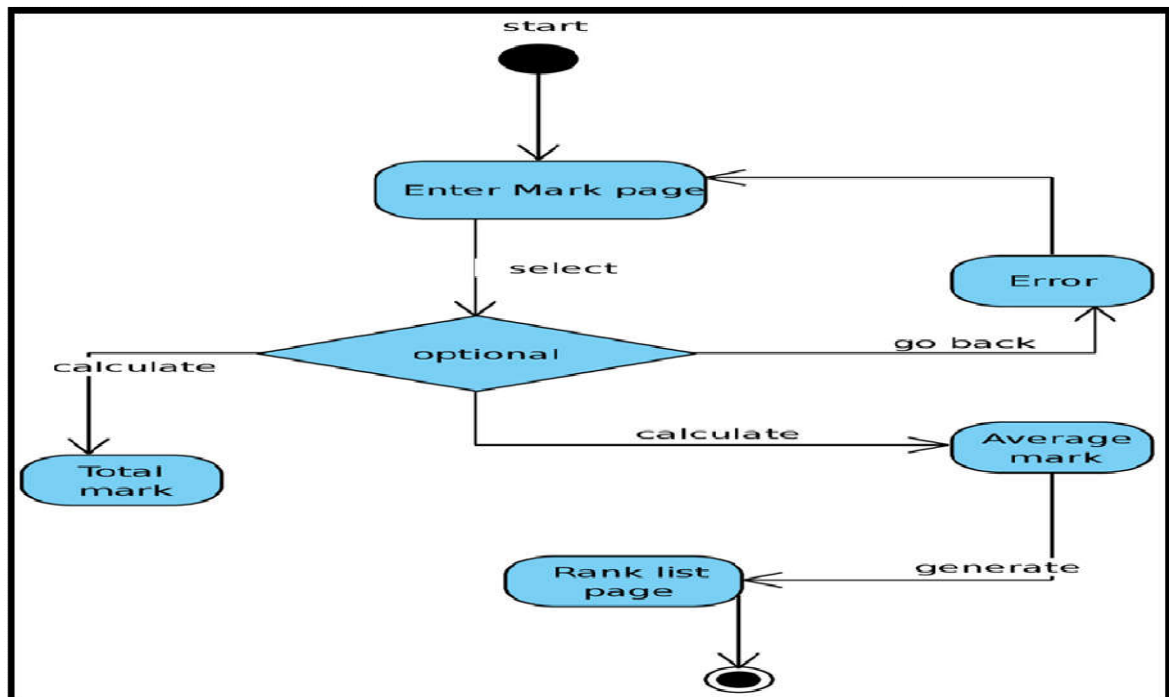


Figure 3. 16 Activity diagram for calculate mark

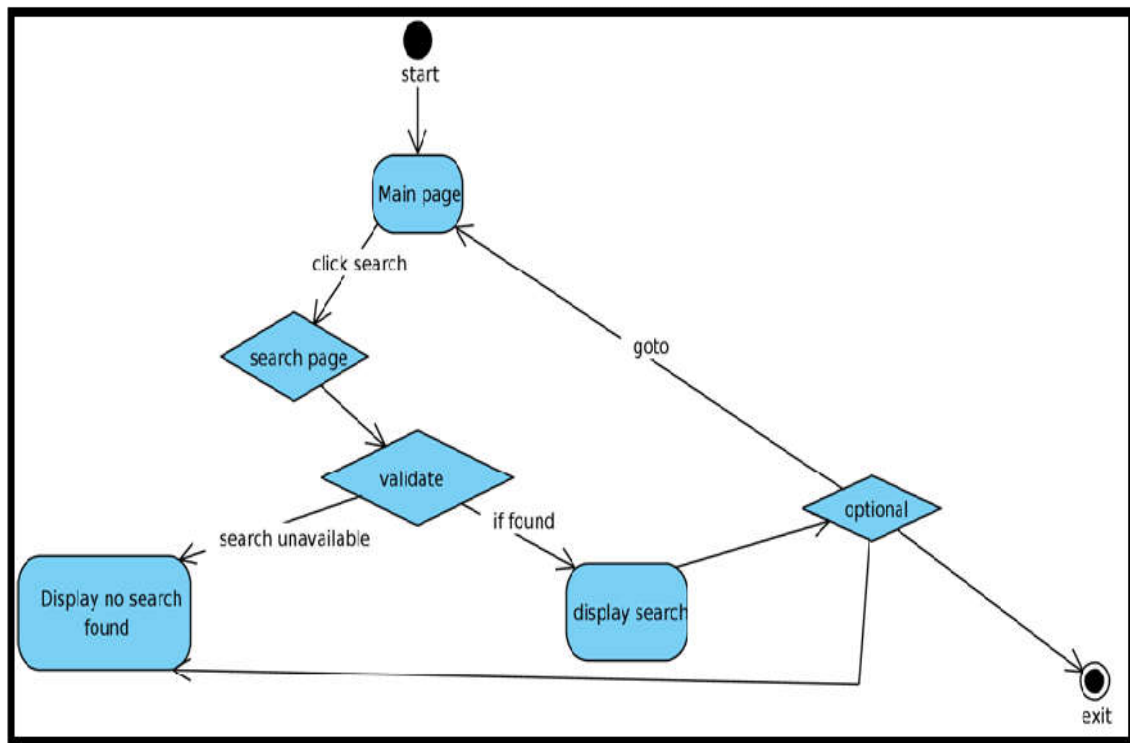


