

NSMB

Student Management System

Project Report

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Introduction to system

The student Management System deals with all kinds of student details, academic related reports, course details and other resource related details. Student management system tracks all the details of a student from the first day to the end of his course which can be used for all reporting purpose, tracking enrolment, progress in the course, completed semester years, final exam results and all this will be available for future reference too. This project seeks to answer following defects.

- Manage Student details
- Manage Lecturer details
- Manage Instructor details
- Manage Lab resources details
- Manage exam and assignment details
- Manage Student result
- Manage Payment
- Manage Faculty details
- Manage course details
- Manage subjects

Approach

Following technologies and tools were used to develop this system

Development Languages

Java

Database system

MySQL

Tools

NetBeans

Technologies

Jasper

Libraries

Java swingx -For UI Designing

MYSQL JDBC Driver-For connect java application to mysql database server

jCalendar-for make calendar

Activation & javax.mail-to connect with the email server and send email through application

Design pattern and architecture

Singleton design pattern

MVC(model-view-control) architecture

System Implementation

Materials Used

Several tools and technologies were used to develop the system. MySQL used as the relational database server. I used NetBeans for a main tool.

Methodology

Software Development Methodology This software was done with MVC(Model View Controller) architecture

Interface Development

For user interface development NetBeans 8.0.2 was used.

Database Development

Used MySql to develop the database. I used JDBC to connect application with mysql server. also database transaction also used to prevent adding half process data.

How OOP Used to system

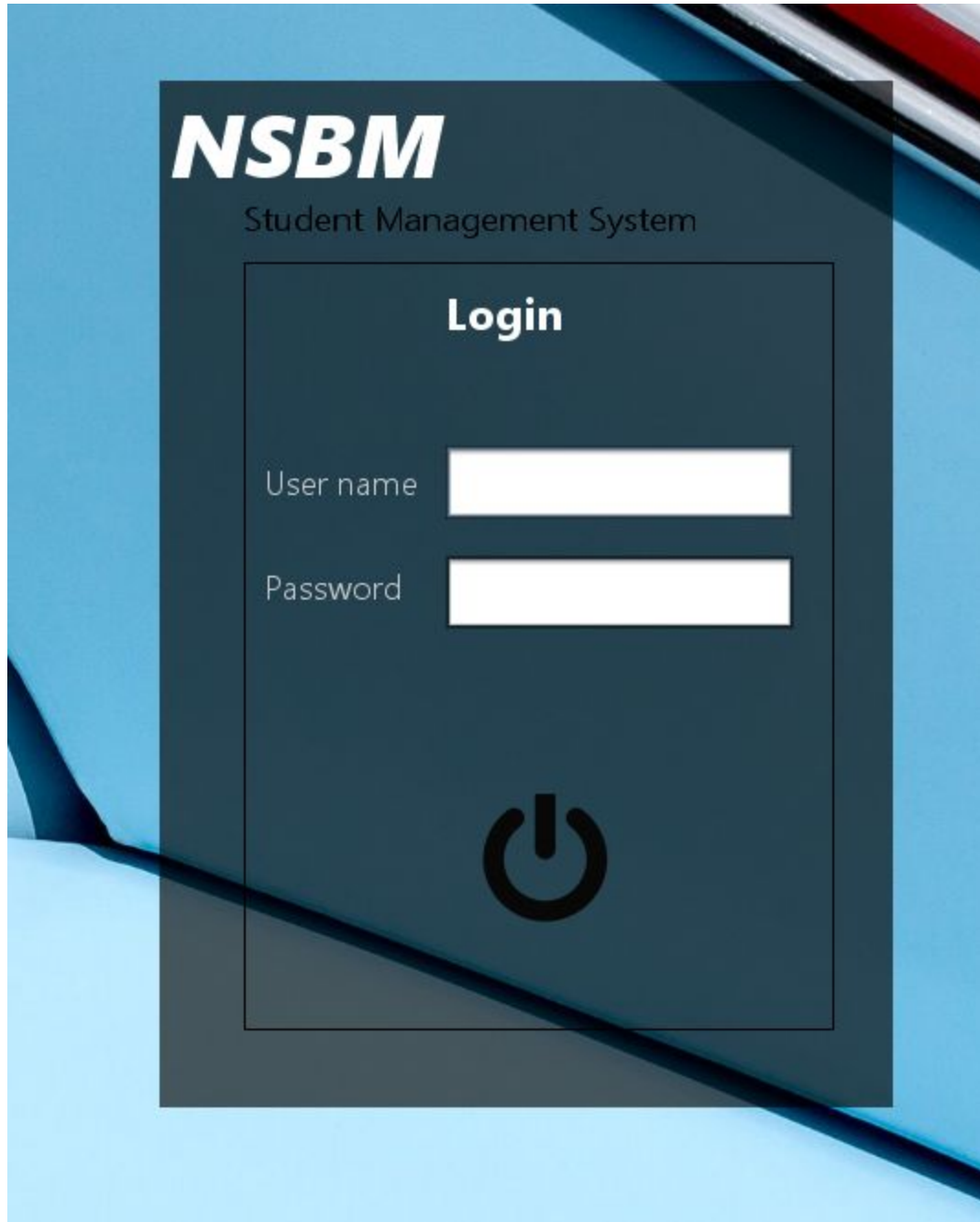
Project implemented by using OOP concept that are inheritance, encapsulation, abstraction, polymorphism

