SOFTWARE ENGINEERING
LAB MANUAL

-DOLLY TRIVEDI

LIST OF EXPERIMENTS

EXP NO	EXPERIMENT NAME
1	Course management system (CMS)
2	Easy Leave
3	E-Bidding
4	Electronic Cash counter

EXPERIMENT 1

Course management system (CMS)

A course management system (CMS) is a collection of software tools providing an online environment for course interactions. A CMS typically includes a variety of online tools and environments, such as:

1. An area for faculty posting of class materials such as course syllabus and handouts
2. An area for student posting of papers and other assignments
3. A grade book where faculty can record grades and each student can view his or her grades
4. An integrated email tool allowing participants to send announcement email messages to the entire class or to a subset of the entire class
5. A chat tool allowing synchronous communication among class participants
6. A threaded discussion board allowing asynchronous communication among participants

In addition, a CMS is typically integrated with other databases in the university so that students enrolled in a particular course are automatically registered in the CMS as participants in that course. The Course Management System (CMS) is a web application for department personnel, Academic Senate, and Registrar staff to view, enter, and manage course information formerly submitted via paper. Departments can use CMS to create new course proposals, submit changes for existing courses, and track the progress of proposals as they move through the stages of online approval.

1.1: PURPOSE OF THE SYSTEM

The Course management system is an Intranet based application that can be accessed throughout the organization or a specified group/Dept. This system can be used to automate the workflow of courses. The Lab experiment will explain the purpose and features of the system, the interfaces of the system will do, the constraints under which it must operate and how the system will react to external stimuli.

1.2: FUNCTIONAL COMPONENTS OF THE SYSTEM

There are registered people in the system. Some are approvers. An approver can also be a requestor. In a college, it could be Lecturer/Professor/Head of the Department/Dean/Principal etc.

1.3: PROBLEMS IN THE EXISTING SYSTEM:

- The current system is a manual one where in the organization maintains all the information in the form of records. There by collecting necessary information which require a manual search in the record(s).
- Transfer of information between different sections of the enterprise is in the form of documents.
- Due to mismanagement the work is delayed to later date than the due date.

1.4: SOLUTION OF THESE PROBLEMS

- The information of the entire organization will be maintained at a centralized data base any changes made known to the higher or lower level members.
- Provide Interactive interface through which a user can interact with different areas of application easily
- Deploy the application on a single system and make is available on all the systems with in the network, there by reducing the maintenance cost of software.

1.5: SCOPE OF THE PROJECT

CMS will perform a lots of functions which includes **the uploading of the results of quizzes**, **assignments and sessionals** by the instructor, **instructor's comments about the students**, **viewing of various results** and **attendance** by students and parents, students' and parents' **feedback for the teachers**, etc. Moreover, the CMS will not do any calculation for computing the total result of the sessionals including the results of assignments and quizzes. The system will not maintain the attendance. It will just show the attendance of the students. The system will also not offer the memberships to the external internet users. And it will also not the official resource, e.g. results, etc.

Following is a list of functionalities of the system:

- An area for faculty posting of class materials such as course syllabus and handouts
- An area for student posting of papers and other assignments
- A grade book where faculty can record grades and each student can view his or her grades

- An integrated email tool allowing participants to send announcement email messages to the entire class or to a subset of the entire class

- **A chat tool allowing synchronous communication among class participants**
- A threaded discussion board allowing asynchronous communication among participants

1.6: STUDY OF THE SYSTEM

In the flexibility of the uses the interface has been developed keeping a graphics concept in

mind, associated through a browser interface. The GUI'S at the top level have been categorized as

1. Administrative user interface
2. The operational or generic user interface

The administrative user interface concentrates on the consistent information that is practically, part of the organizational activities and which needs proper authentication for the data collection. The interfaces help the administrations with all the transactional states like Data insertion, Data deletion and Data updation along with the extensive data search capabilities.

The operational or generic user interface helps the users upon the system in transactions through the existing data and required services. The operational user interface also helps the ordinary users in managing their own information helps the ordinary users in managing their own information in a customized manner as per the assisted flexibilities.

1.7: Number of Modules

The system after careful analysis has been identified to be presented with the following modules:
The modules involved are:

- Administration
- Student
- Search
- Report
- Authentication

Administrator:-

In this module the Administrator has the privileges to add all the students and register them in

the organization and check the information of the student and search is done based on the student

and course and report is generated for individual student.

Search:-

This module contain complete search like course search, faculty based on the course they are taking.

Student-

In this module the student has the privileges to use his username and password for login and he

can see the .Use the login id for submitting assignments and taking courses and enter the problems

while he is undergoing a course.

Reports:-

This module contains all the information about the reports generated for the students based on the Performance by them for a specific course.

Authentication:-

This module contains all the information about the authenticated user. User without his username and password can't enter into the login if he is only the authenticated user then he can enter to his login.

1.8: Functional Requirements

- Creating Courses
  Integration With Registration System*:* The System Shall periodically Upload The Latest Registrar's Classes List To Determine Courses That Offered In The Current Semester. The System Shall Generate Course For Each Class That Registered And Determine The Current Set Of Students That Enrolled In That Class.The System Shall Allow Course Instructor To Update Course Content.
- Grade Management
  Allow Grades To Be Entered Online: The System Shall Allow Instructors To Enter And Modify Grades Online.

  Allow Students To Access Their Grades Online: The System Shall Allow Student To Log In Their Account And Check Their Grades At AnyTime. The System Shall Provides Statistical Information Such As Averages, Standard Deviation, Median About Students Grades.

  Track And Handle Re-Grade Requests: The System Shall Be Able To Track And Handle Requests For Re- Grades, And All Information About Re-Grades Shall Be Available To The Student, And The Course Instructor.

  Homework Submission: Accept Submissions In Multiple Formats: The System Shall Accept Submissions In Multiple Formats, Including .Zip, .Cpp , .Txt, .Doc,Etc.

1.9: INPUT / OUTPUT

The main inputs, outputs and major functions of the system are as follows

Inputs of the system

- Student enters his or her user id and password.
- To upload their assignments before the due date
- To inform the teacher about the lecture whether that particular student have understood

the lecture or not, etc.

- Teacher will post the statements and the preplanned quizzes in this section
- Result of quizzes, assignments and sessionals will be uploaded by the teacher.
- Teachers can also give comments about any specific stud

Outputs of the system

- Results of the quizzes, assignments and sessionals will be displayed in this section
- The statements of the assignments and the pre-plan quizzes would be seen by the students.
- Feedback by the students and parents would be seen here
- The assignments, uploaded by the students will be another output for the teachers

1.10: SDLC METHODOLOGIES

This Document plays a vital role in the development life cycle (SDLC) as it describes the complete requirement of the system. It is meant for use by the developers and will be the basic during testing phase. Any changes made to the requirements in the future will have to go through formal change approval process.

WATER FALL MODEL is being chosen because all requirements were known beforehand and the objective of our software development is the computerization/automation of an already existing manual working system.

The developer is responsible for:

- Developing the system, which meets the SRS and solving all the requirements of the system?
- Demonstrating the system and installing the system at client's location after the acceptance testing is successful.
- Submitting the required user manual describing the system interfaces to work on it and also the documents of the system.
- Conducting any user training that might be needed for using the system.
- Maintaining the system for a period of one year after installation.