Figure 3. 17 Activity diagram for search

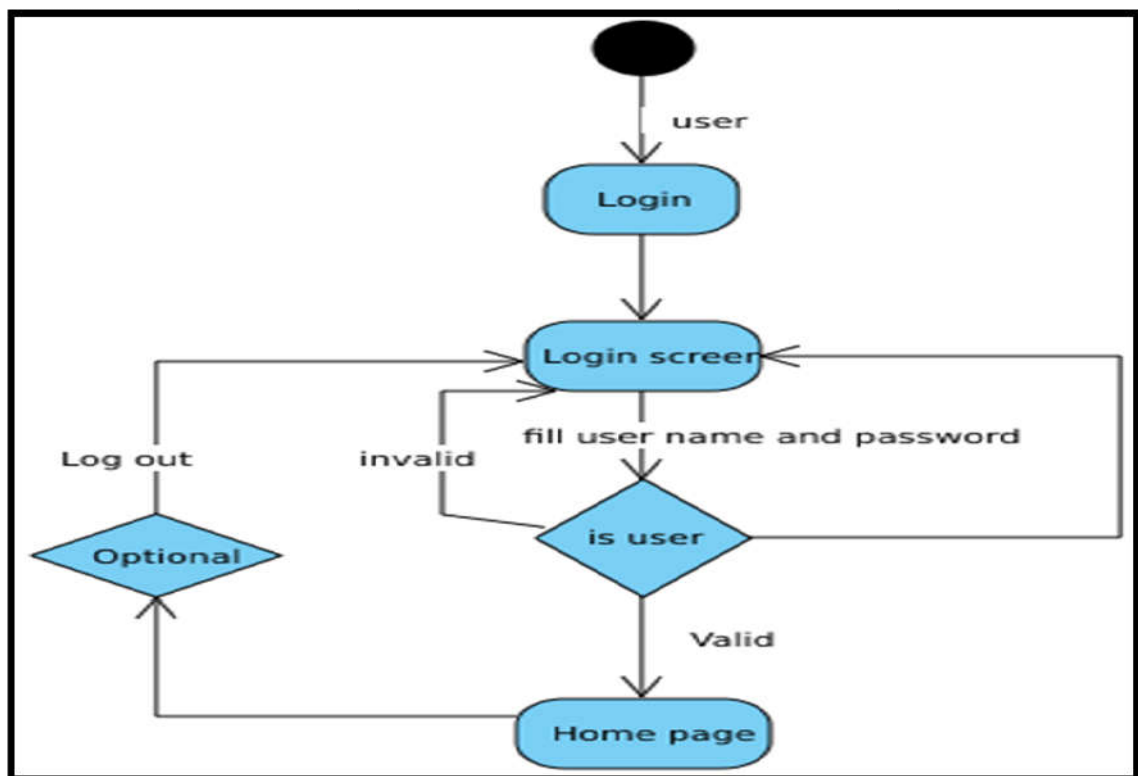


Figure 3. 18Activity diagram for login

### 3.7.3 State diagram