Assumption

- Only administrator can change settings of the system
- Assignment and Exams are in same category
- Instructor can works in several labs
- Subject can teach in several instructors
- User Always enter correct data
- Subject code use to recognize the subject type

User Interface

Login



This feature use as security method.that allow to access user that works on academic staff to work with system.there are 2 types of users.

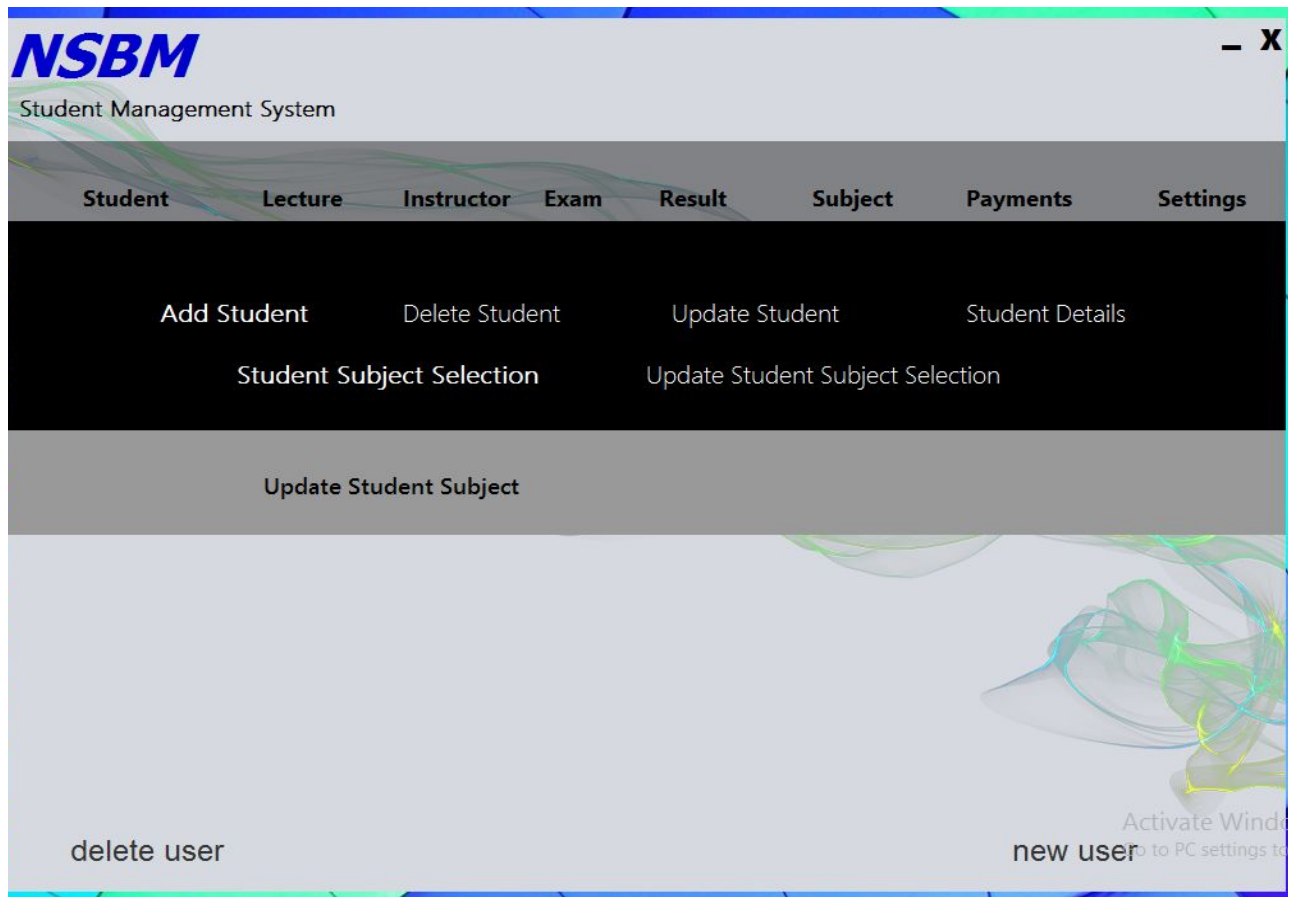
1. administrator user

Allow to change settings and manage users and other system activities

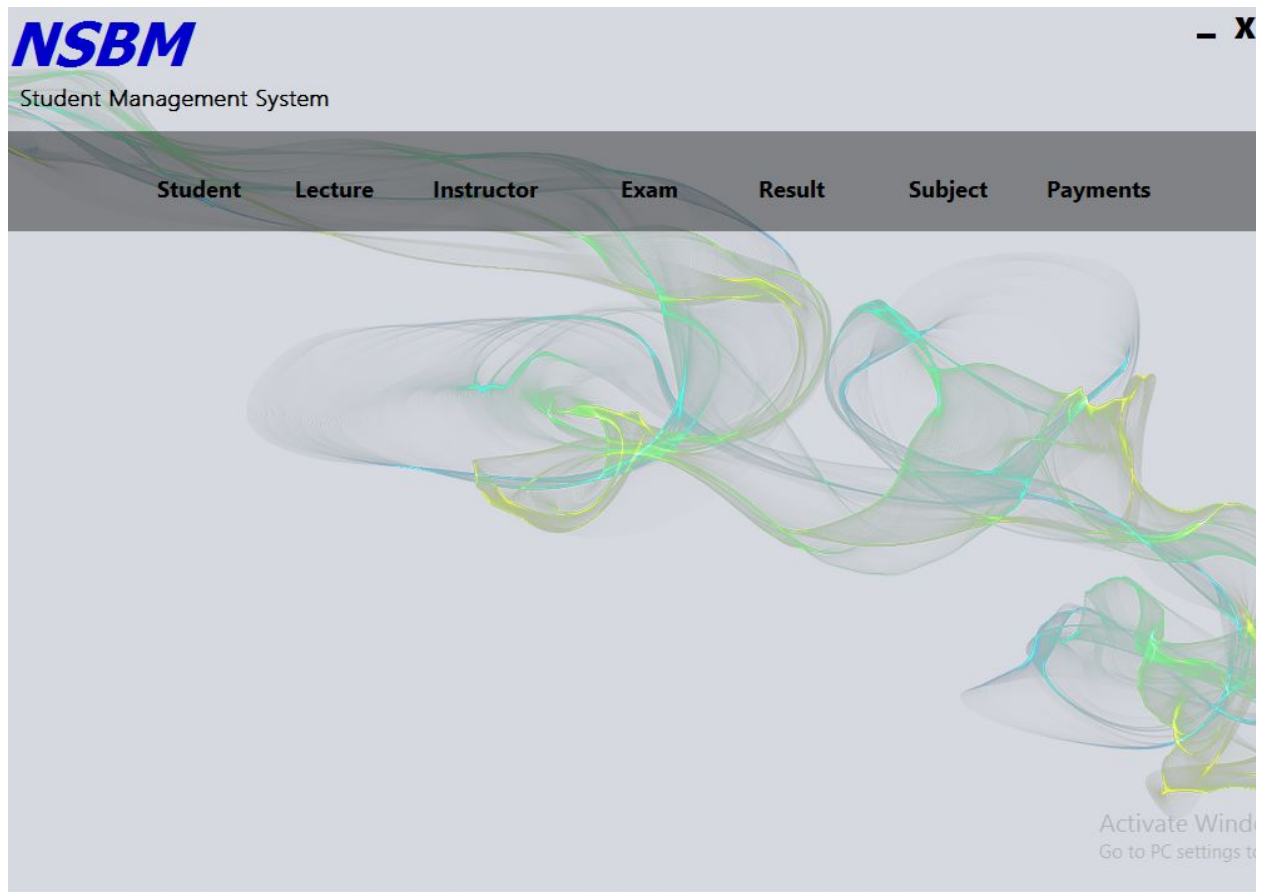
2. Normal user

Only system activities

Main-Admin



Main user



Manage Student

- Add Student

The screenshot shows a web application interface for managing students. On the left is a black sidebar with white icons and text for navigation: Dashboard, Student, Lecturer, Instructor, Payment, Subject, Report, Exam, and Settings. The main area is titled 'Student' and contains a form with the following fields:

- Student ID:** Text input with value 'S005'.
- Date Of Birth:** Date picker showing '2018-08-19'.
- Name:** Text input with value 'jinadi yasiruka'.
- NIC:** Text input with value '957201423v'.
- Faculty:** Dropdown menu showing 'UCSC'.
- Address:** Text area with value 'magakuttiya watta,kirimatimulla'.
- Course:** Dropdown menu showing 'Computer Science'.
- Student State:** Radio buttons for 'Undergraduate' (selected) and 'Postgraduate'.
- Year of Exam:** Dropdown menu showing '2017'.
- Rank:** Text input with value '2354'.
- AL Result:** Text input with value 'A S A'.
- Z-score:** Text input with value '1.7634'.
- Batch:** Text input with value '2017'.

At the bottom right of the form are two buttons: 'Add' and 'Cancel'. A faint watermark of a person is visible in the background of the form area.

- Delete student

Delete Student

NIC

Name

Faculty

X

removing a student leads to delete all the contents of him.

Delete Cancel

Dashboard
Student
Lecturer
Instructor
Payment
Subject
Report
Exam
Settings

- Update student

The image shows a web application interface for updating a student. On the left is a dark sidebar with a menu of icons and labels: Dashboard, Student, Lecturer, Instructor, Payment, Subject, Report, Exam, and Settings. The main content area has a light gray background with a decorative pattern of colorful, swirling lines. At the top of this area is a header with a plus and person icon followed by the title 'Update Student'. Below the header are several input fields: 'NIC' with a search icon, 'Date Of Birth', 'Name', 'Address' (a large text area), and 'Faculty'. At the bottom of the form are two radio buttons labeled 'Undergraduate' and 'Postgraduate'. At the very bottom right are two buttons: 'Add' and 'Cancel'.

Update Student

NIC

Date Of Birth

Name

Address

Faculty

Student State

☐ Undergraduate ☐ Postgraduate

- View student

DashBoard

Student

Lecturer

Instructor

Payment

Subject

Report

Exam

Settings

+2

Student

X

Undergraduate

Postgraduate

Faculty

UCSC

Course

Computer Scien...