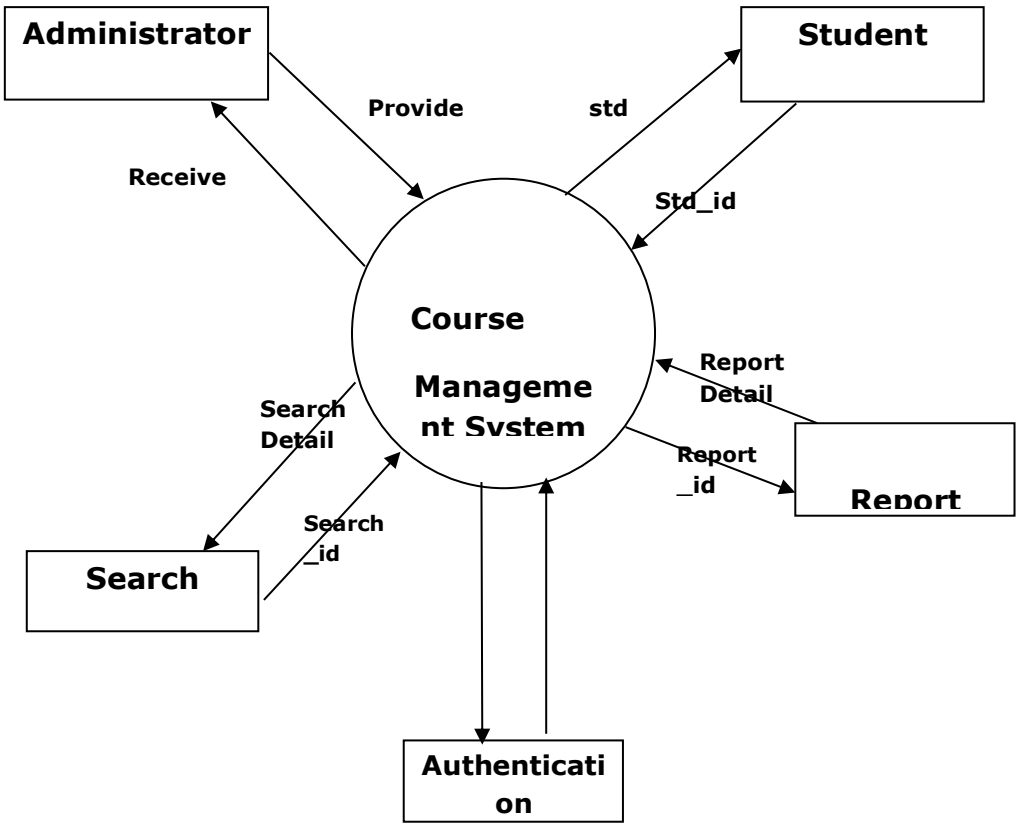
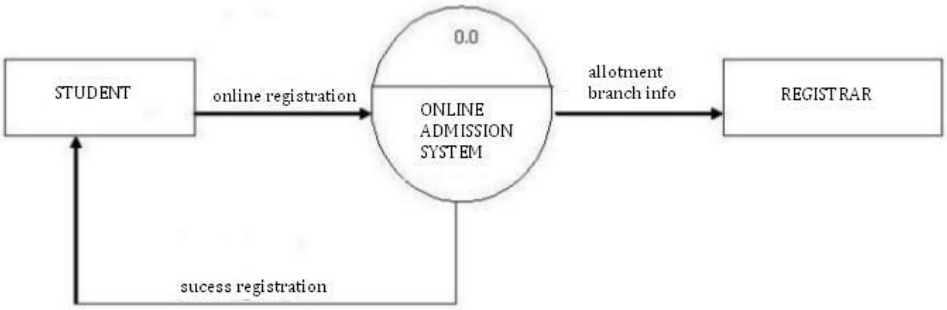
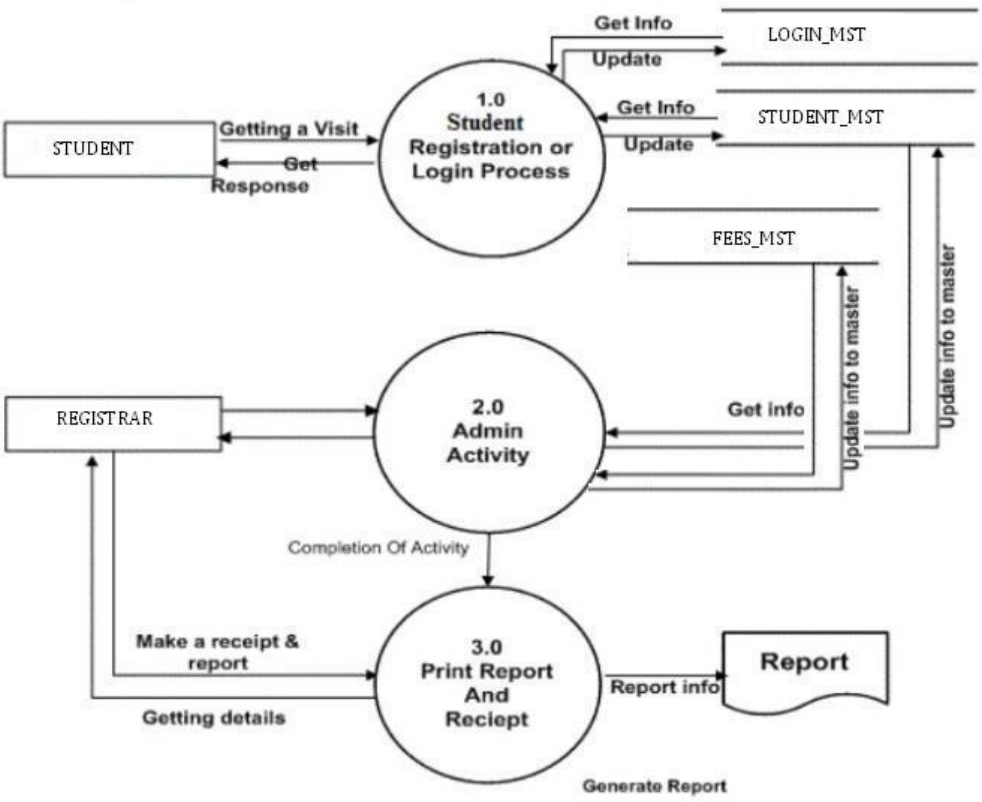


Fig1:CONTEXT DIAGRAM



Level 0

Fig2: LEVEL 0 DFD FOR COURSE REGISTRATION SYSTEM:



Level 1

Fig 3: LEVEL 1 DFD FOR COURSE REGISTRATION SYSTEM:

1.11: PERFORMANCE REQUIREMENTS:

Performance is measured in terms of the output provided by the application. Requirement specification plays an important part in the analysis of a system. Only when the requirement specifications are properly given, it is possible to design a system, which will fit into required environment. It rests largely in the part of the users of the existing system to give the requirement specifications because they are the people who finally use the system. This is because the requirements have to be known during the initial stages so that the system can be designed according to those requirements. It is very difficult to change the system once it has been designed and on the other hand designing a system, which does not cater to the requirements of the user, is of no use.

The requirement specification for any system can be broadly stated as given below:

- The system should be able to interface with the existing system
- The system should be accurate
- The system should be better than the existing system

The existing system is completely dependent on the user to perform all the duties.

1.12: Software and Hardware Requirements

Software Requirements:

Operating System: Windows XP or later

Database : Microsoft SQL Server-2005

Hardware Requirements:

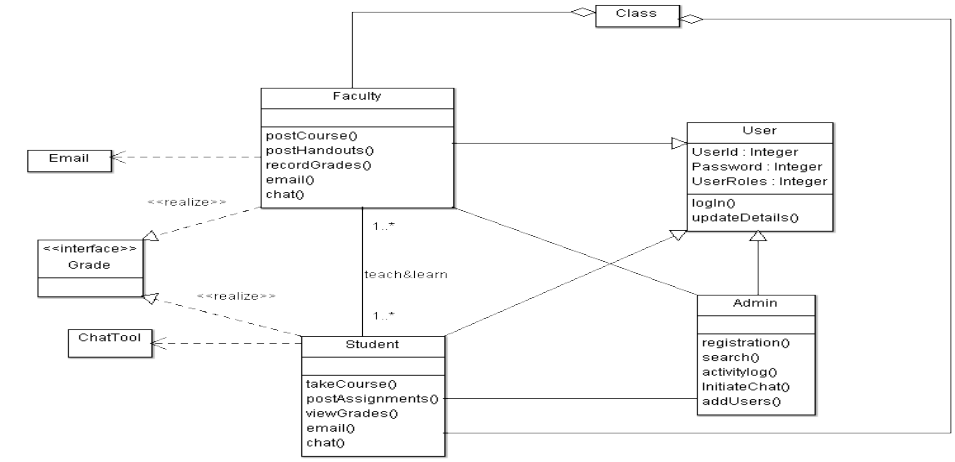
Processor: Intel Pentium or More

Ram: 512 MB Ram

Hard Disk: PC with 20GB

1.12: UML DIAGRAMS

Fig 4: Class Diagram



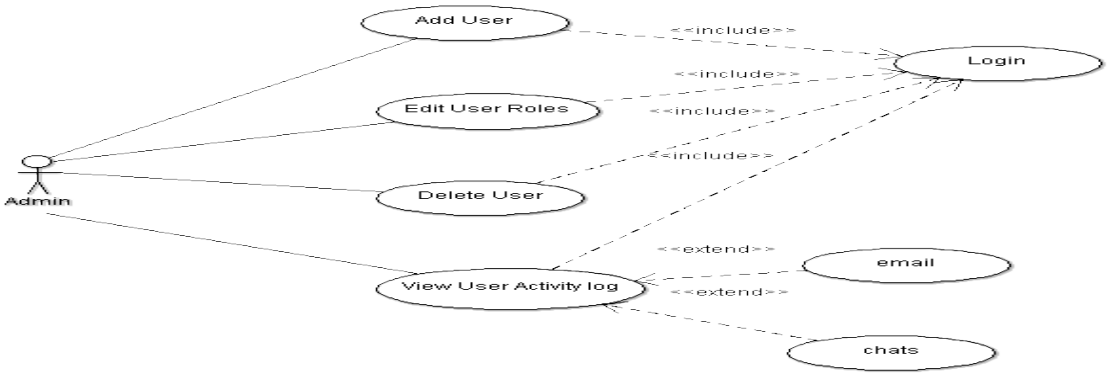


Fig 5: Use Case for Admin

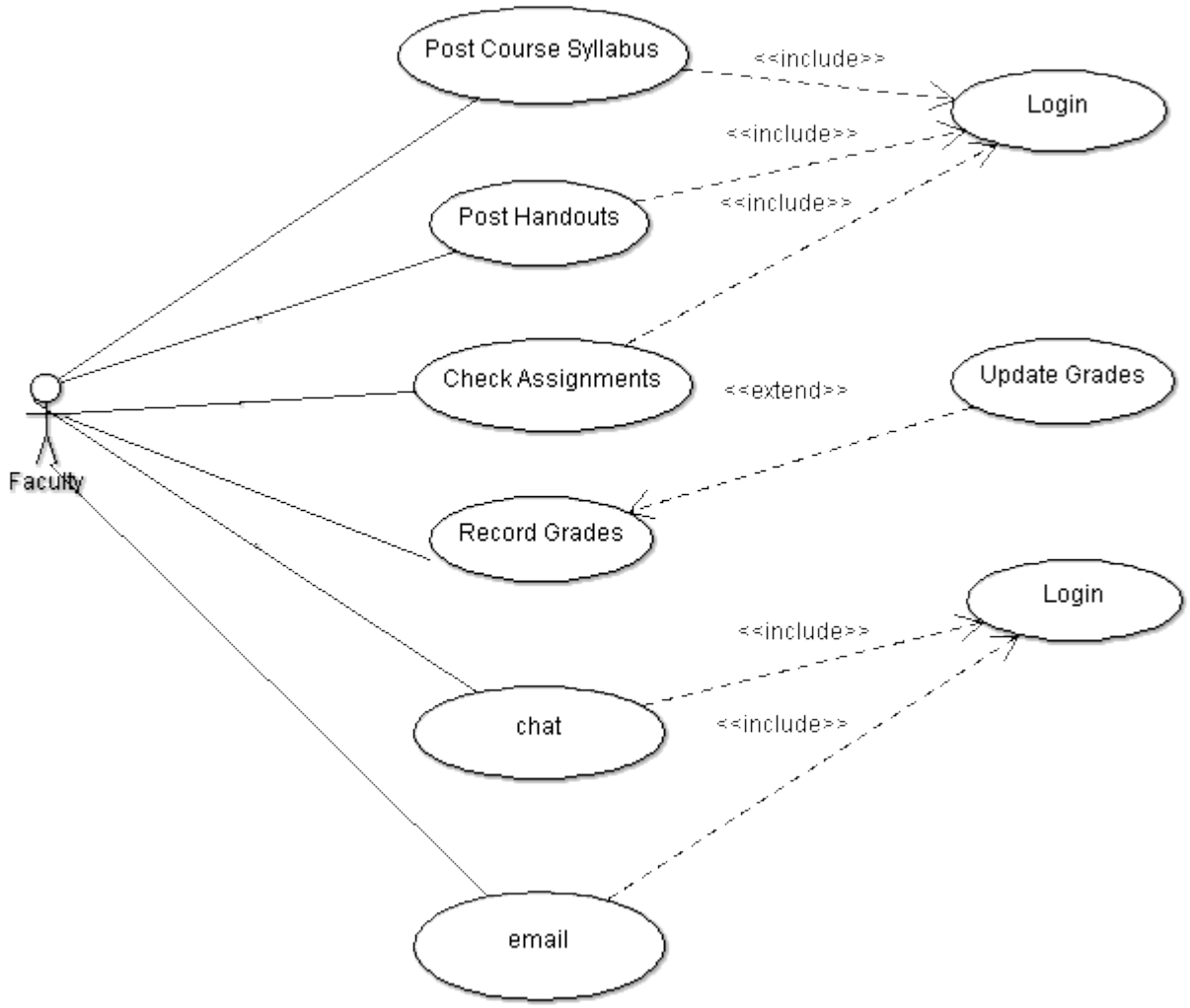