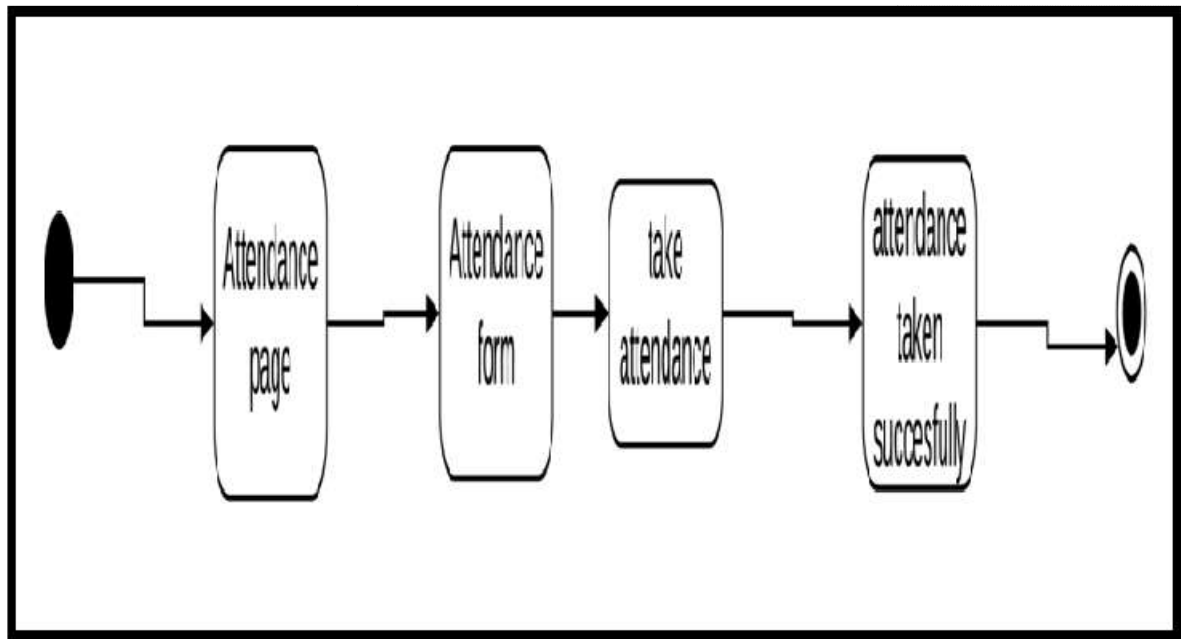


Figure 3. 19 state diagram for attendance

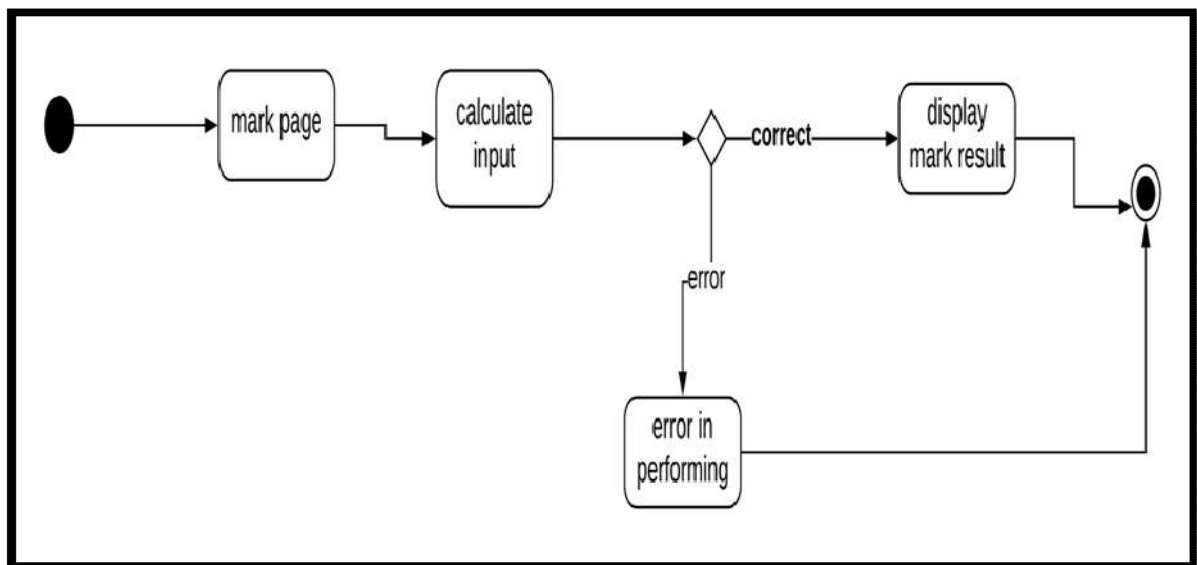


Figure 3. 20 state diagram for calculate mark

