Introduction

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| school management system  One tool for all your school activities | shruthi sathisha  Shruthi.sathisha@my.unt.edu  rameez shaik  Rameez.shaik@my.unt.edu |

School Management System is a complete school information management solution. This is a multi-user application and this database application is made for: Administrator, Faculty and Student of the school.

School Administrator as user:

Application allows an admin to add or update student information to the system, add or update faculty information to the system, add or update the courses thought in the school, add or update a classroom detail and allow users to reserve a class room, add or modify faculty pay detail, make an announcement, check concerns or feedback from a student or faculty and get a complete report on a particular student or faculty.

Faculty as user:

Application allows a faculty to take student attendance, publish an assignment, schedule an exam, view or grade an assignment, view pay information, reserve a classroom, submit concerns to the school admin if any, view and download the course materials.

Student as user:

Application allows student to views courses he is registered in, view or submit an assignment , view grades, view fee dues if any , submit a concern to school administrator if any, view or download the course materials.

User requirements

The application is password protected one must enter username and password to use the application. If a user logs in as an admin he is redirected to admin’s main page, if he is logged in as user application is redirected to student’s main page likewise for faculty it is redirected to faculty main page.

An admin should be able to add, edit and delete student information to the system. The database should auto refresh on performing above activities and admin should be able to see the changes. Likewise he should be able to add and modify faculty information, course information, class room information. An admin also enters faculty payment details, he should see a list of faculties working in the school and he can add payment to them. Admin can also make announcements for students and faculties and it reflects in faculty and student login. Admin should be able to view concerns from his students and faculties so that he can fix them. Admin should be able to generate report on student including student personal information, courses student enrolled in, and his grades. A report on faculty personal information, courses he/she is teaching and their payment information. A report on list of all courses in the department etc.

A faculty should be able view a list of students he is teaching and take attendance, publish an assignment, schedule an exam, view assignments student has submitted and grade them, view his grades, reserve a class room, submit concern to school admin if any, view or download course materials

A student should be able to view list of courses he is enrolled in, view the list of assignments he is supposed to work on and submit an assignment, view his/ her grade, view his/her fee dues and deadlines, submit concerns to school admin if any, view or download course textbooks.

Software & Language

* Microsoft Access 2013
* Visual Basics for Application (VBA)

Major entities and its description

STUDENT :

This table stores a student’s personal data like STUDENT\_ID, FNAME, LNAME, DATE\_OF\_BIRTH,MAJOR, GENDER, ADDRESS, PHONE etc… STUDENT\_ID is primary key.

FACULTY :

This table stores a faculty’s personal data like FACULTY\_ID, FNAME, LNAME, PHONE, EMAIL, ADDRESS,DEPT etc.. FACYLTY\_ID is primary key.

COURSE :

This table stores detail of courses school offers like COURSE\_ID, TITLE , DESCRIPTION, DEPARTMENT, FEE etc.. COURSE\_ID is primary key

CLASSROOM :

This table stores the class room information in the school and are they are booked by anyone or free like ROOM\_NUM, CAPACITY,AVAILABLE, FROM , TO etc..

EXAM :

This table stores information on exams held and upcoming exams in school like EXAM\_ID , COURSE\_ID, INSTRUCTOR, EXAM\_DATE, MAX\_POINT etc.. EXAM\_ID is primary key

ASSIGNMENTS:

This table stores assignment published by faculties and the assignment file like ASSGN\_ID, PUBLISH\_DATE, DUE\_DATE, FACULTY\_ID , FILE etc..

LOGIN :

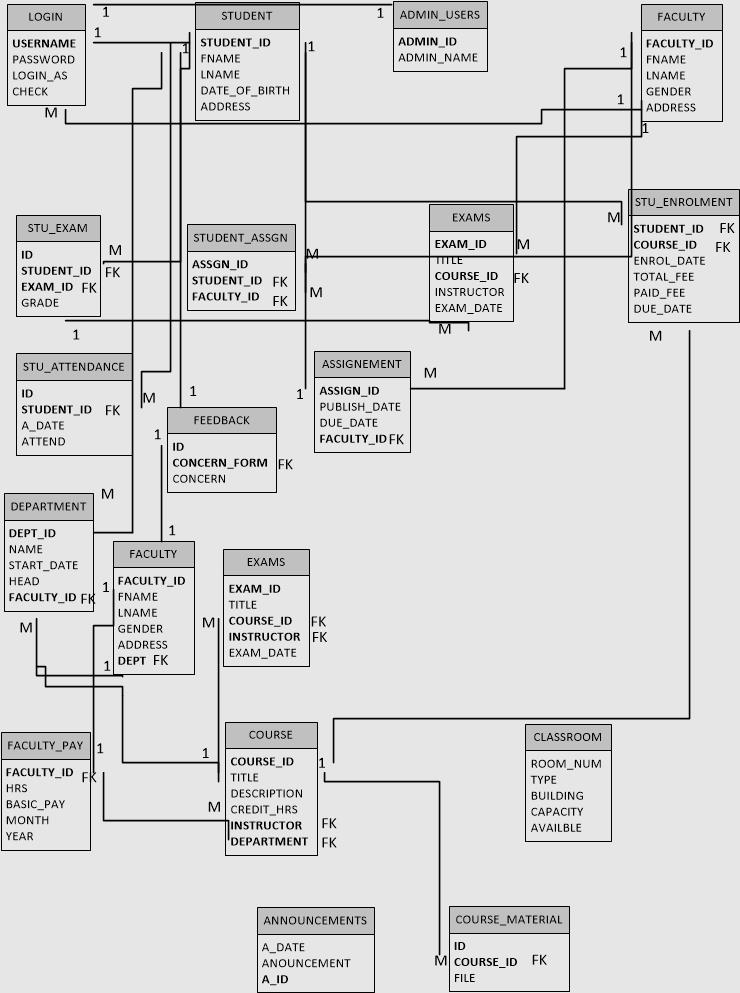
This stores the login credentials for the users like, USERNAME, PASSWORD etc.. USERNAME is Primary key

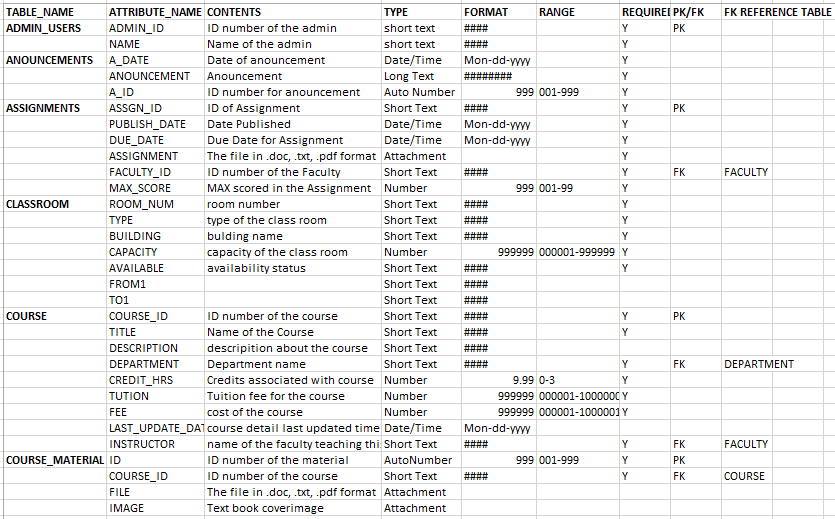
STU\_ENROLMENT :

This table stores detail of courses student enrolled in and the fee details like STUDENT\_ID, COURSE\_ID ENROLMENT\_DATE, FEE, DUE\_DATE etc..

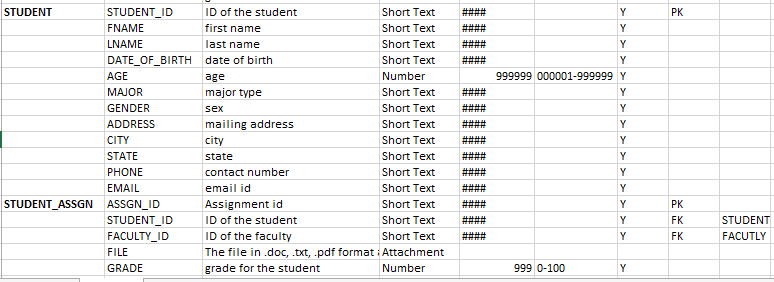
BUSINESS RULES

* One user can have only one login credentials.
* One student can enroll to many courses.
* One course can have many students.
* One student can post many feedback.
* Feedback can have post from many students.
* One student can take many exams.
* One exam can have many students
* One faculty can have many students
* One student can be under many faculties
* One faculty can belong to one department
* One department can have many faculties
* One department can have many courses.
* One course should be from one department.
* One faculty can post many assignments
* One assignment should be posted by one faculty.
* One student can submit many assignments.
* One assignment should be submitted by only one student.
* One faculty can receive many pay.
* One pay should go to only one faculty.
* One course can have many course material
* One course material can belong to only one course.
* Faculty can book any number of classrooms if available.
* Admin can make many announcement
* Faculty can schedule many exams.
* One exam should be scheduled by only one faculty.
* One faculty can submit many feedback/concerns.
* One feedback should be submitted by only one faculty.
* Faculty can take attendance for many student under him/her.

Entity relationship diagram

Data Dictionary





**Sample Queries**

1. To check available classrooms-

SELECT CLASSROOM.\* FROM CLASSROOM WHERE (((CLASSROOM.AVAILABLE)="yes"));

1. To list all concerns from faculties-

SELECT FACULTY.FACULTY\_ID, FACULTY.FNAME, FACULTY.LNAME, Feedback.Concern, Feedback.Concern\_from FROM FACULTY, Feedback WHERE (((Feedback.Concern\_from)=[FACULTY]![FACULTY\_ID]));

1. To show faculty personal, pay and course detail -

SELECT FACULTY.\*, COURSE.TITLE, FACULTY\_PAY.\* FROM FACULTY\_PAY INNER JOIN (FACULTY INNER JOIN COURSE ON FACULTY.FACULTY\_ID = COURSE.INSTRUCTOR) ON (FACULTY.FACULTY\_ID = FACULTY\_PAY.FACULTY\_ID) AND (FACULTY\_PAY.FACULTY\_ID = COURSE.INSTRUCTOR) WHERE (((FACULTY.FACULTY\_ID)=[Forms]![Reports\_Form]![faculty\_id]));

1. To show fee due of a student

SELECT COURSE.TITLE, COURSE.TUTION, COURSE.FEE, STU\_ENROLMENT.TOTAL\_FEE, STU\_ENROLMENT.FEE\_PAID, STU\_ENROLMENT.FEE\_DUE, STU\_ENROLMENT.DUE\_DATE FROM COURSE INNER JOIN (STU\_ENROLMENT INNER JOIN LOGIN ON STU\_ENROLMENT.STUDENT\_ID = LOGIN.USERNAME) ON COURSE.COURSE\_ID = STU\_ENROLMENT.COURSE\_ID GROUP BY COURSE.TITLE, COURSE.TUTION, COURSE.FEE, STU\_ENROLMENT.TOTAL\_FEE, STU\_ENROLMENT.FEE\_PAID, STU\_ENROLMENT.FEE\_DUE, STU\_ENROLMENT.DUE\_DATE, [LOGIN]![check] HAVING (((STU\_ENROLMENT.FEE\_DUE)>0) AND (([LOGIN]![check])="yes"));

1. To show list of assignment a student supposed to do

SELECT ASSIGNMENTS.ASSGN\_ID, ASSIGNMENTS.PUBLISH\_DATE, ASSIGNMENTS.DUE\_DATE, ASSIGNMENTS.ASSIGNMENT, ASSIGNMENTS.FACULTY\_ID FROM ASSIGNMENTS INNER JOIN (LOGIN INNER JOIN (COURSE INNER JOIN STU\_ENROLMENT ON (STU\_ENROLMENT.COURSE\_ID = COURSE.COURSE\_ID) AND (COURSE.COURSE\_ID = STU\_ENROLMENT.COURSE\_ID)) ON LOGIN.USERNAME = STU\_ENROLMENT.STUDENT\_ID) ON ASSIGNMENTS.FACULTY\_ID = COURSE.INSTRUCTOR WHERE (([LOGIN]![check]="yes"));