Fig 6: Use Case for Faculty

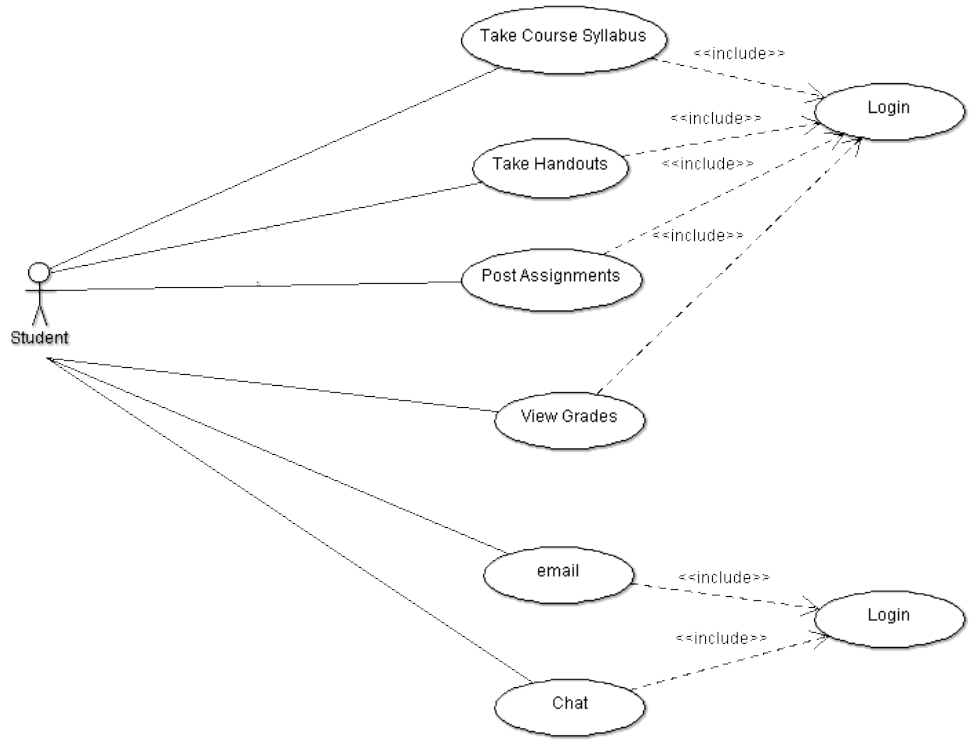


Fig 7: Use Case for Student

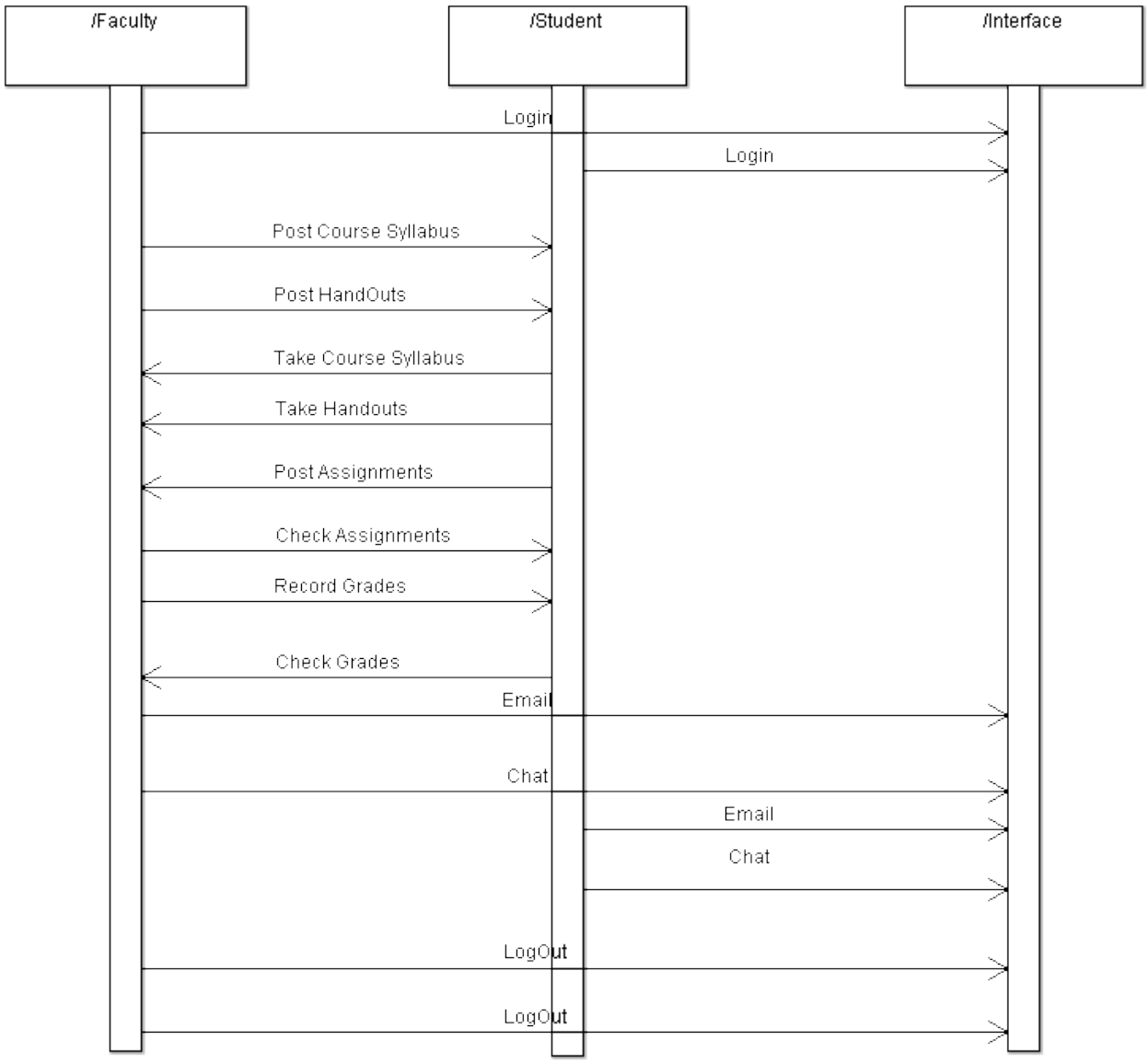


Fig 8: Sequence Diagram

Activity Diagram

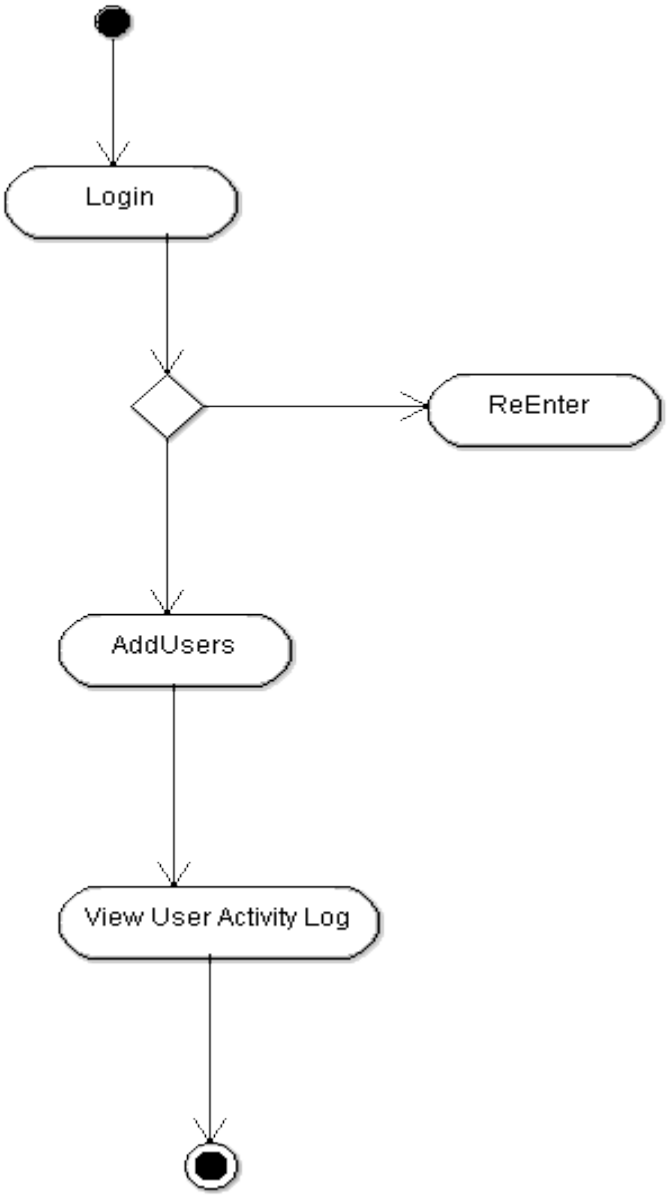
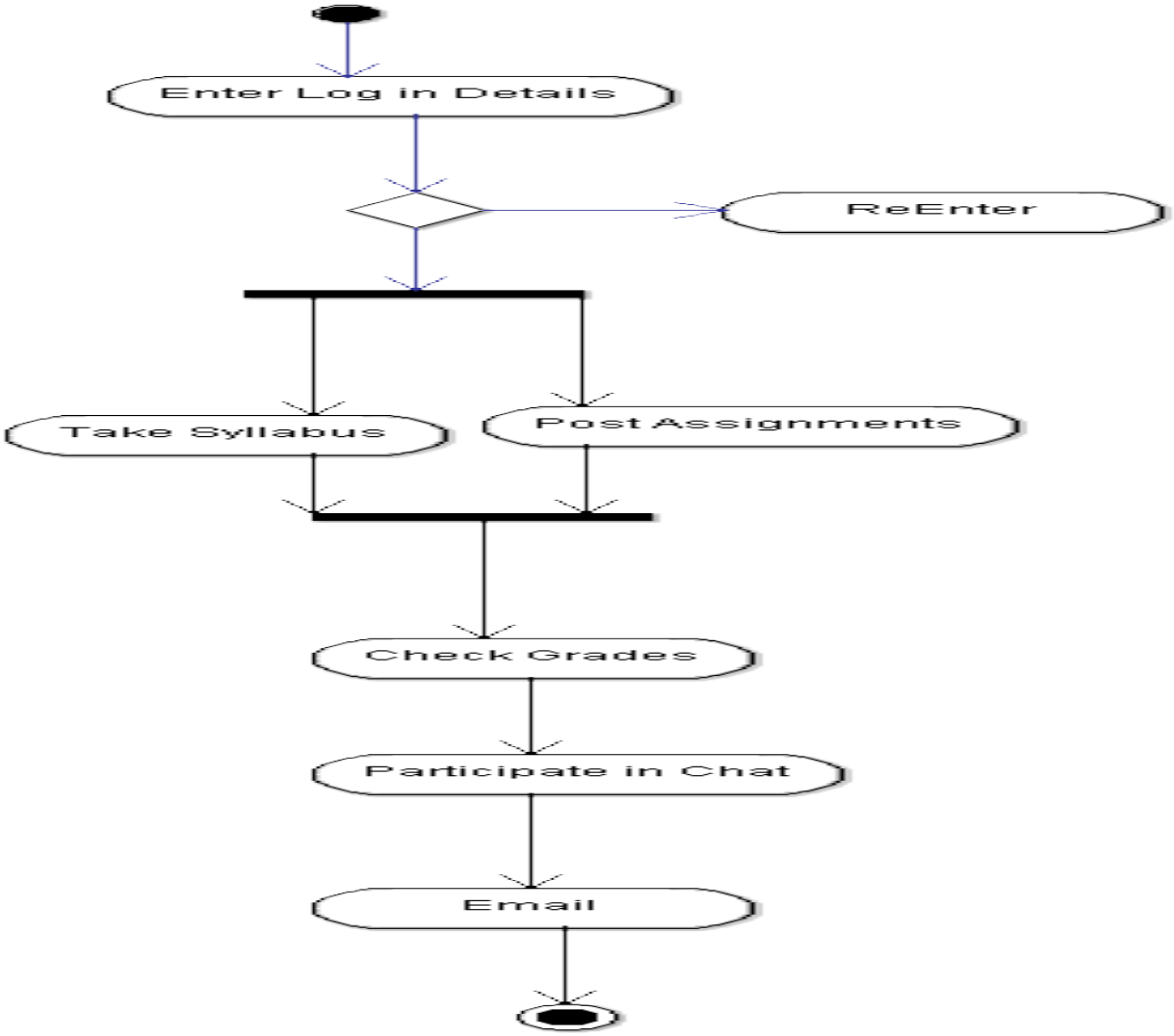