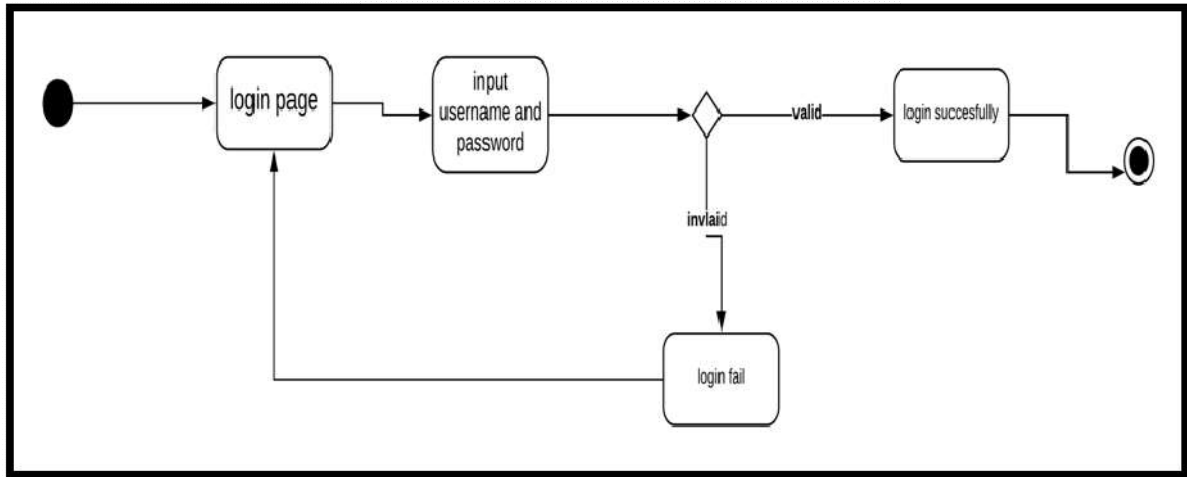


Figure 3. 21state diagram for login

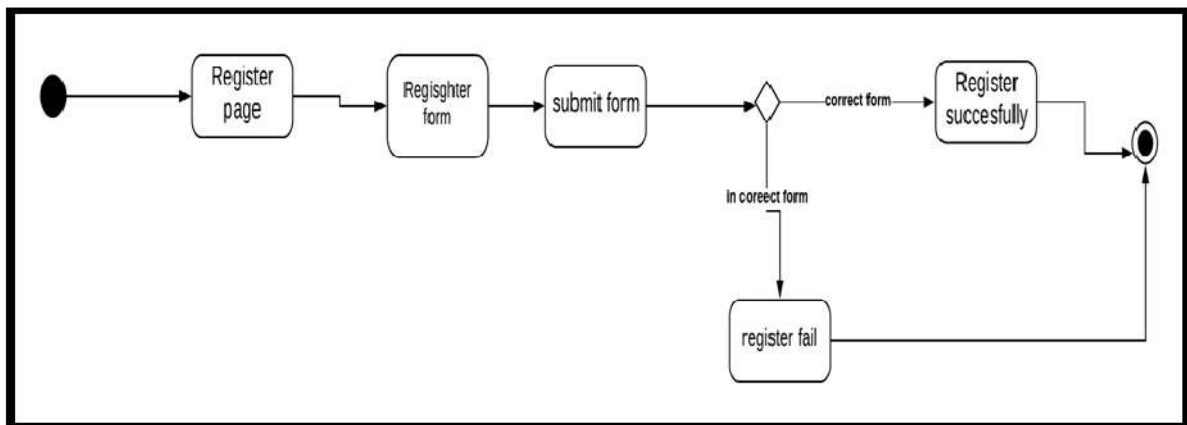