1. To show grades to the student

SELECT STUDENT\_ASSGN.ASSGN\_ID, STUDENT\_ASSGN.GRADE, EXAMS.TITLE, STU\_EXAM.GRADE FROM ((STUDENT INNER JOIN LOGIN ON STUDENT.STUDENT\_ID = LOGIN.USERNAME) INNER JOIN (EXAMS INNER JOIN STU\_EXAM ON EXAMS.EXAM\_ID = STU\_EXAM.EXAM\_ID) ON STUDENT.STUDENT\_ID = STU\_EXAM.STUDENT\_ID) INNER JOIN STUDENT\_ASSGN ON STUDENT.STUDENT\_ID = STUDENT\_ASSGN.STUDENT\_ID WHERE (((LOGIN.check)="yes") AND ((STUDENT\_ASSGN.STUDENT\_ID)=[LOGIN]![USERNAME]));

1. To show pay detail to faculty

SELECT FACULTY\_PAY.\*, LOGIN.check FROM FACULTY\_PAY INNER JOIN LOGIN ON FACULTY\_PAY.FACULTY\_ID = LOGIN.USERNAME WHERE (((LOGIN.check)="yes") AND ((FACULTY\_PAY.FACULTY\_ID)=[LOGIN]![USERNAME]));

1. To show all students under a faculty

SELECT STUDENT.FNAME, STUDENT.LNAME, STUDENT.STUDENT\_ID FROM STUDENT INNER JOIN ((COURSE INNER JOIN LOGIN ON COURSE.INSTRUCTOR = LOGIN.USERNAME) INNER JOIN STU\_ENROLMENT ON COURSE.COURSE\_ID = STU\_ENROLMENT.COURSE\_ID) ON STUDENT.STUDENT\_ID = STU\_ENROLMENT.STUDENT\_ID WHERE (((LOGIN.check)="yes") AND ((LOGIN.USERNAME)=[COURSE]![INSTRUCTOR]));

1. To list courses a student enrolled in

SELECT COURSE.TITLE FROM COURSE INNER JOIN (LOGIN INNER JOIN STU\_ENROLMENT ON LOGIN.USERNAME = STU\_ENROLMENT.STUDENT\_ID) ON COURSE.COURSE\_ID = STU\_ENROLMENT.COURSE\_ID WHERE ((([LOGIN]![check])="yes") AND (([LOGIN]![LOGIN\_AS])="student"));

1. To list and allow to download course materials

SELECT Course\_Material.Image, Course\_Material.FILE, LOGIN.check FROM (COURSE INNER JOIN LOGIN ON COURSE.INSTRUCTOR = LOGIN.USERNAME) INNER JOIN Course\_Material ON COURSE.COURSE\_ID = Course\_Material.COURSE\_ID WHERE (((COURSE.INSTRUCTOR)=[LOGIN]![USERNAME]) AND (([LOGIN]![check])="yes"));

1. To list all concerns from student

SELECT STUDENT.STUDENT\_ID, STUDENT.FNAME, STUDENT.LNAME, Feedback.Concern FROM STUDENT INNER JOIN Feedback ON STUDENT.STUDENT\_ID = Feedback.Concern\_from WHERE (((Feedback.Concern\_from)=[STUDENT]![STUDENT\_ID]));

1. To show a report including student personal and academic detail-

SELECT STUDENT.\*, COURSE.TITLE, STU\_EXAM.GRADE, STUDENT\_ASSGN.GRADE FROM ((STUDENT INNER JOIN (COURSE INNER JOIN STU\_ENROLMENT ON COURSE.COURSE\_ID = STU\_ENROLMENT.COURSE\_ID) ON STUDENT.STUDENT\_ID = STU\_ENROLMENT.STUDENT\_ID) INNER JOIN STU\_EXAM ON STUDENT.STUDENT\_ID = STU\_EXAM.STUDENT\_ID) INNER JOIN STUDENT\_ASSGN ON STUDENT.STUDENT\_ID = STUDENT\_ASSGN.STUDENT\_ID WHERE (((STUDENT.STUDENT\_ID)=[Forms]![Admin\_main\_form]![reports]![student\_id]![value]));

1. To show all assignments submitted by student under a particular faculty-

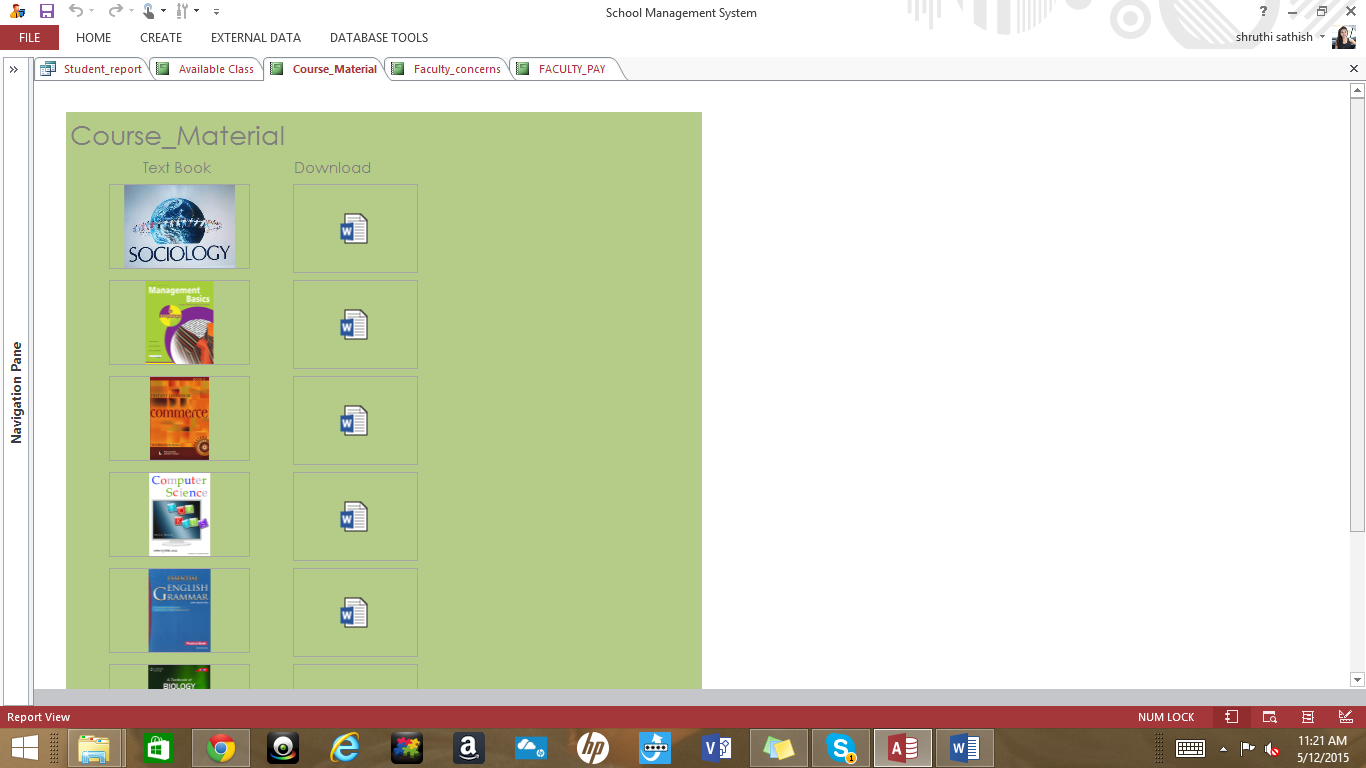
SELECT STUDENT.FNAME, STUDENT.LNAME, STUDENT.STUDENT\_ID, STUDENT\_ASSGN.FILE

FROM LOGIN, STUDENT INNER JOIN STUDENT\_ASSGN ON STUDENT.STUDENT\_ID = STUDENT\_ASSGN.STUDENT\_ID

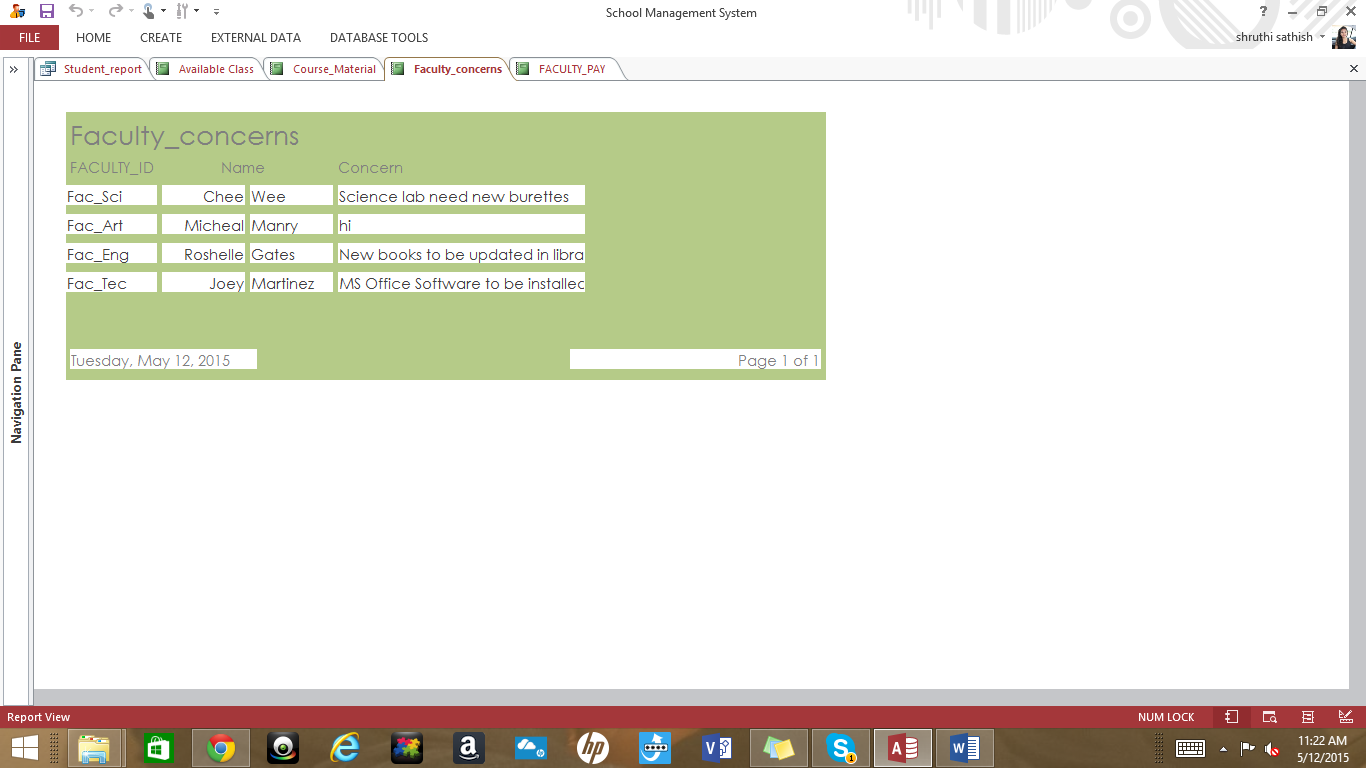
WHERE (((STUDENT\_ASSGN.FACULTY\_ID)=[LOGIN]![USERNAME]) AND (([LOGIN]![check])="yes"));