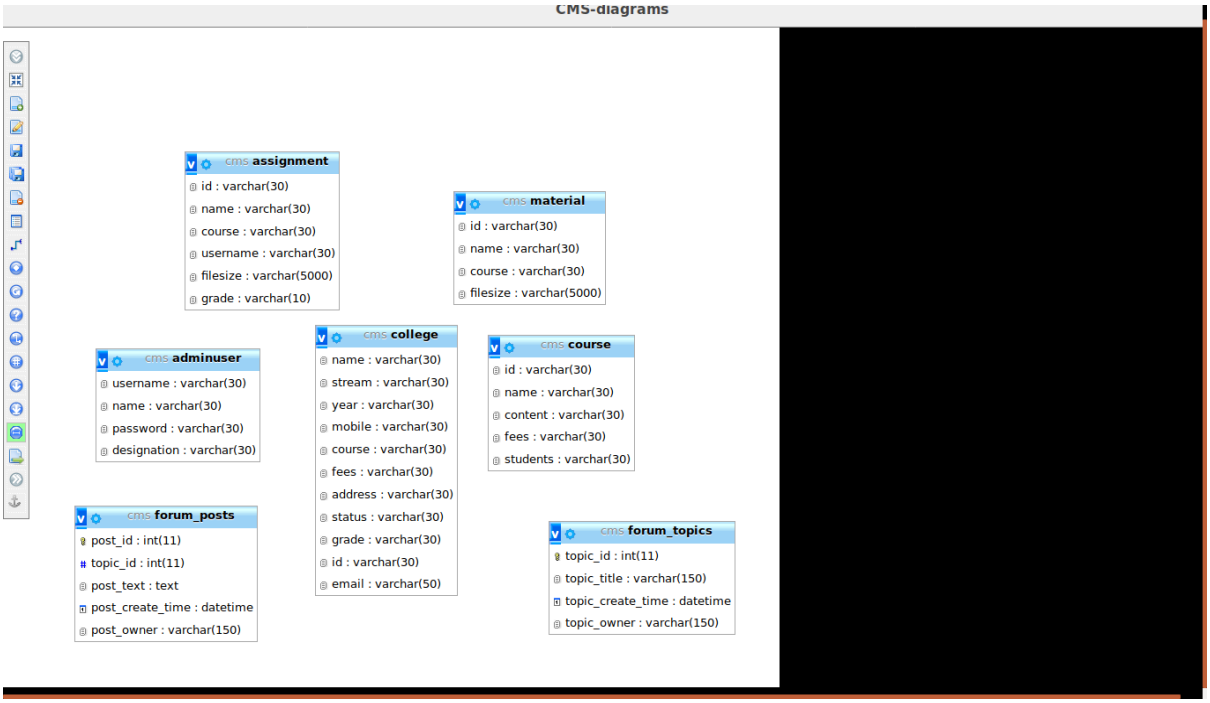
Fig 9: Activity Diagram for Admin

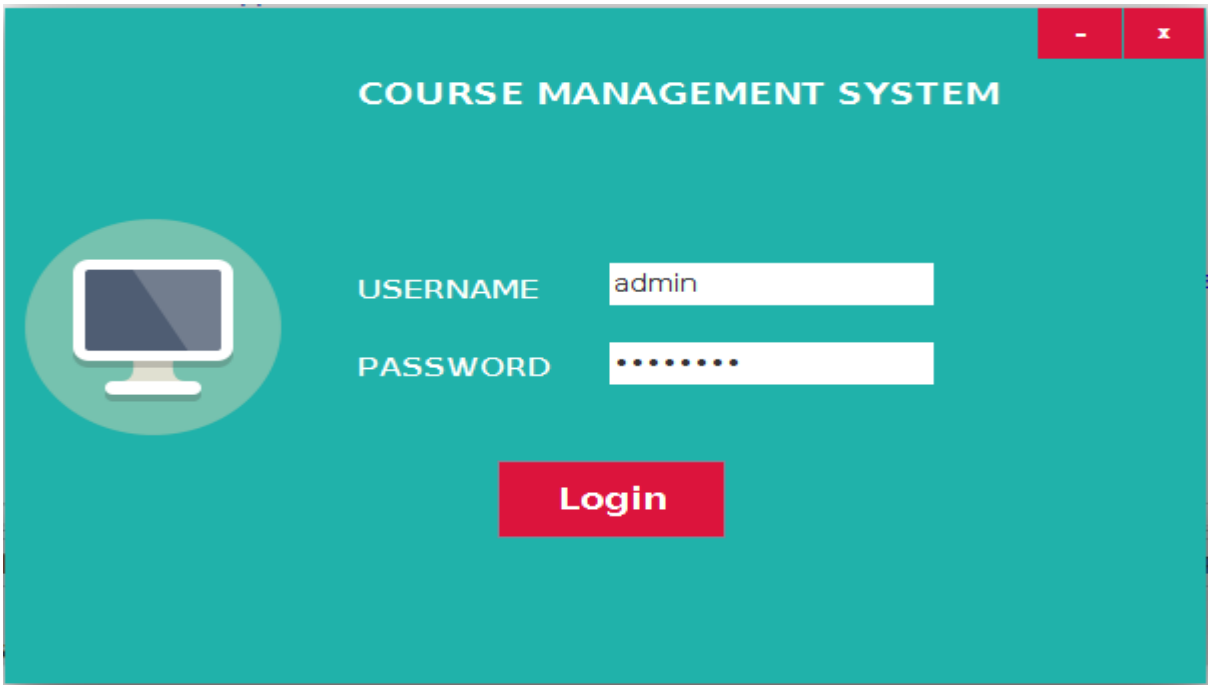
Fig 10: Activity Diagram for Students

Fig 11: Activity Diagram for Faculty

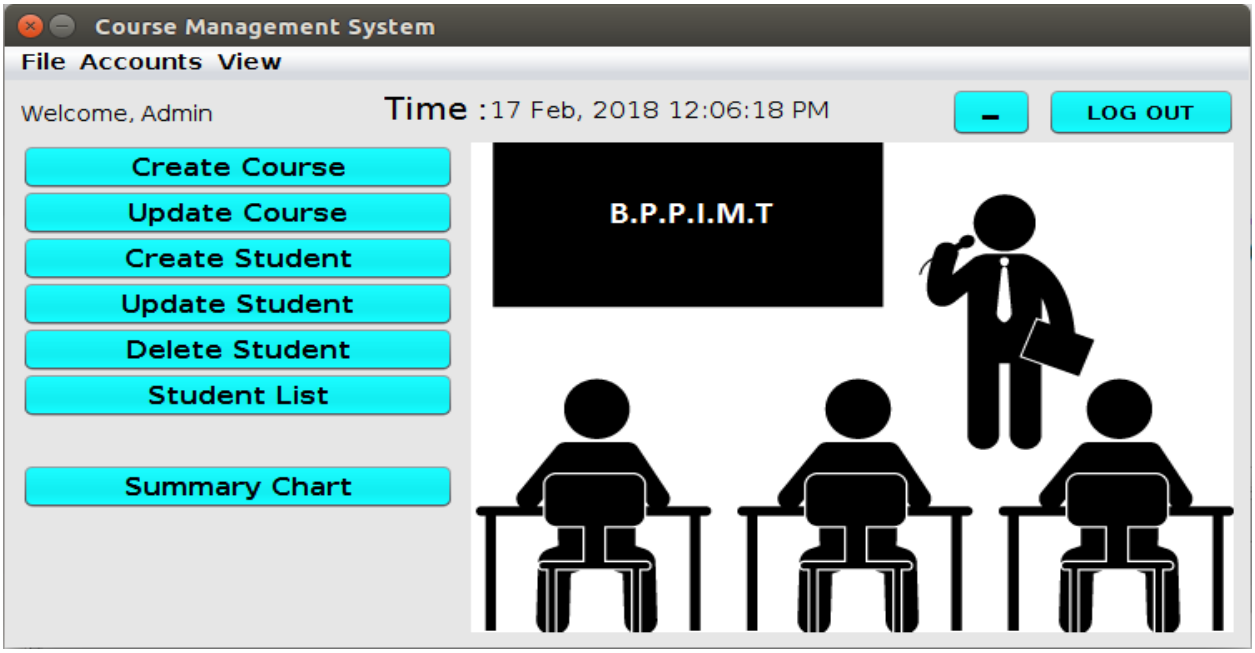