Figure 3. 22 state diagram registration

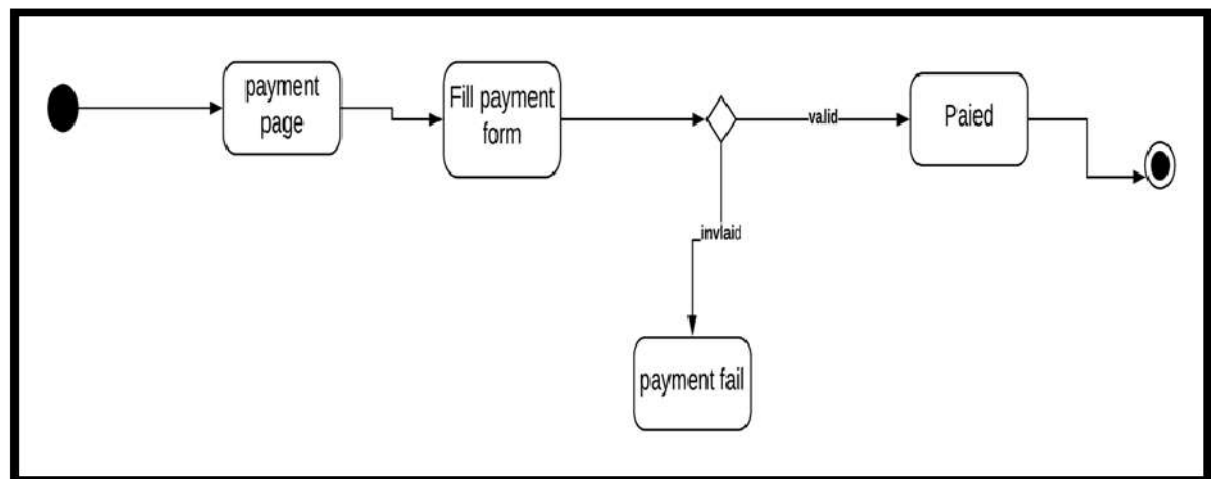


Figure 3. 23 state diagram for payment

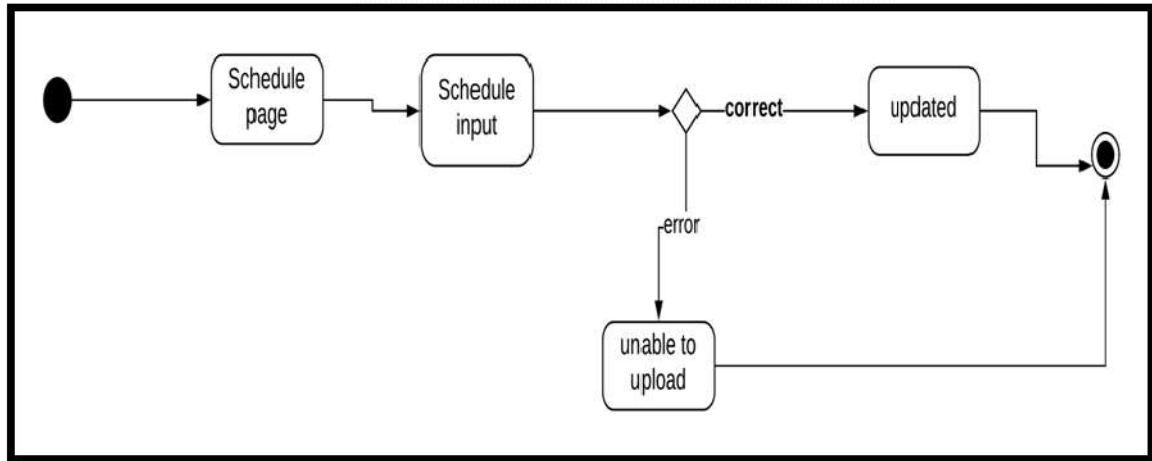