Sample Reports

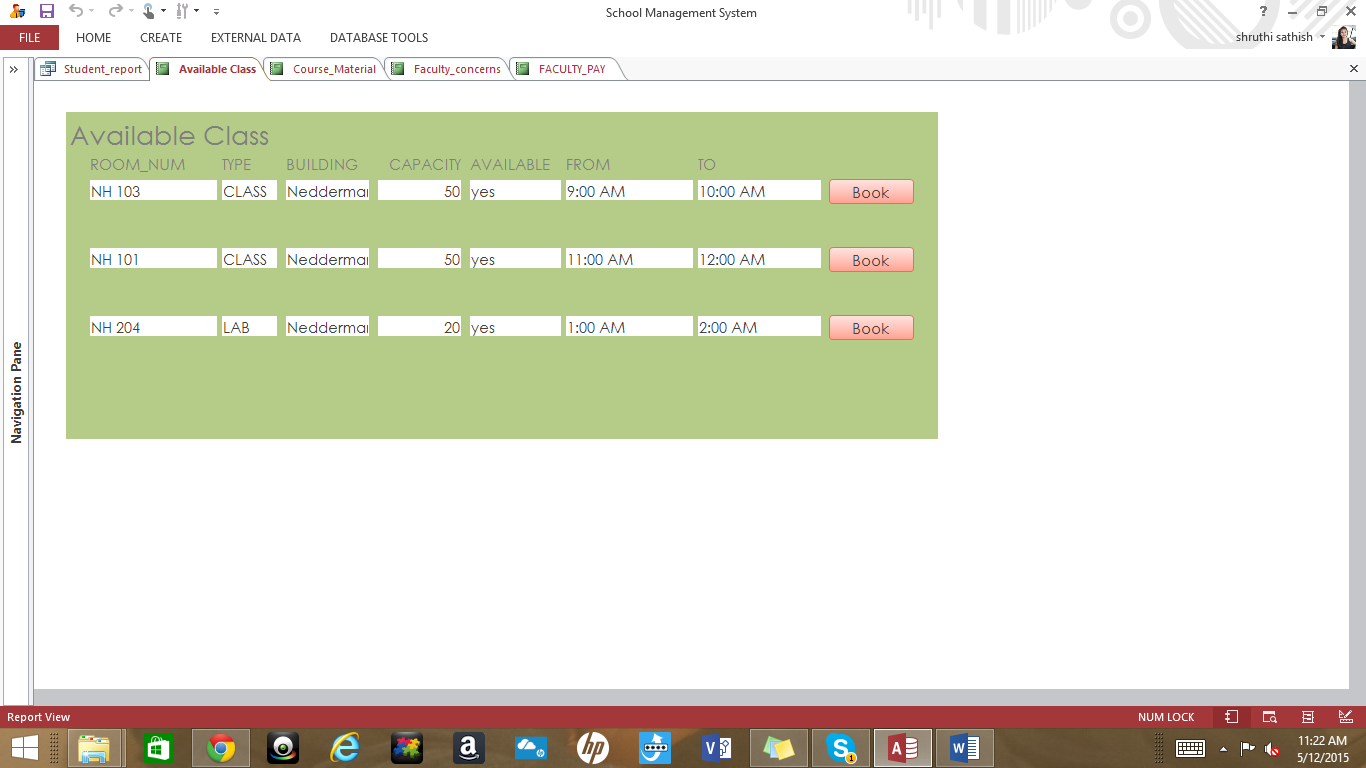
To show all course material available for students and faculties



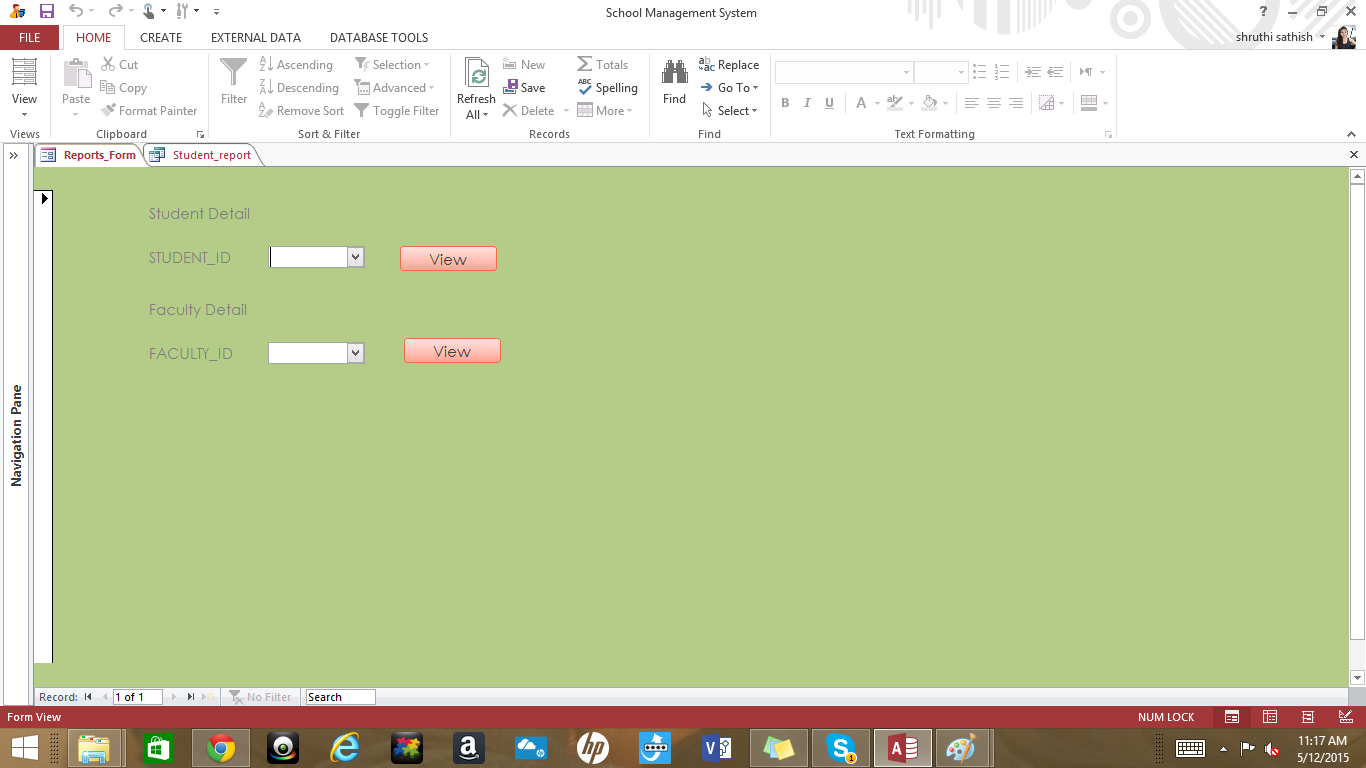
To show all concerns from faculties to the admin



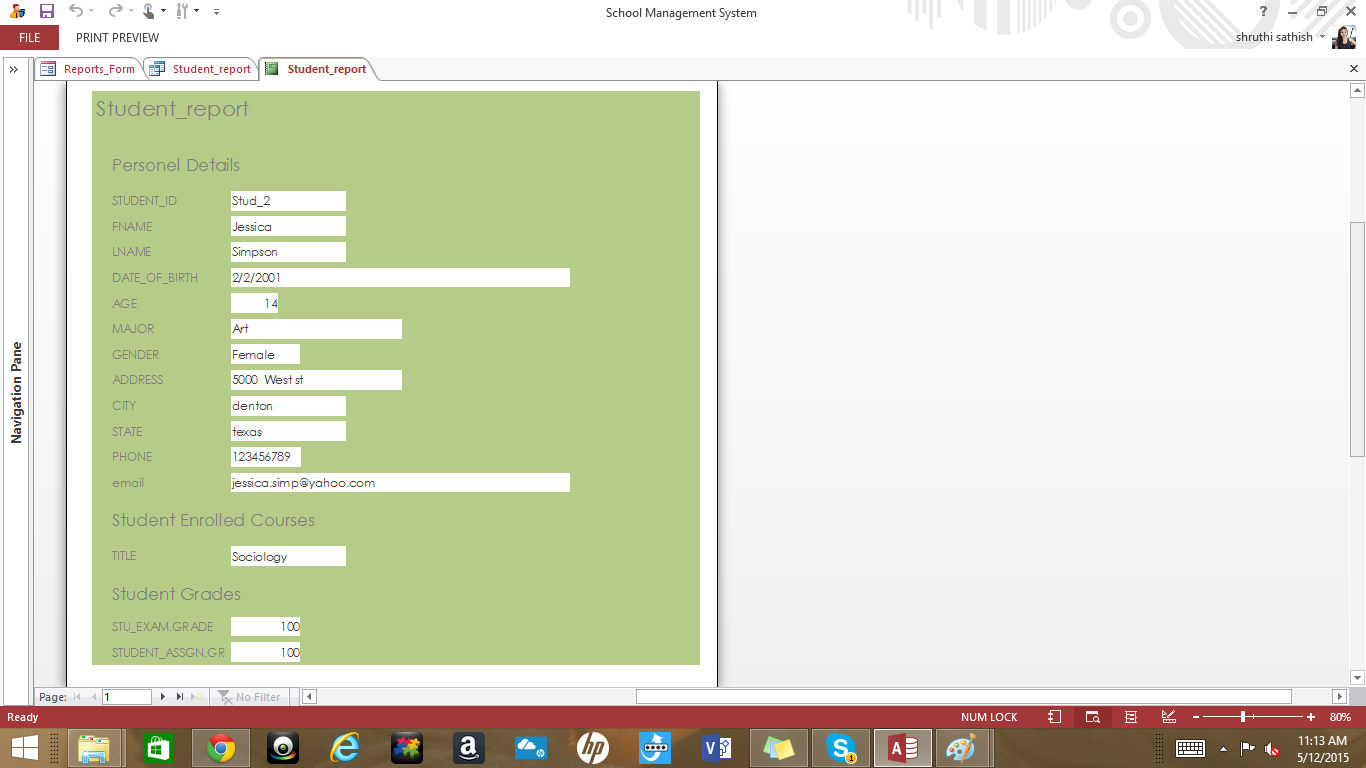
To show all available class rooms to faculty and allow them to book



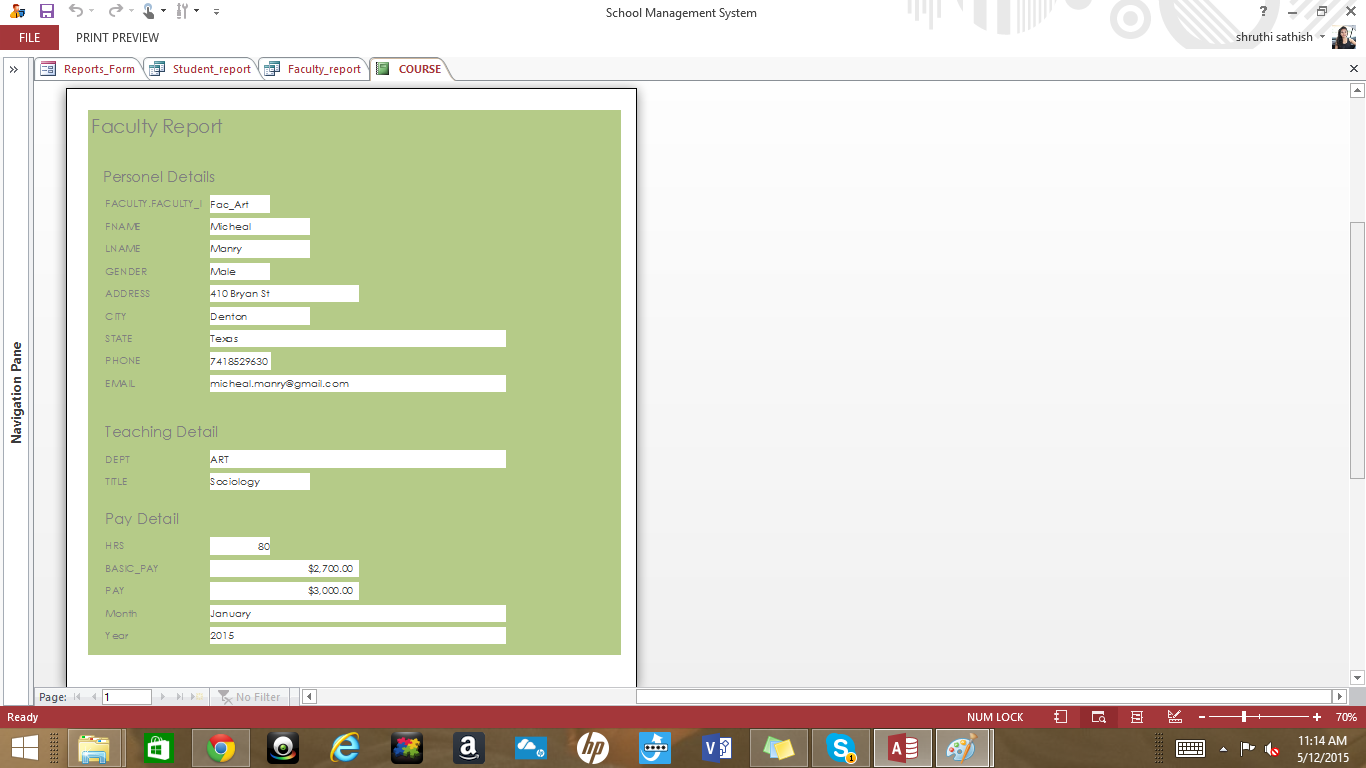
A report page to choose between student and faculty