DataBase Design

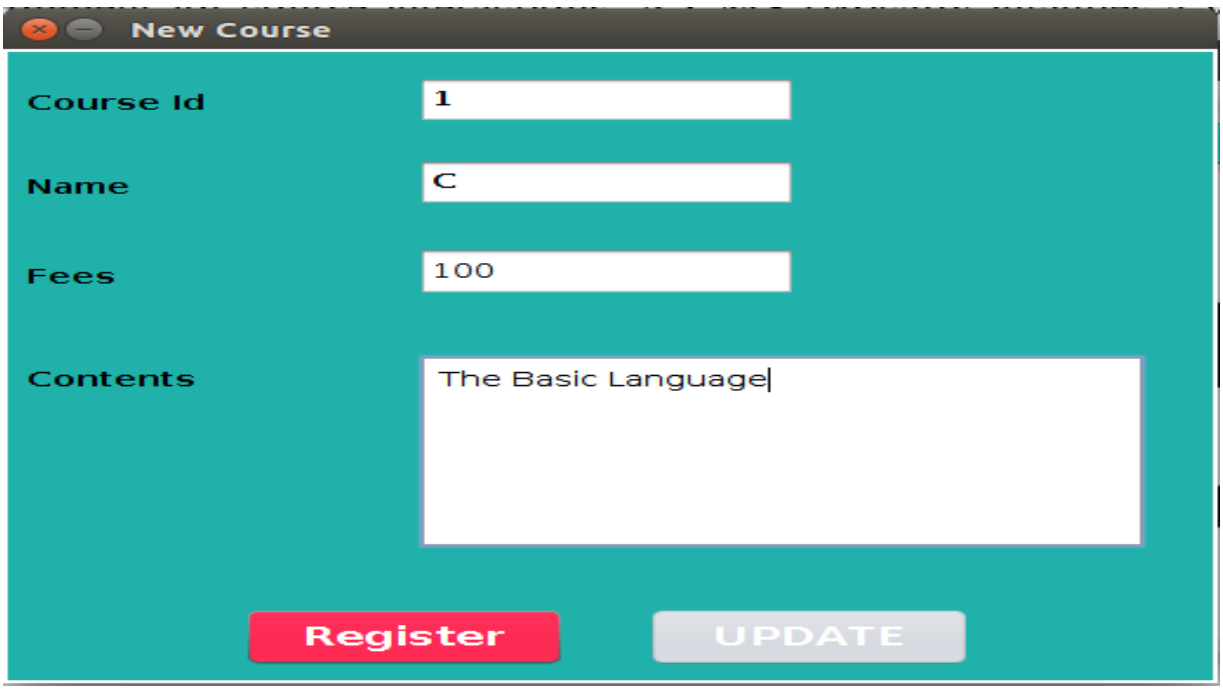




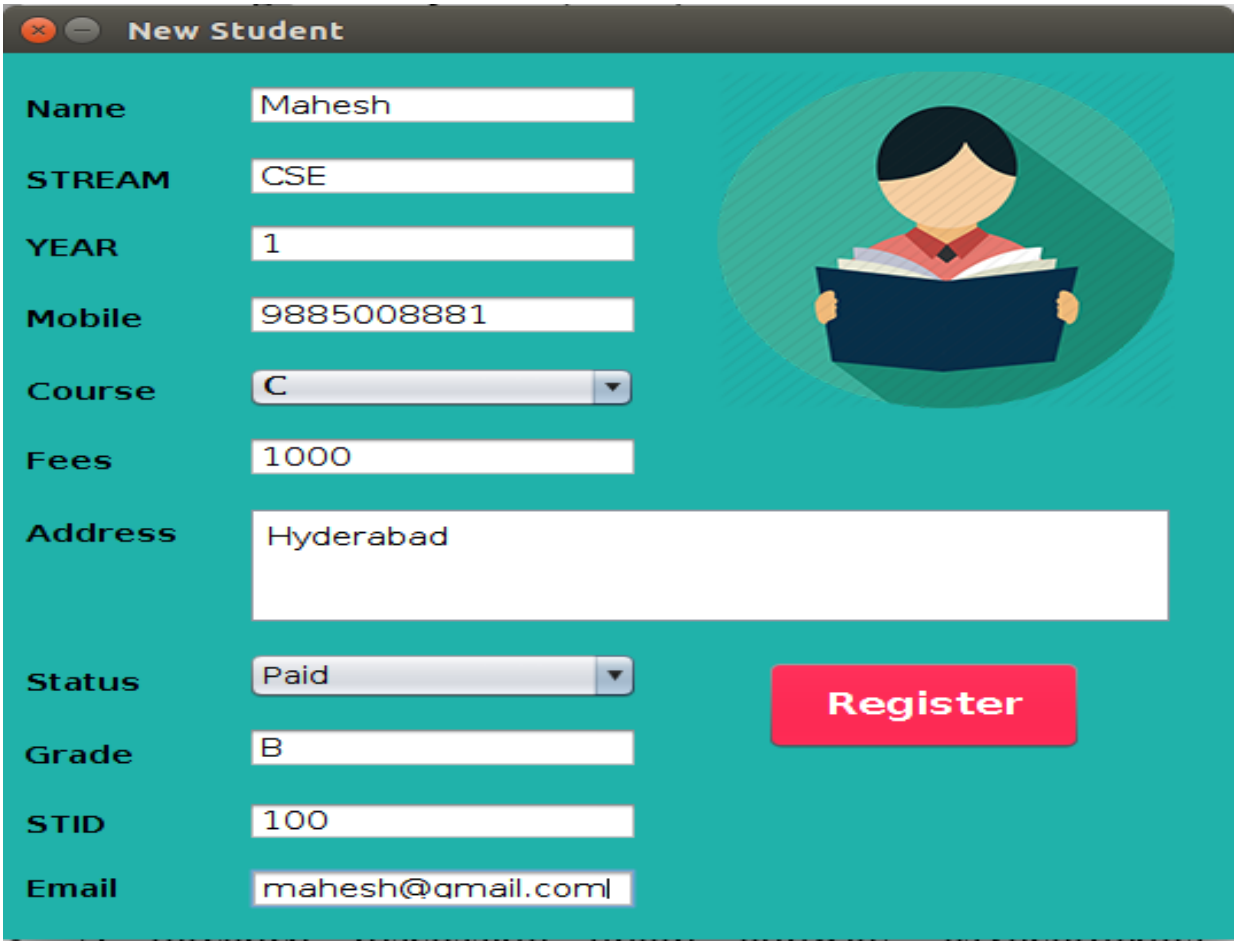
Admin Login



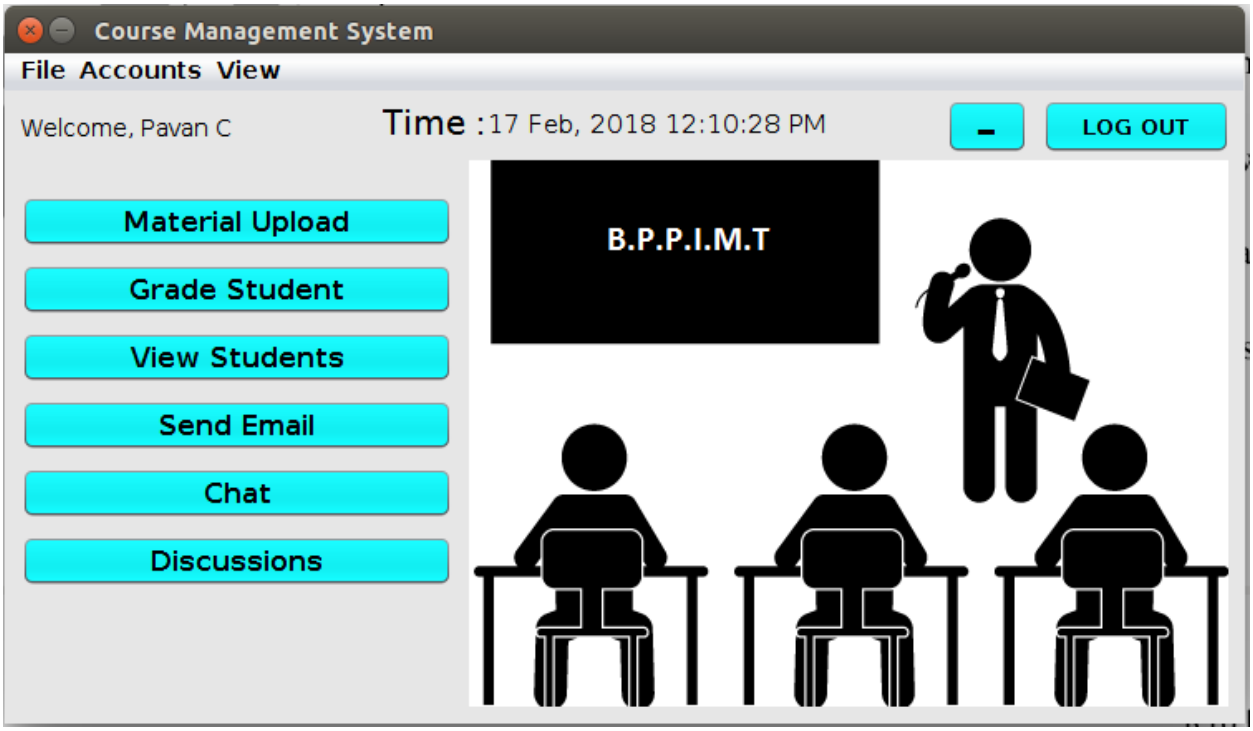
Admin Dash-Board



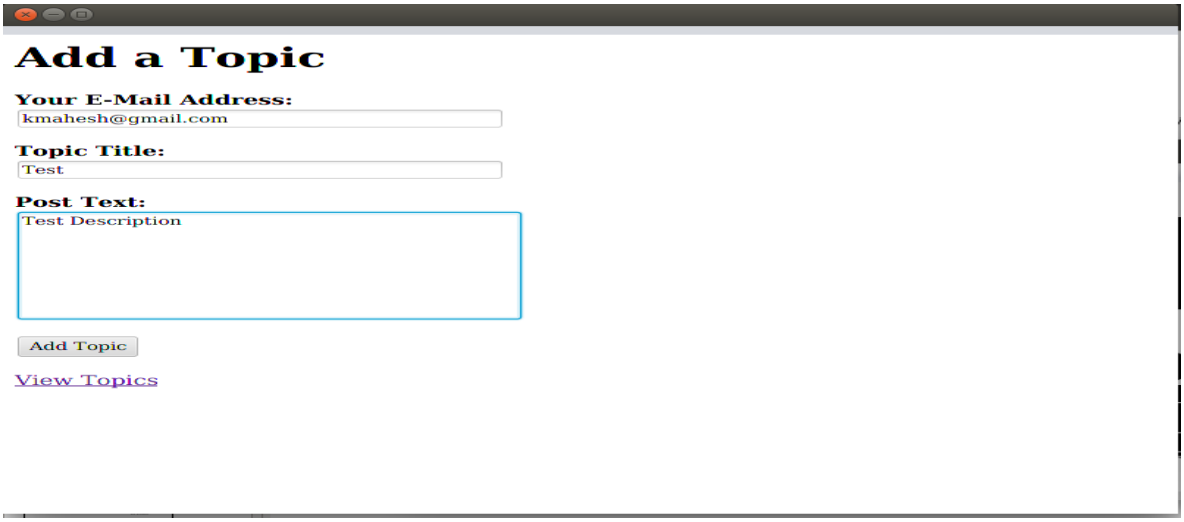
Add-Course