Figure 3. 24 state diagram for schedule

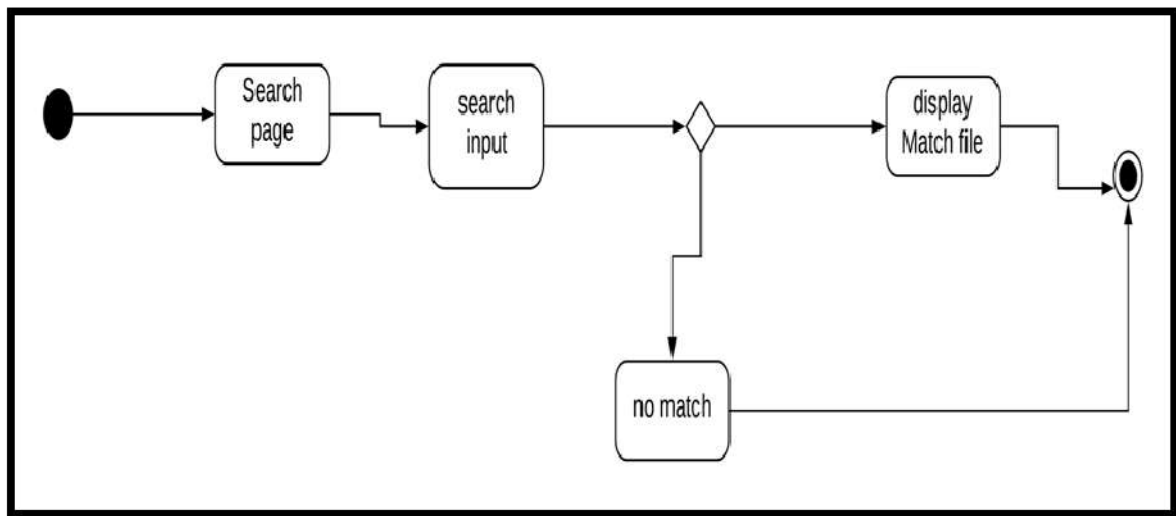


Figure 3. 25 state diagram for search