Student report including personal, academic, fee related information

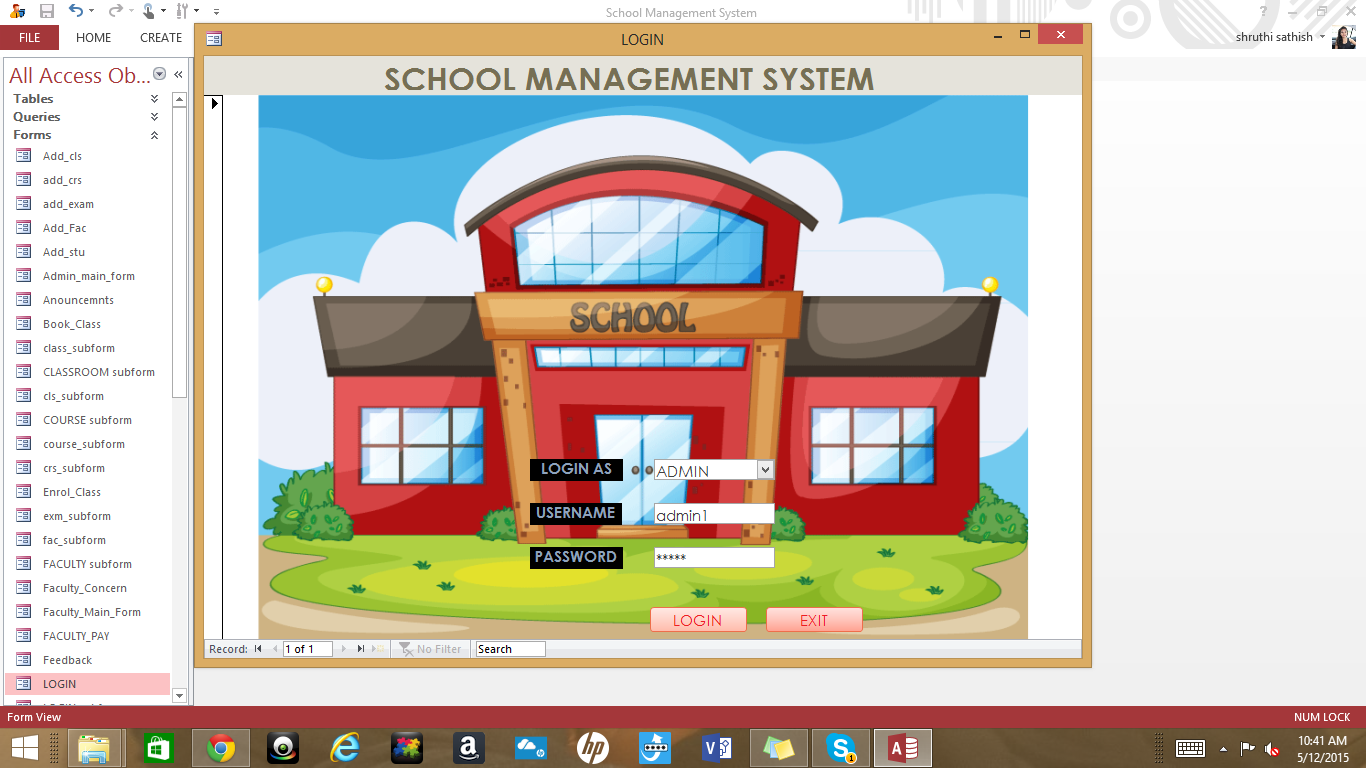


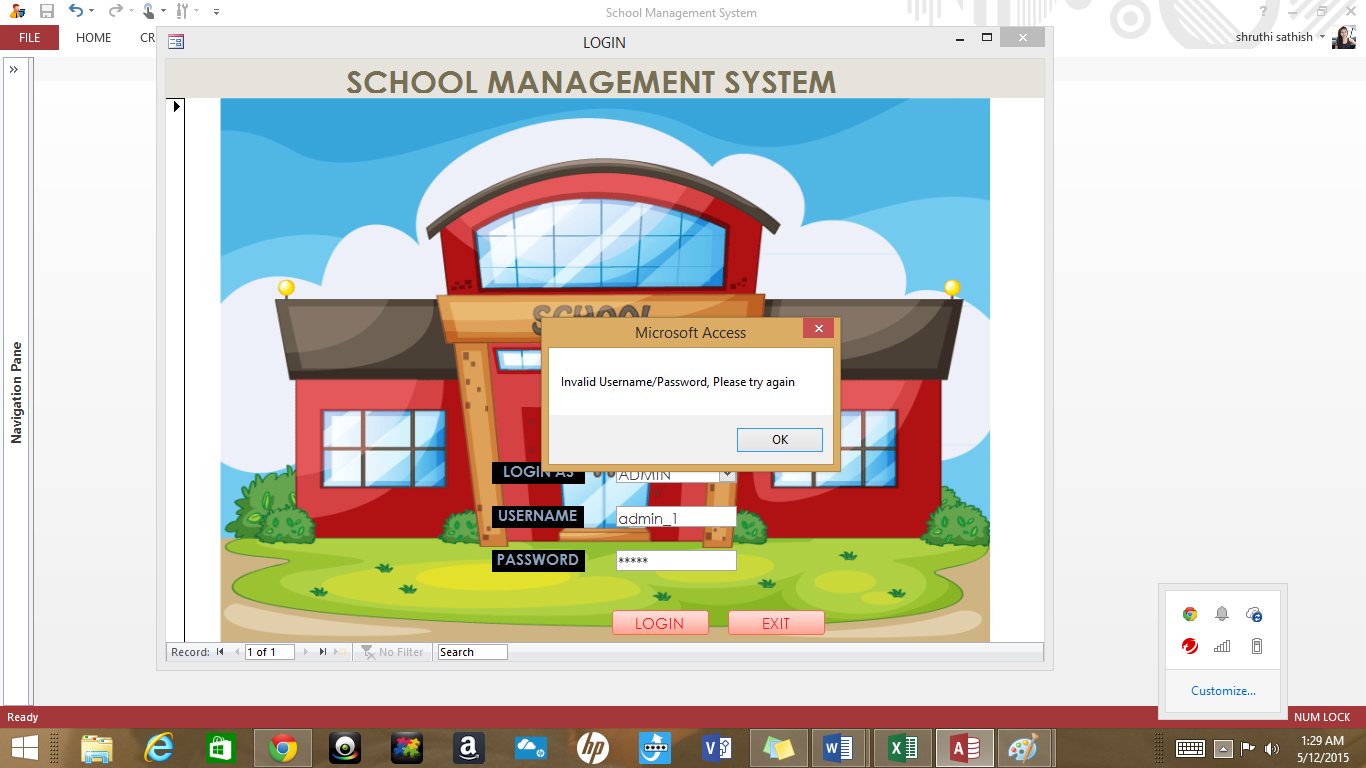
Report showing faculty personal, pay and course related information



Application

The Login page for the application. Application allows three type of users ADMIN,FACULTY & STUDENT. User is expected to choose between how they want to login as and give appropriate username and password.



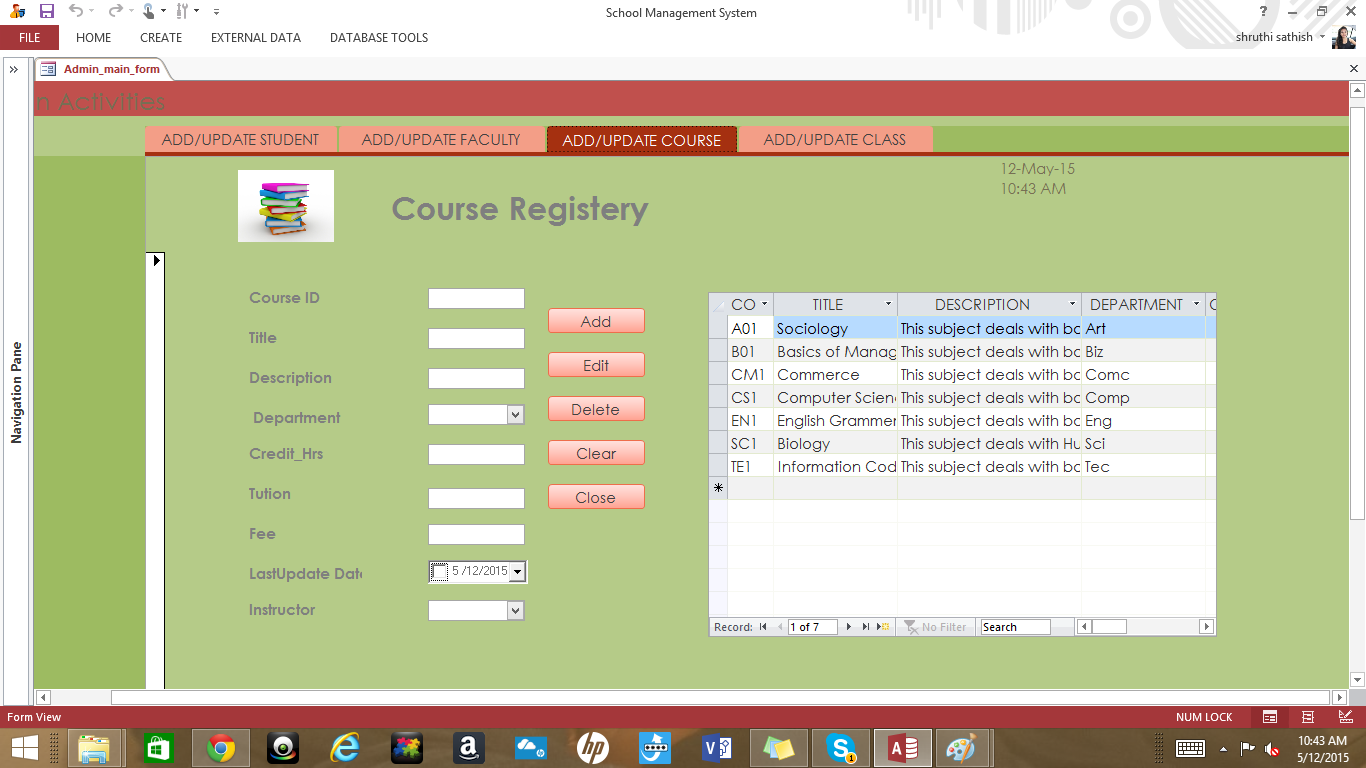
An error message showing invalid username/password

When user select to login as admin upon successful login he is redirected to admin main page.

Admin can Add/Update/Delete Student data and he can see the changes in the adjacent list.