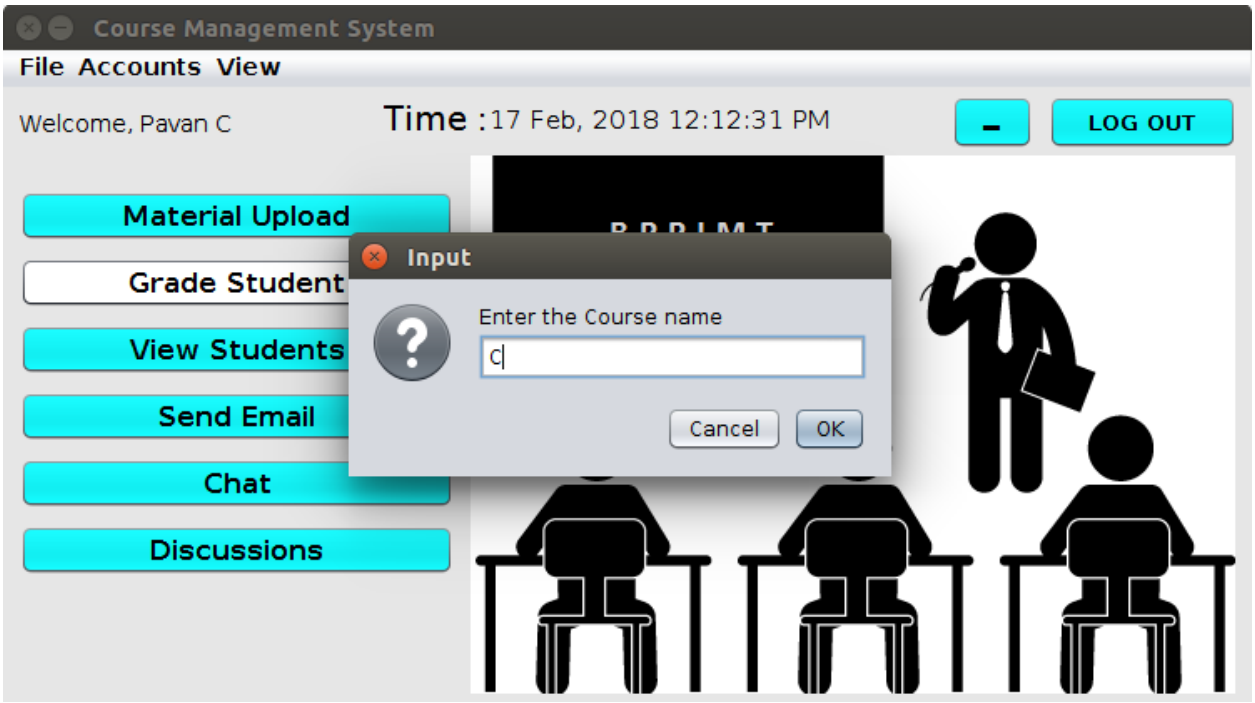
Student Registration



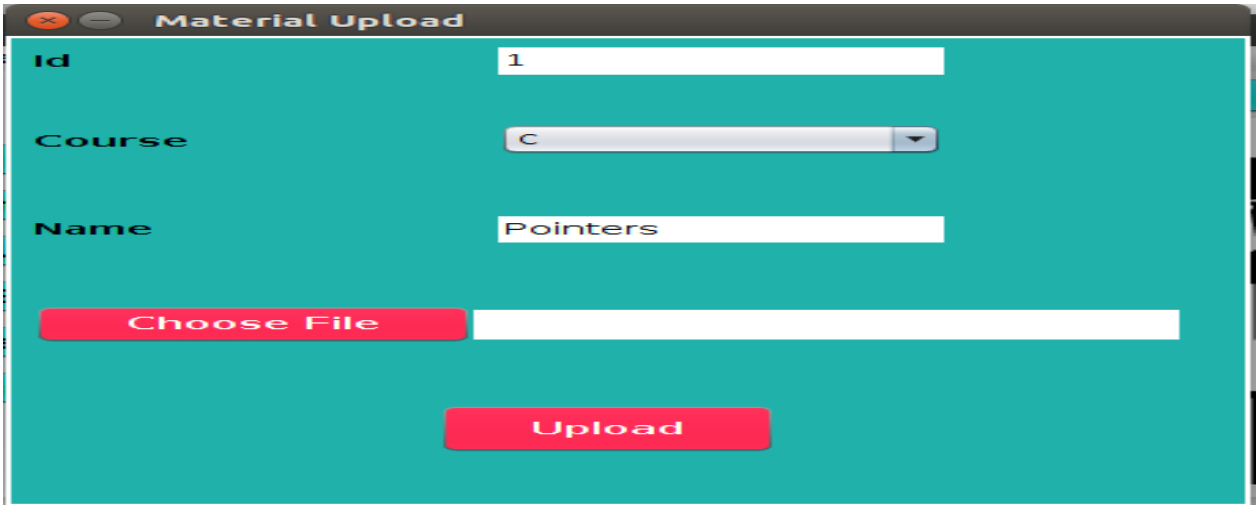
Faculty Dash-board



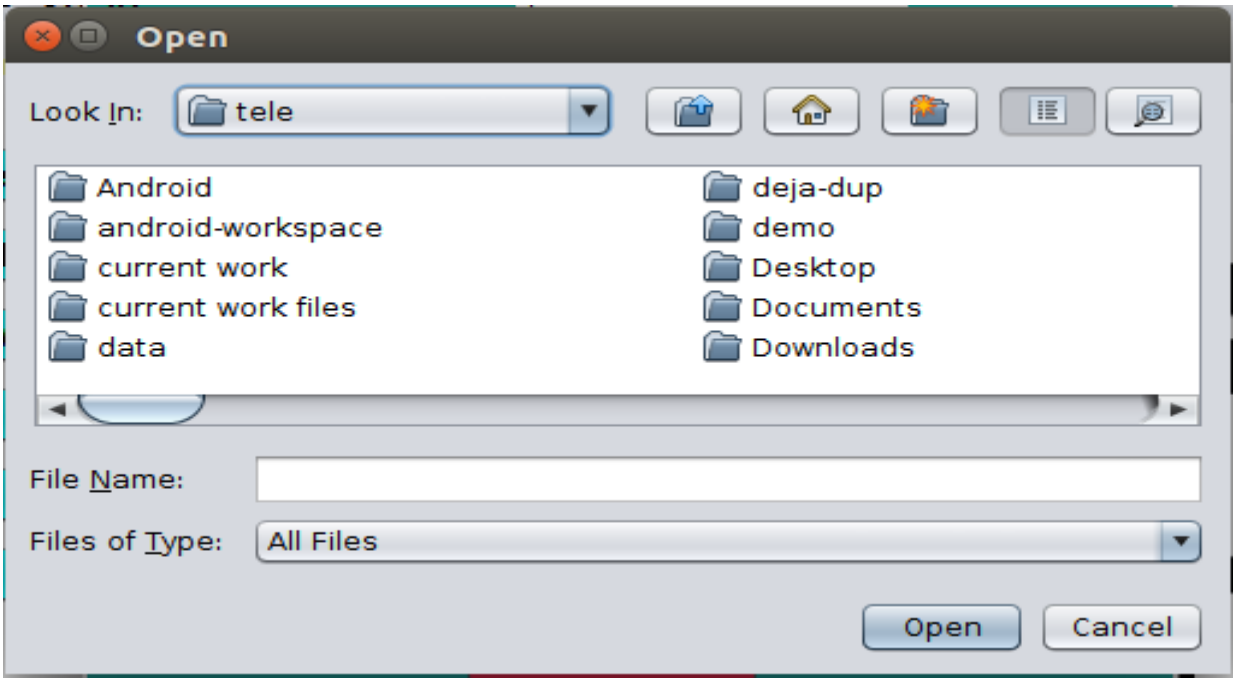
Discussions Posting



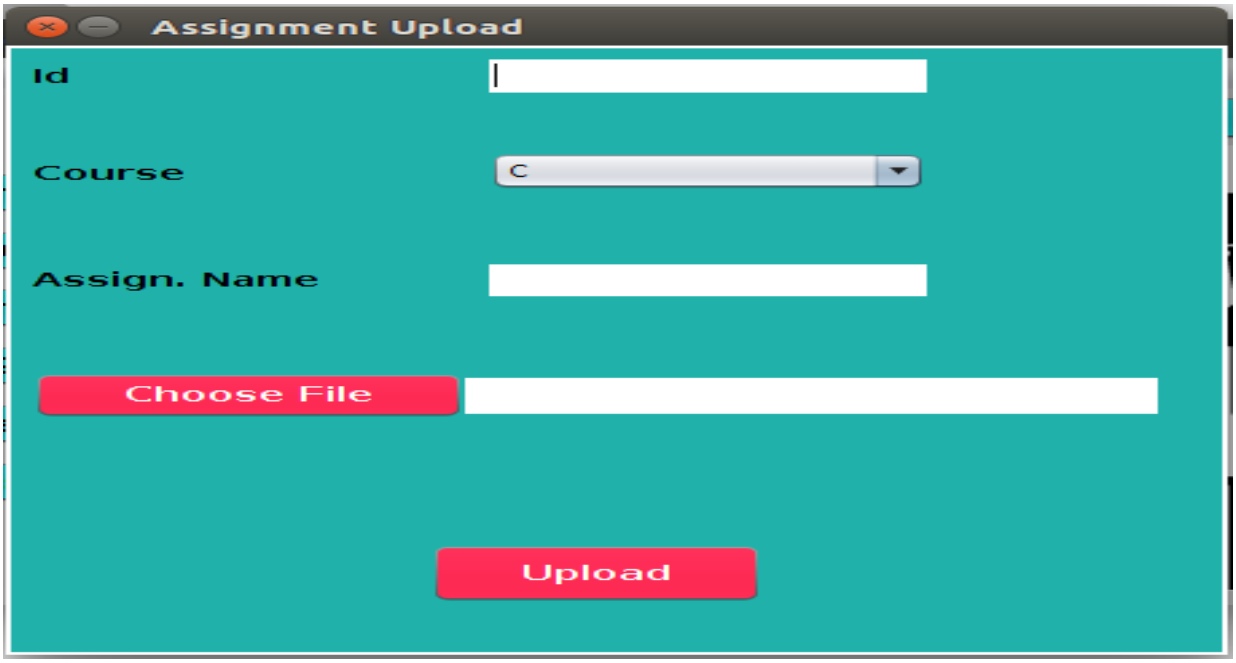