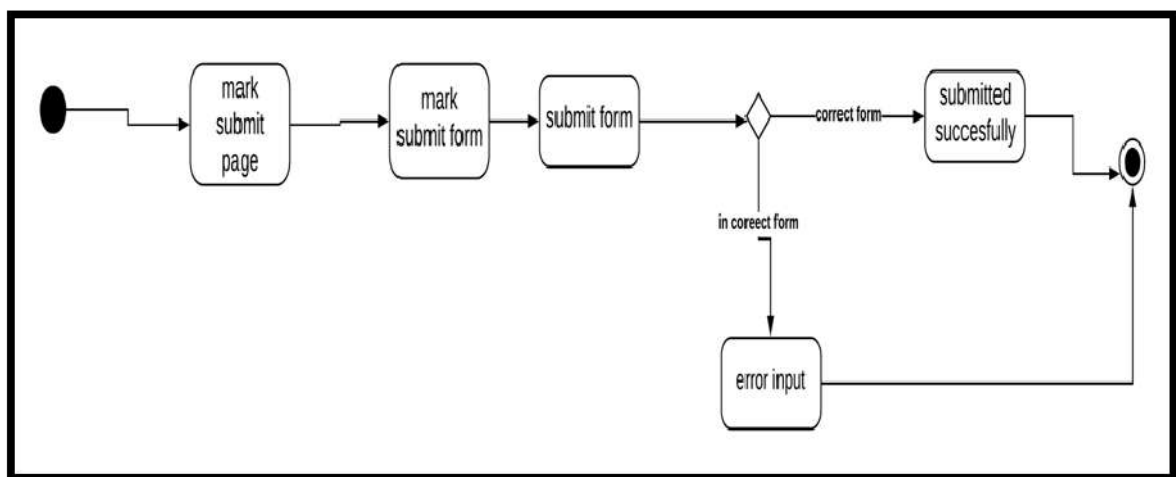


Figure 3. 26 state diagram for submit mark

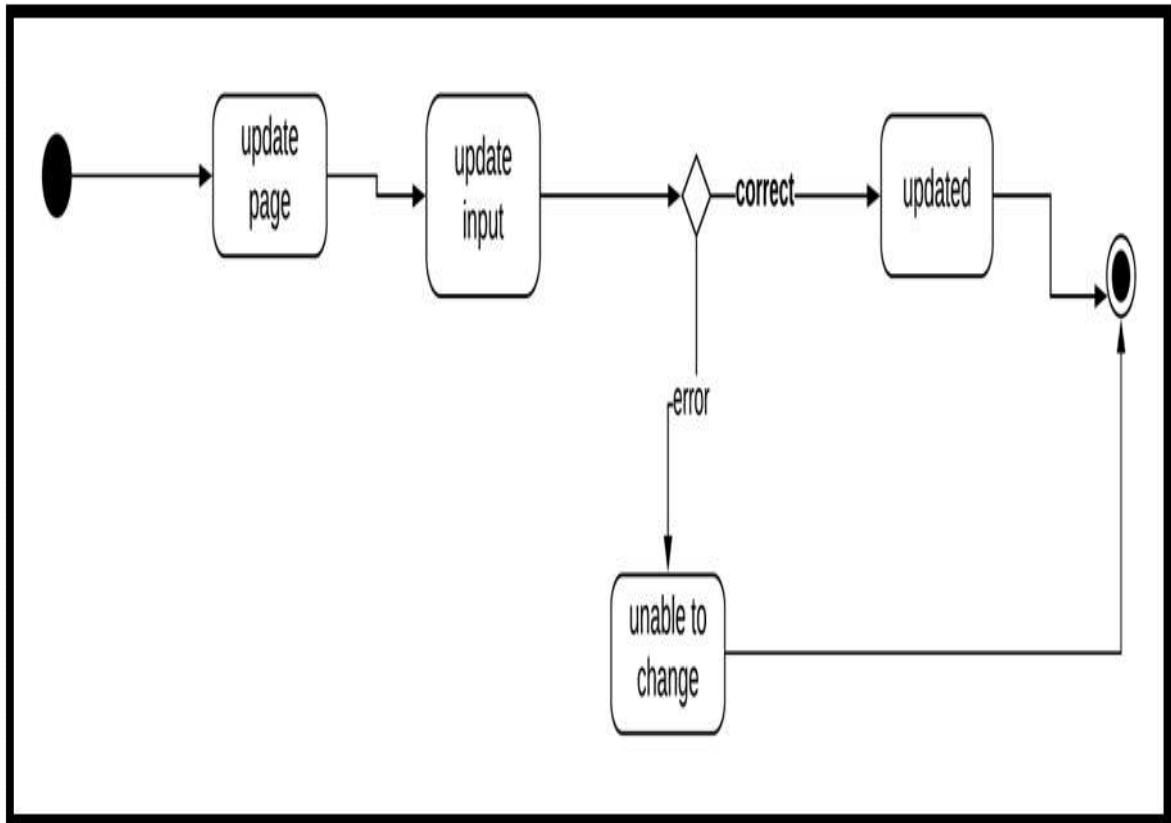


Figure 3. 27state diagram for update