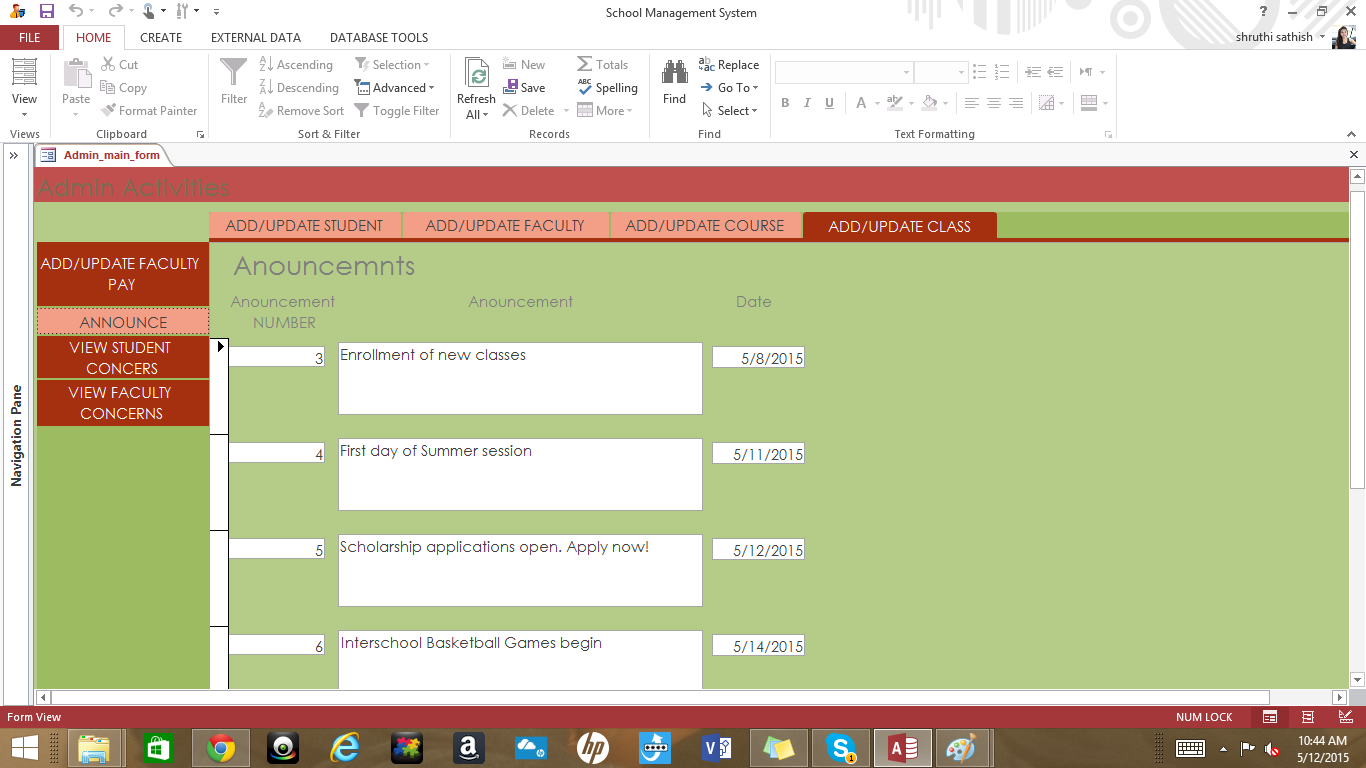


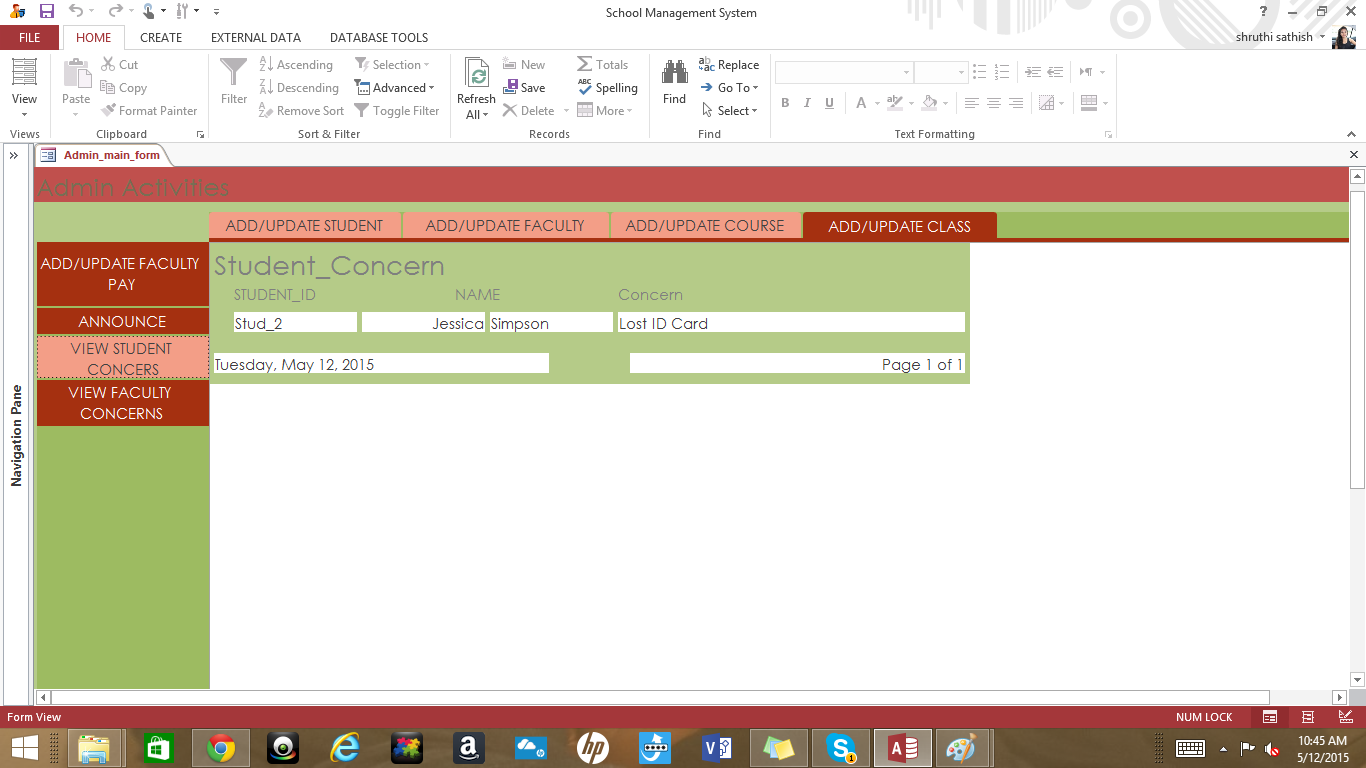
Admin can Add/Update/Delete Faculty data and he can see the changes in the adjacent list.

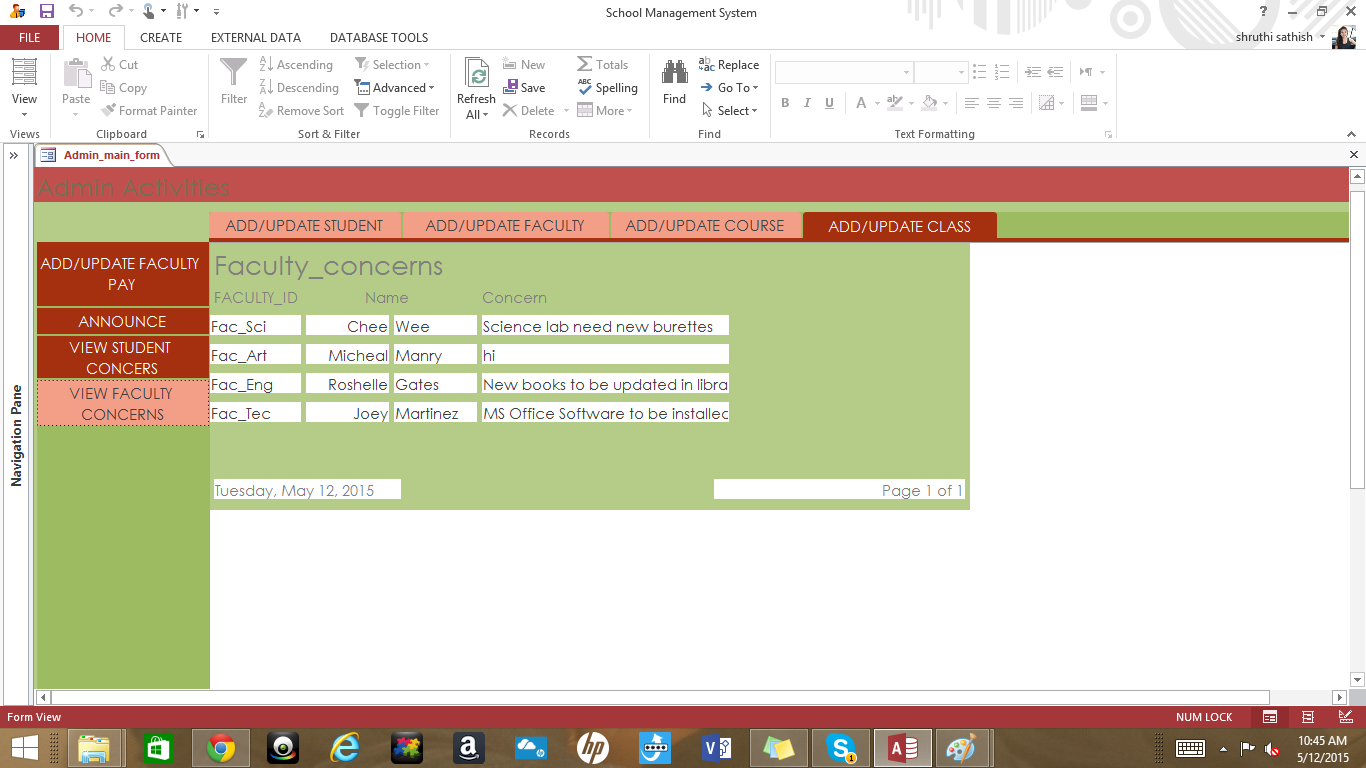
Admin can Add/Update/Delete Course data and he can see the changes in the adjacent list.

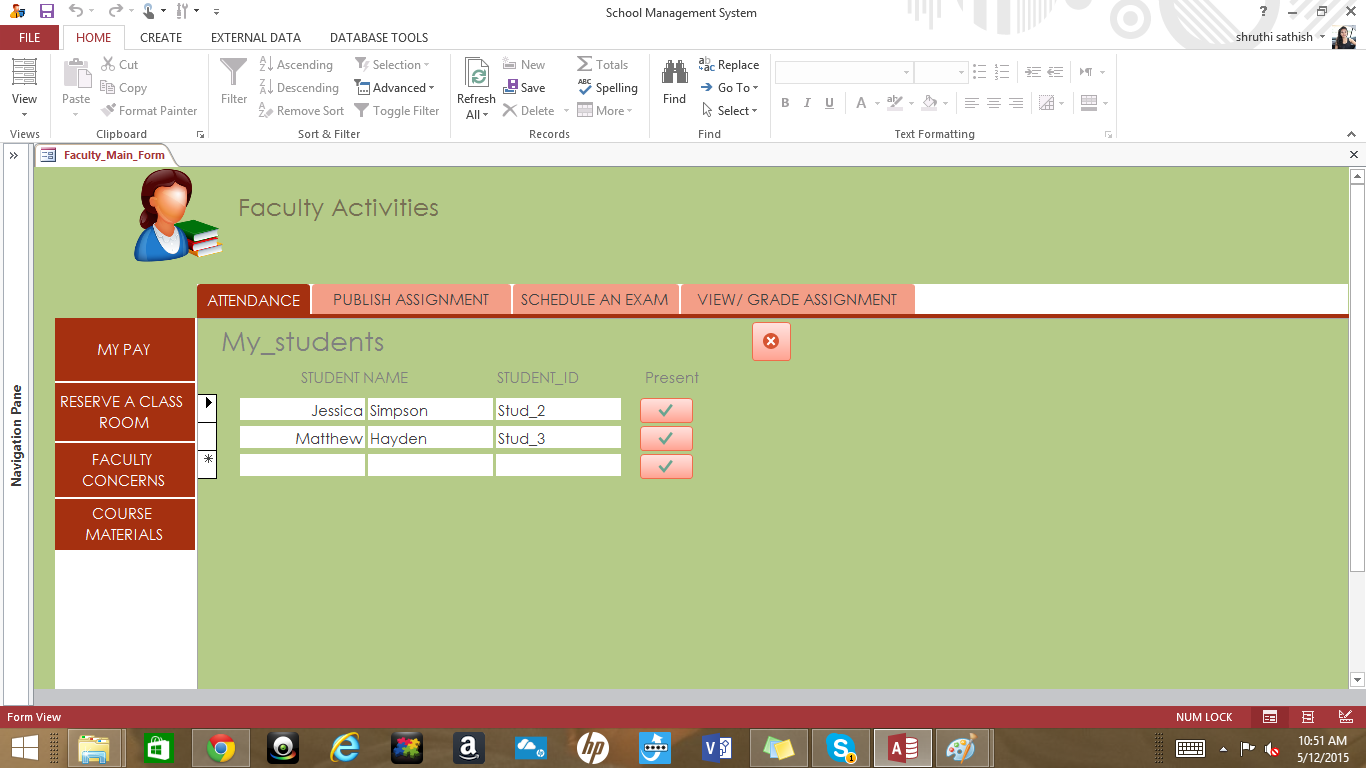
Admin can Add/Update/Delete Class room data and he can see the changes in the adjacent list.