Faculty Grade Student



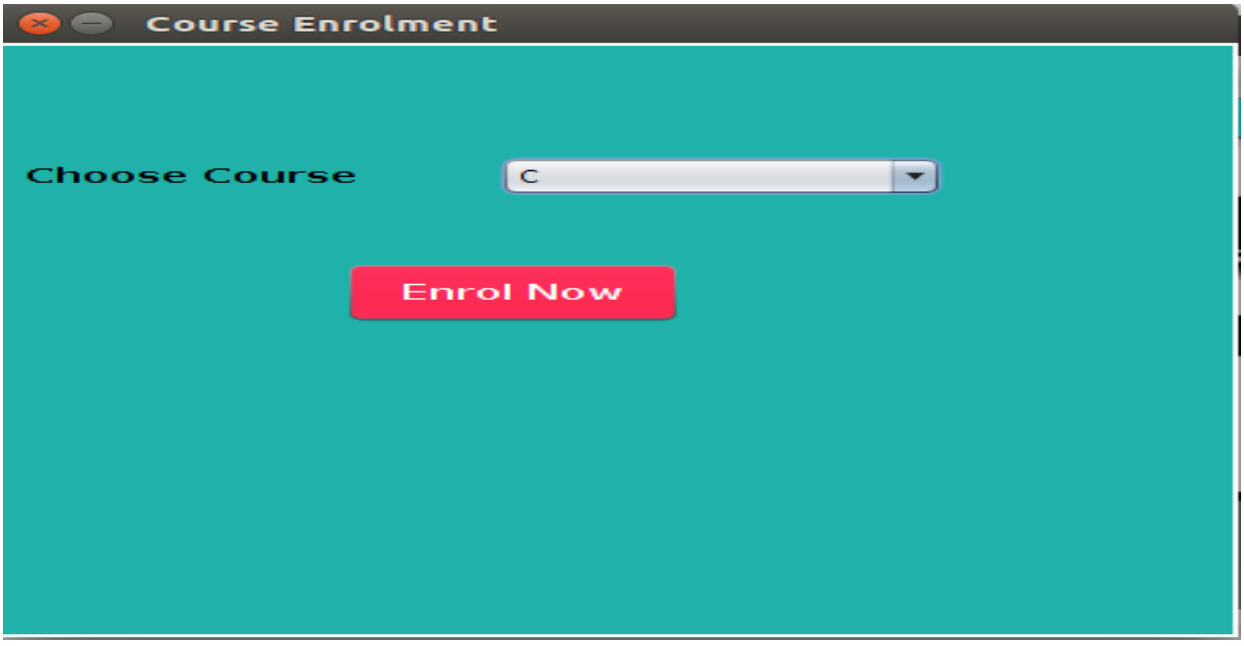
Faculty Material Upload 1



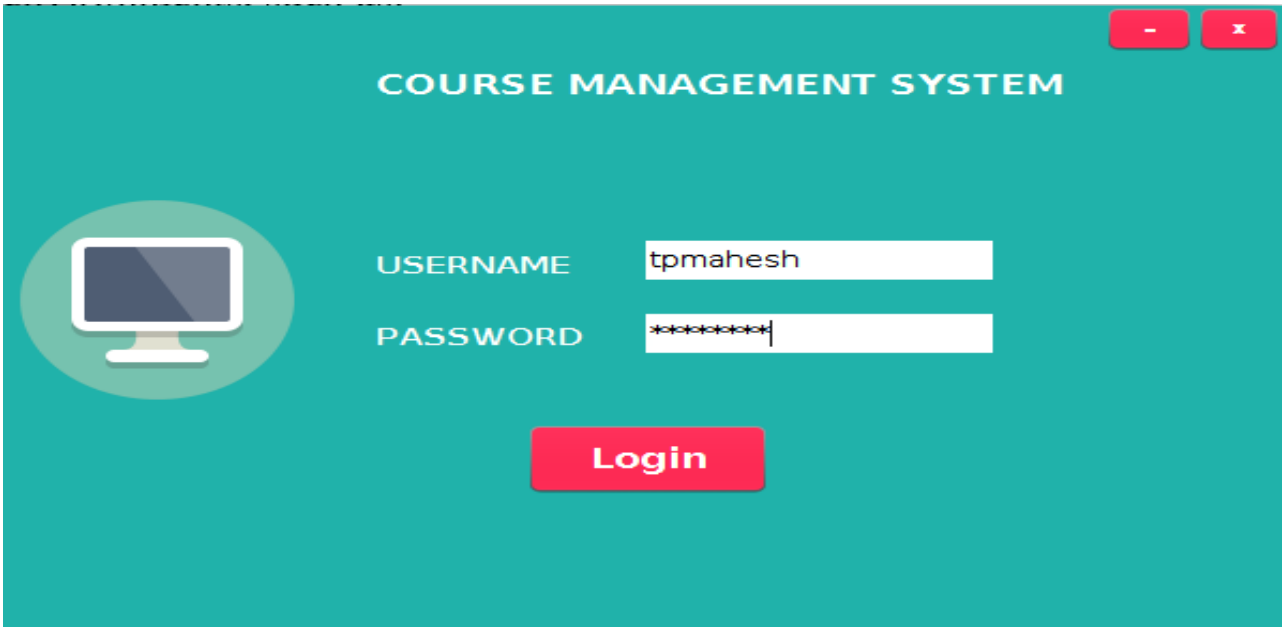
Faculty Material Upload 2



Student Assignment Upload



Course Enrollment by student



Student Login