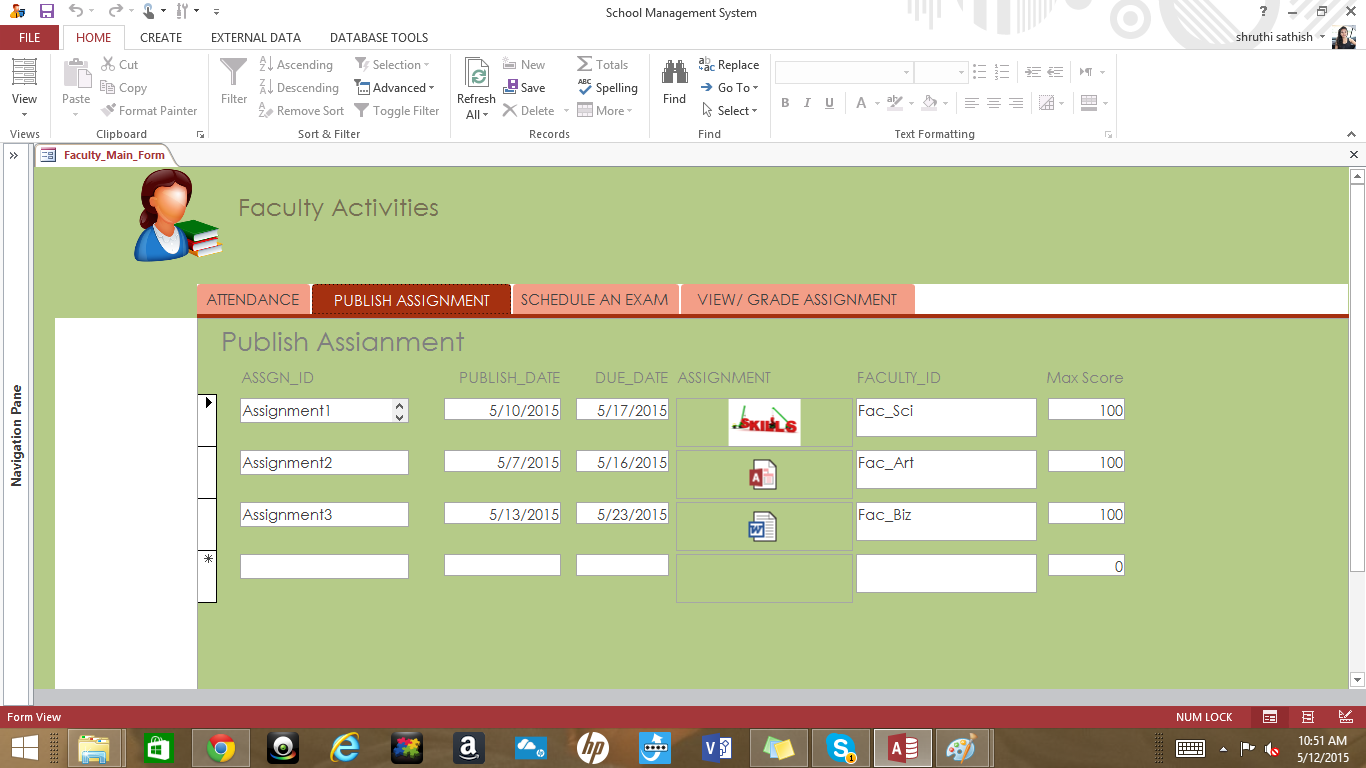
Admin can Add/Update/Delete Faculty pay data and he can see the changes in the list.

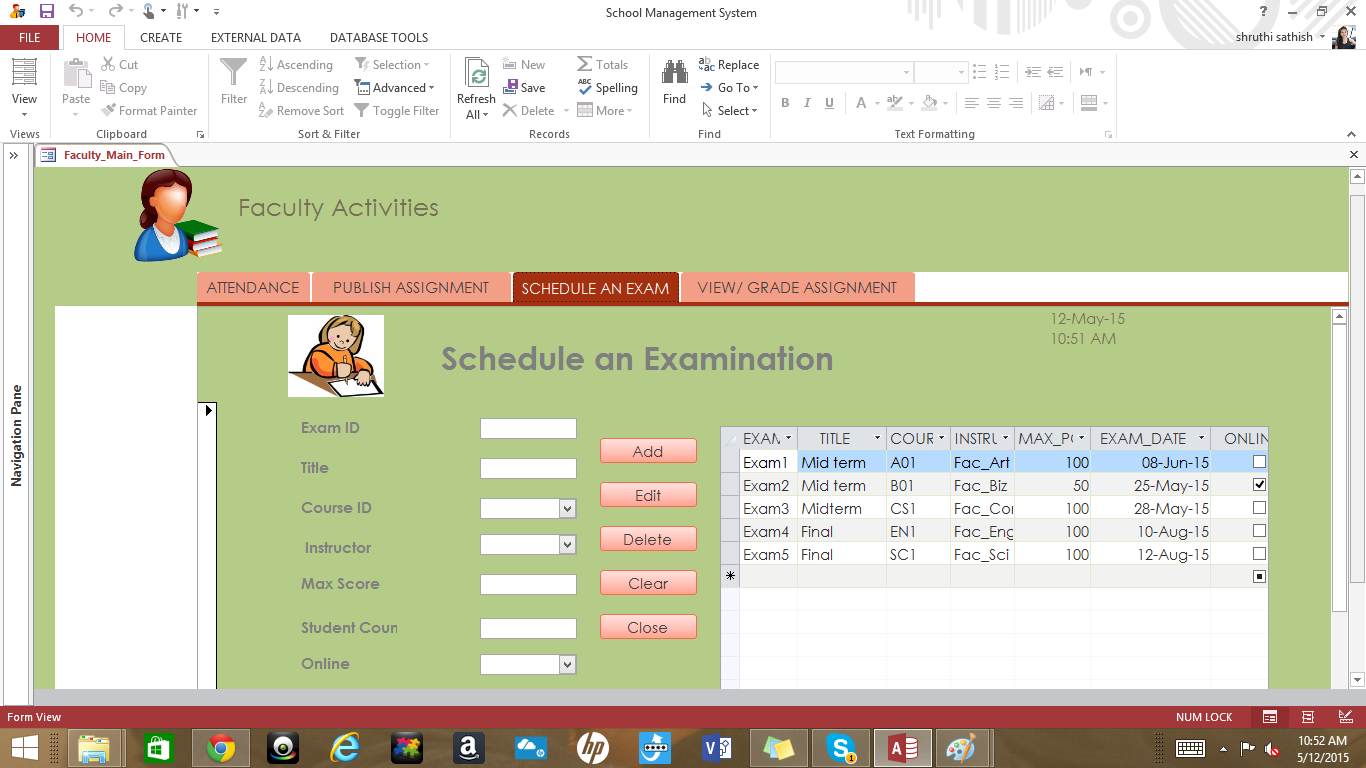
Admin can make announcements

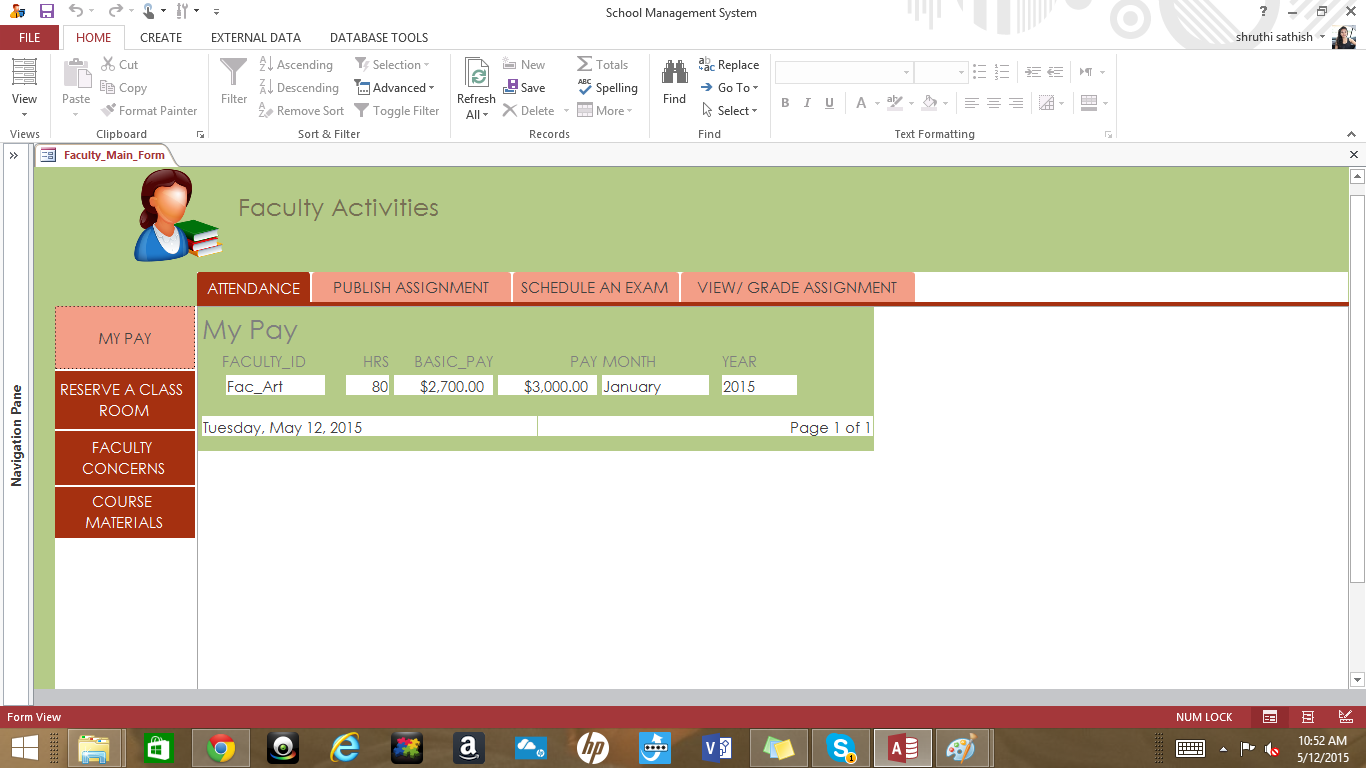
Admin can view Student concerns

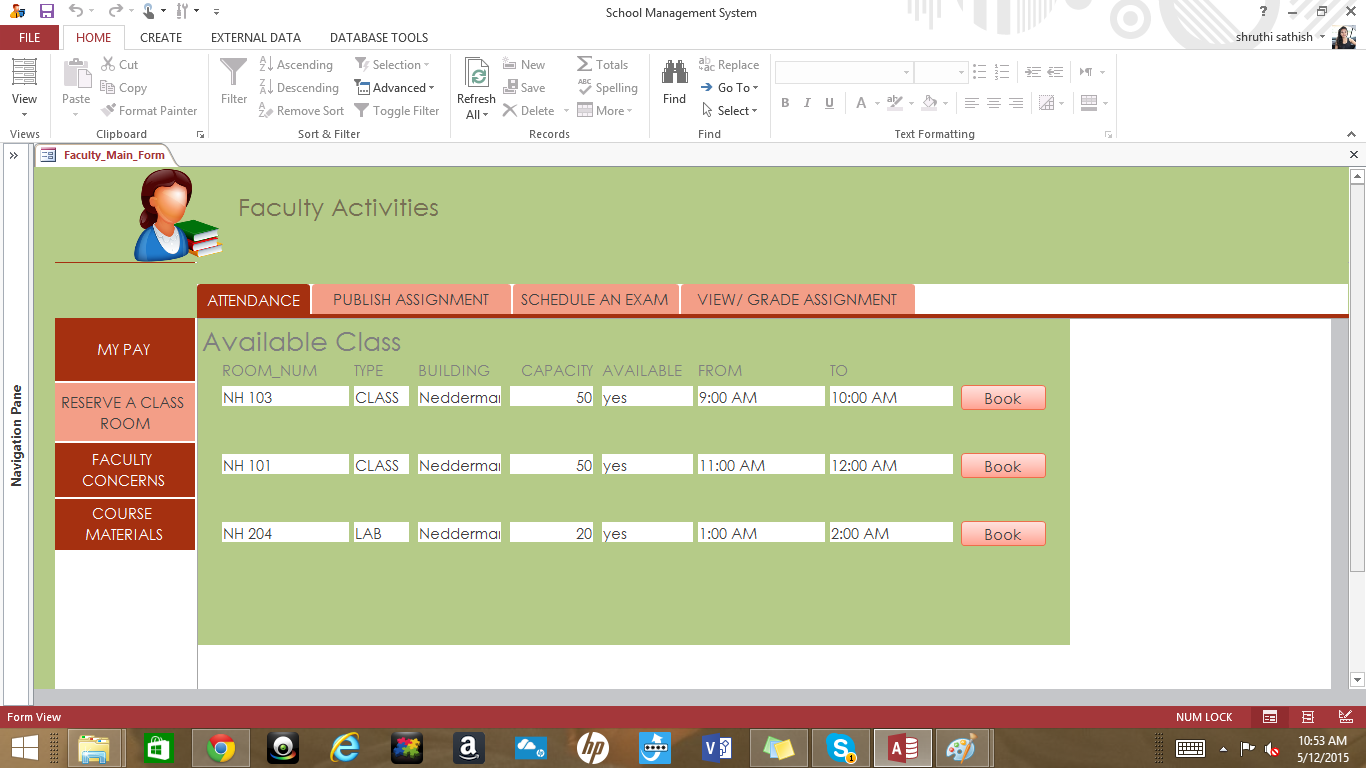
Admin can view faculty concerns

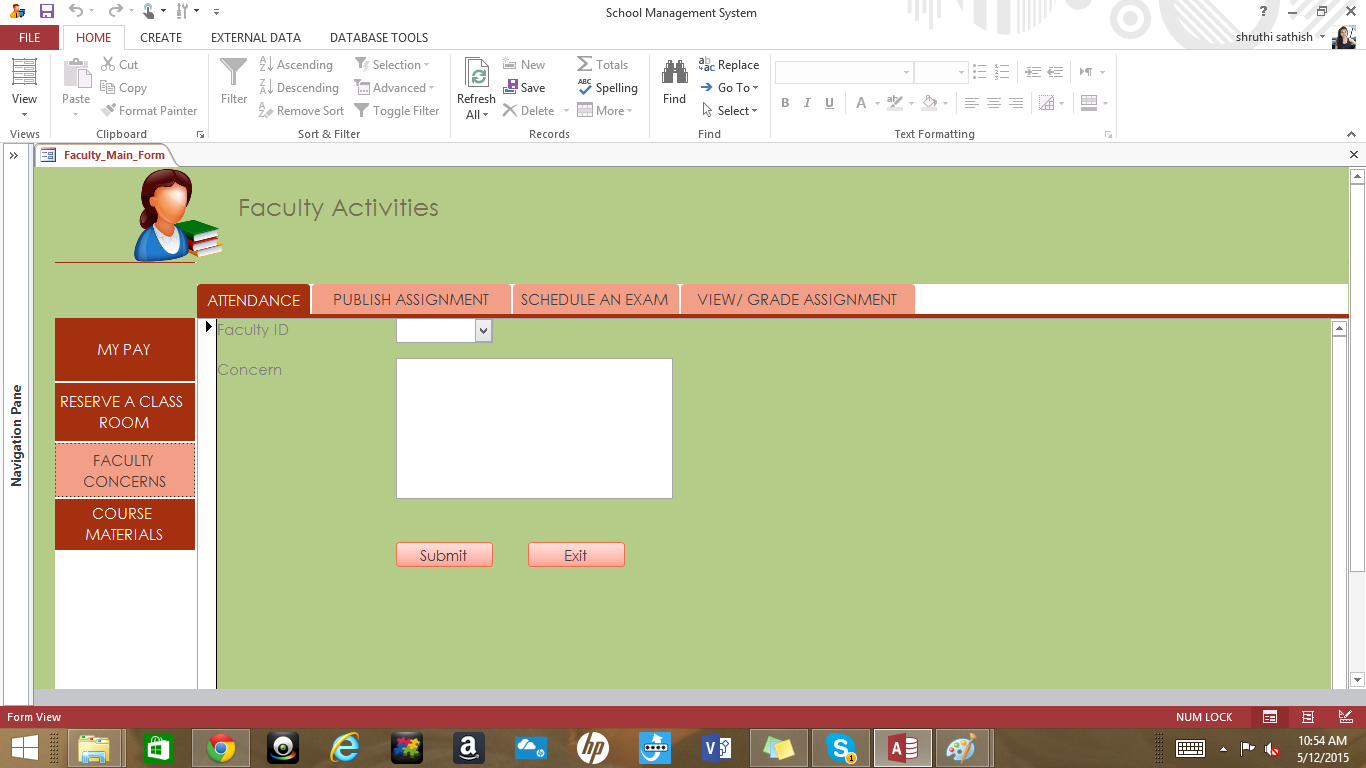
Faculty view list of students under her and take attendance

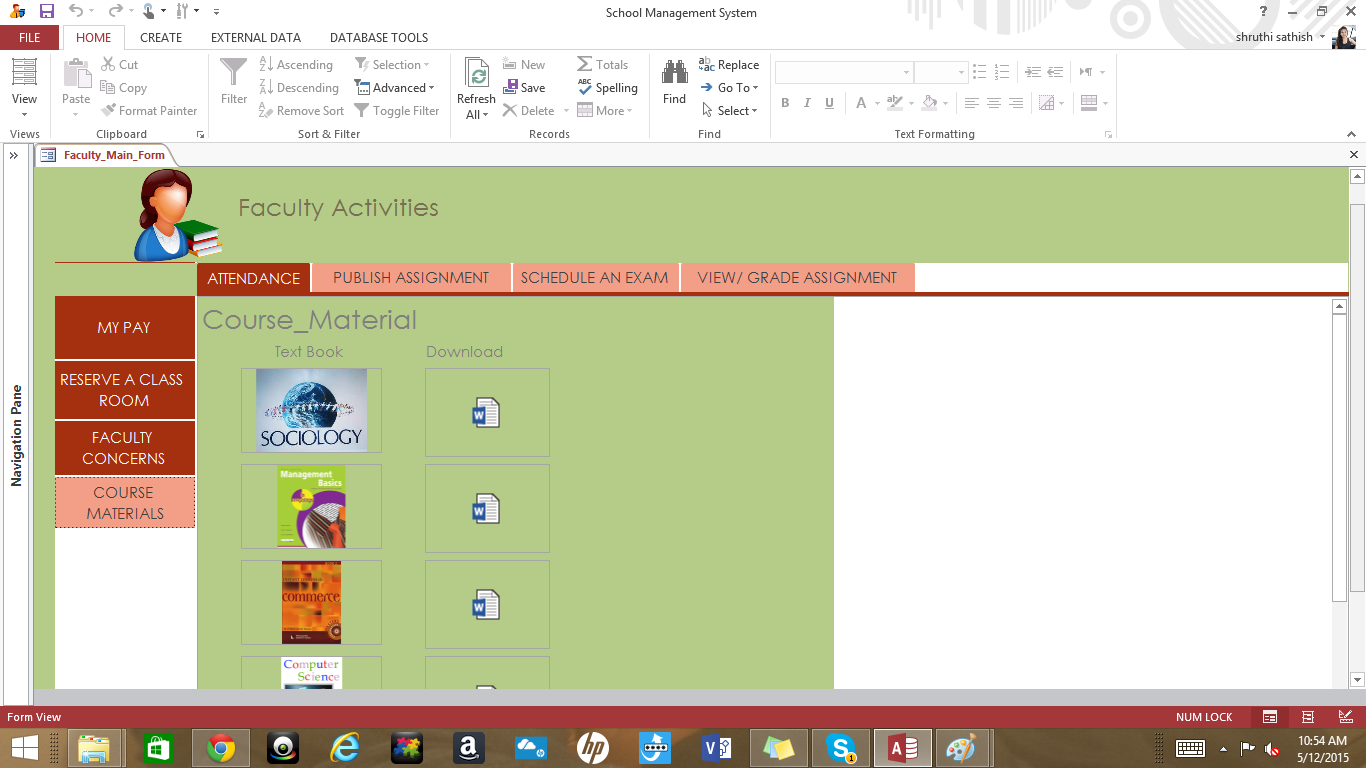
Faculty can publish assigments to student under them

Faculty can schedule an examination

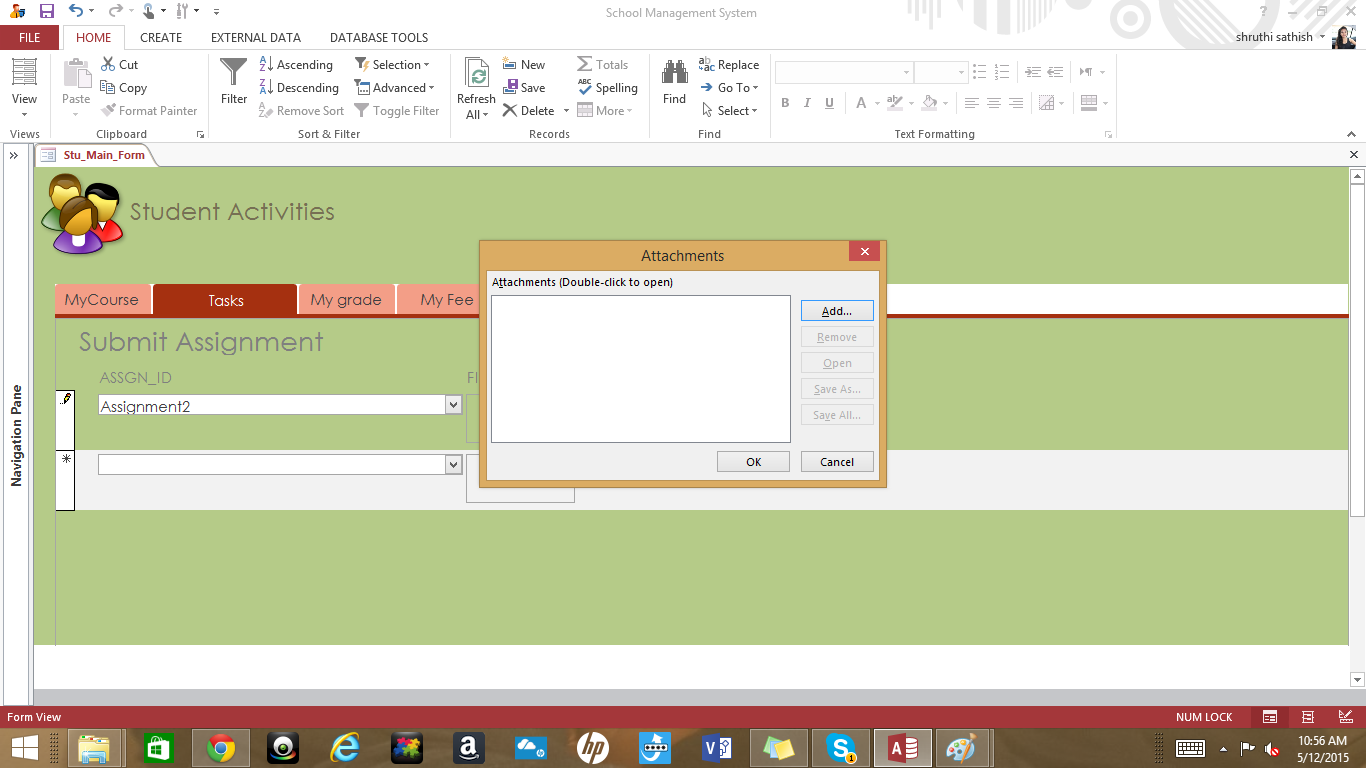
Faculty can view his/her pay detail

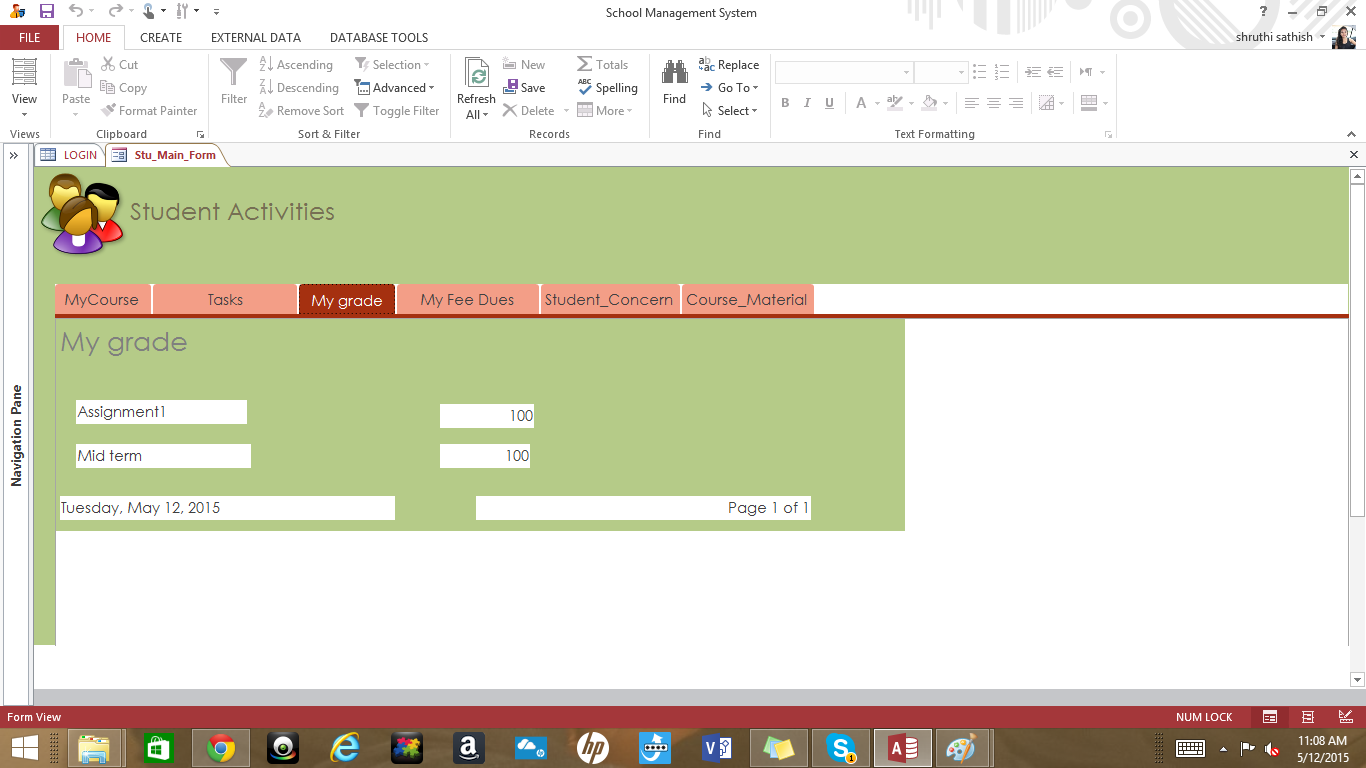
Faculty can reserve a classroom

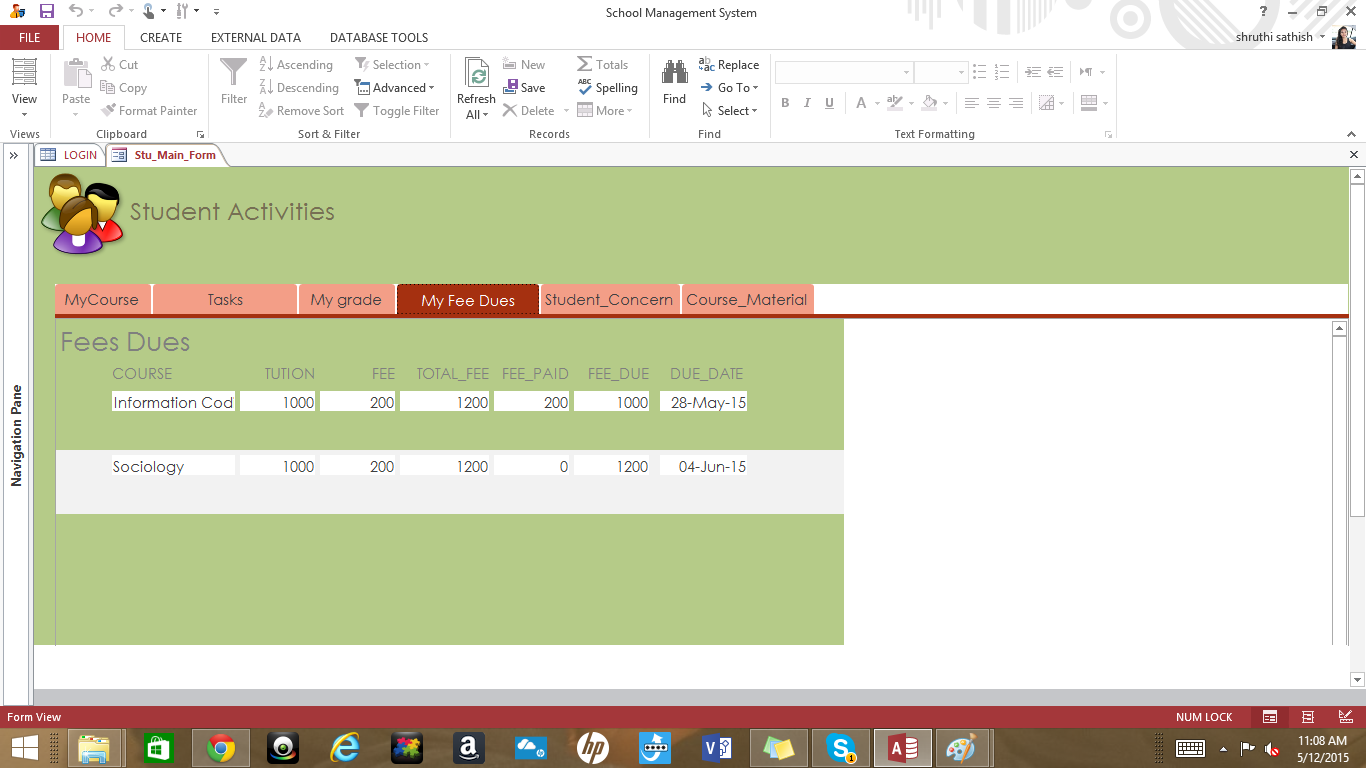
Faculty can submit their concerns

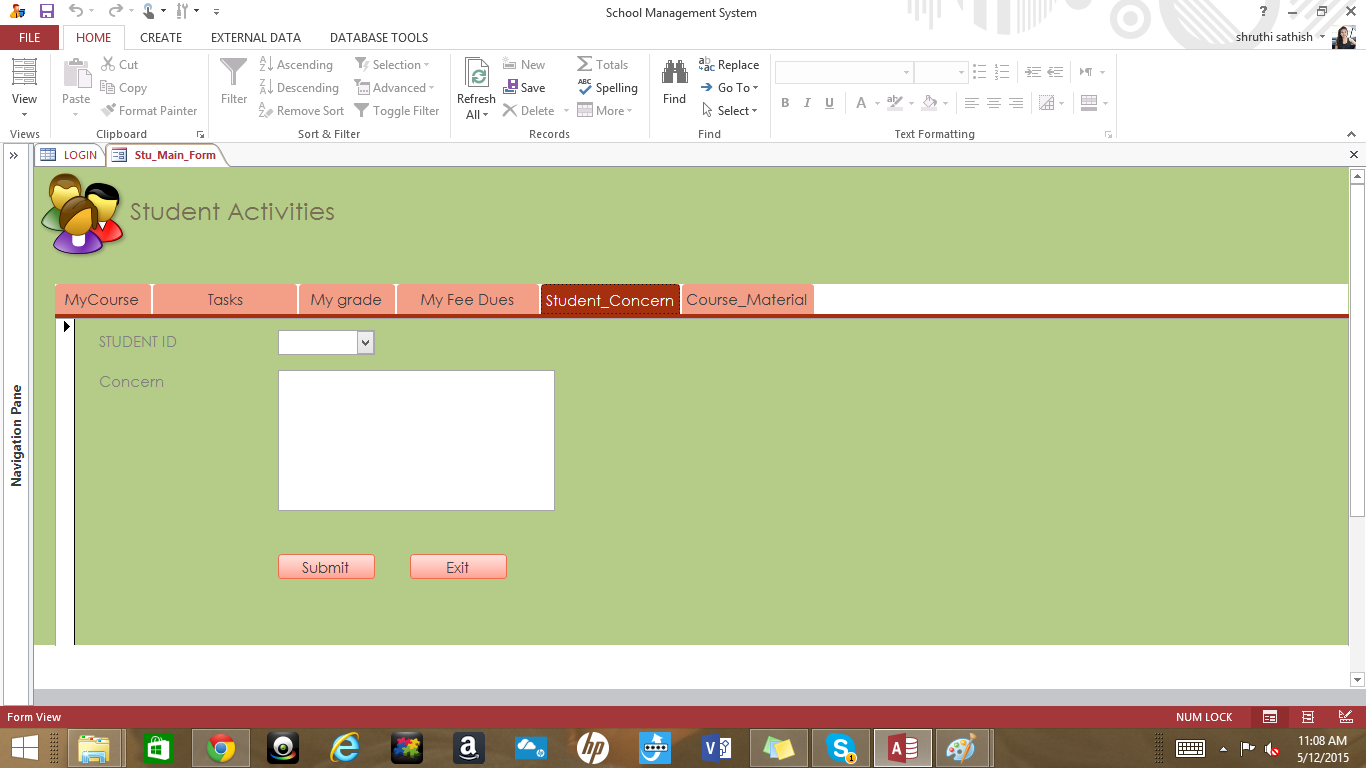
Faculty can view and download the course materials

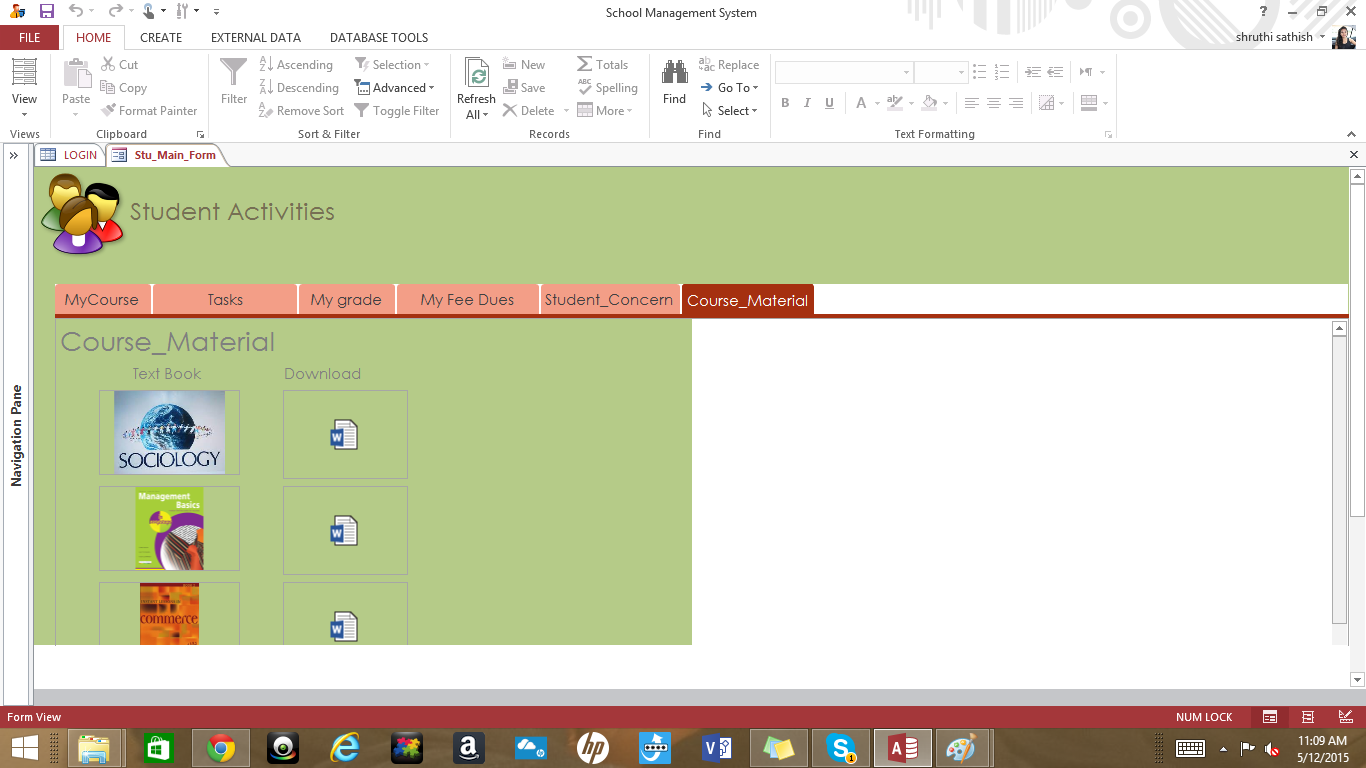
Student can view list of courses he is enrolled in

Student can view his/her task and upload the assignments

Student can view his/her grades

Student can view his/her fee dues and deadlines

Student can submit their concerns

Student can view and download the course material

\*\*\*Thank you\*\*\*