Batch

2018

NIC	Name	Faculty	Course
957201423v	jinadi yasiruka	UCSC	Computer Science

Add

Update

delete

Can view student related to faculty wise,year wise,course wise

- **Student subject selection**

Subject Selection

Student detail

Student ID: s002 Faculty: UCSC Semester: 1

Name: pramodya abeysinghe Course: Computer Science

NIC: 947201423v Batch: 2017

Subject List

Name	Lecturer	credits	duration	price
data structur...	jinadi	3	15	10000.0
computer sci...	jinadi	2	15	10000.0
data base	jinadi	3	15	10000.0
programming 1	jinadi	3	15	10000.0

Add

Subject Selection

Name	Lecturer	credits	duration	price
programming 1	jinadi	3	15	10000.0
computer sci...	jinadi	2	15	10000.0










Total Credits: 8

Remove

Add Cancel Private Window

Used select student to what subject they doing in the corresponding semester

- **Update student subject selection**

-  DashBoard
-  Student
-  Lecturer
-  Instructor
-  Payment
-  Subject
-  Report
-  Exam
-  Settings

Update Subject Selection

Student detail

Name

Faculty

NIC

Course

Subject List

Title 1	Title 2	Title 3	Title 4

Add

Subject Selection

Title 1	Title 2	Title 3	Title 4

Total Credits

jLabel5

Add

Cancel

Manage Lecturer

- Add lecturer

Lecturer

ID

Name

NIC

Qualification

Speciality

Add **Cancel**

Activate Windows
Go to Settings to activate Windows.

- Delete lecturer

Dashboard

Student

Lecturer

Instructor

Payment

Subject

Report

Exam

Settings

+ 👤

Delete Lecturer

NIC

Name


Speciality


removing a Lecturer leads to delete all the contents of him.


Delete


Cancel


- Update lecturer


 DashBoard


 Student


 Lecturer


 Instructor


 Payment

 Subject


 Report

 Exam

 Settings

 Lecturer

ID



Name

NIC

Qualification

Speciality

Update

Cancel

Manage Instructor

- Add Instructor

Dashboard

Student

Lecturer

Instructor

Payment

Subject

Report

Exam

Settings

Instructor

Instructor ID

IN002

Name

NIC

Address

Qualification

Telephone

E-Mail

Add

Cancel

- **Update Instructor**

The screenshot shows a web application interface for updating an instructor. On the left is a black sidebar with white icons and labels for navigation: Dashboard, Student, Lecturer, Instructor, Payment, Subject, Report, Exam, and Settings. The main content area is light gray and titled 'Instructor' with a plus-person icon. It contains several input fields: 'Instructor id' with a search icon, 'NIC', 'Name', 'Address' (a larger text area), 'Qualification', 'Telephone', and 'E-Mail'. At the bottom right are 'Update' and 'Cancel' buttons. The window has standard OS controls (minimize, maximize, close) in the top right corner.

Field	Input Type
Instructor id	Text with search icon
NIC	Text
Name	Text
Address	Text area
Qualification	Text
Telephone	Text
E-Mail	Text

- **Instructor lab assigning**

Dashboard

Student

Lecturer

Instructor

Payment

Subject

Report

Exam

Settings

Lab Managing

X

Faculty

UCSC

Course

Computer Science

Subject

data structure and algo 1

Lecturer

jinadi

Instructors ID

IN001

Name

cdav

Number of student

1

Number of labs

Lab

Lab A : occupied : 40

Add to table

Lab ID	Number of occupation
--------	----------------------

Remain Student 1

Add

Used allocate instructor to subject and lab

Manage Exams

- Add Exam

The screenshot shows a web application interface for adding a new exam. On the left is a dark sidebar with a menu containing icons and labels for 'DashBoard', 'Student', 'Lecturer', 'Instructor', 'Payment', 'Subject', 'Report', 'Exam', and 'Settings'. The 'Exam' menu item is highlighted. The main content area is titled 'Exam' and contains the following form fields:

- Faculty:** A dropdown menu with 'UCSC' selected.
- Course:** A dropdown menu with 'Computer Science' selected.
- Exam ID:** An empty text input field.
- Subject:** A dropdown menu with 'data structure and algo 1 :Semester Computer Science' selected.
- Exam Name:** An empty text input field.
- Exam type:** An empty text input field.
- Start Time:** An empty text input field.
- End Time:** An empty text input field.
- Date:** An empty text input field.
- Duration:** An empty text input field.

At the bottom right of the form are two buttons: 'Add' and 'Cancel'. The background of the form area features a faint, abstract pattern of green and blue lines.

- View Exam details

Manage Result

- Add Result

Result

Exam ID: E001

Student ID: S001

Result:

Add

Result ID	Student Name	Exam ID	result	grade
-----------	--------------	---------	--------	-------

Remove

Add

Used to add student result to the system

- View Student result
Individual result

Dashboard

Student

Lecturer

Instructor

Payment

Subject

Report

Exam

Settings

Result Sheet

Individual

All

Student ID

S001

Exam ID

Select

semester

select

year

All

Name

jinadi yasiruka

Course

Computer Science

Print

E-mail

Exam	Subject	Date	Result	Grade
semester \$assingment	data structure and algo 1	2018-08-07	90.0	A+

Add

Update

delete

Can view each student result corresponding to exam,semester,year also can print their exam result and e-mail to their parents

- **All result**

Dashboard

Student

Lecturer

Instructor

Payment

Subject

Report

Exam

Settings

Result Sheet

X

Individual

All

Exam ID

Select

▼

year

All

▼

semester

select

▼

Name

Print

Course

Student ID

E-mail

Exam	Subject	Date	Result	Grade
------	---------	------	--------	-------

Add

Update

delete

Activate Windows
Go to Settings to activate Windows.

Manage Subjects

- Add subject

Subject

Course: Computer Science Subject ID: SCS008

Name:

Semester: year:

No Of Credits: Lecturer: jinadi

Price: Location:

Duration:

Add Cancel

- Remove subject

Dashboard

Student

Lecturer

Instructor

Payment

Subject

Report

Exam

Settings

Delete Subject

Subject ID

Name

Course

removing a student leads to delete all the contents of him.

Delete

Cancel

- **Student subject details**

Dashboard

Student

Lecturer

Instructor

Payment

Subject

Report

Exam

Settings

+ 👤

Student Subject List

Student ID

s0001

Subject ID	Subject Name	Semester	Credits
SCS003	data base	1	3

Refresh

Can view student subject.that mean what subjects that student take to learn

Manage Payment

- Add payment

Payment

Student ID: S001 Course: Computer Science

Name: jinadi yasiruka

Subject ID	Name	price
SCS006	programming 3	10000.0

Discount: 20 % **Add**

Payment ID	Subject Name	Price	Discount	Total
5	programming 3	10000.0	20	8000.0

Add

Used track subject enroll payment of student.that allow to do multiple payment record.transaction feature provided to this ui

- View Student payment details

DashBoard

Student

Lecturer

Instructor

Payment

Subject

Report

Exam

Settings

Student Payment Details

Student ID

S004

Name	NIC	Course	Subject	Payment date	Payme...
chamudi abeysi...	987201423v	Computer Scien...	data base	Fri Jun 22 09:57:57 IST 2...	10000.0
chamudi abeysi...	987201423v	Computer Scien...	data base	Fri Jun 22 09:58:01 IST 2...	10000.0
chamudi abeysi...	987201423v	Computer Scien...	data base	Thu Jul 05 14:00:15 IST 2...	10000.0
chamudi abeysi...	987201423v	Computer Scien...	computer science	Thu Jul 05 14:00:23 IST 2...	10000.0

Refresh

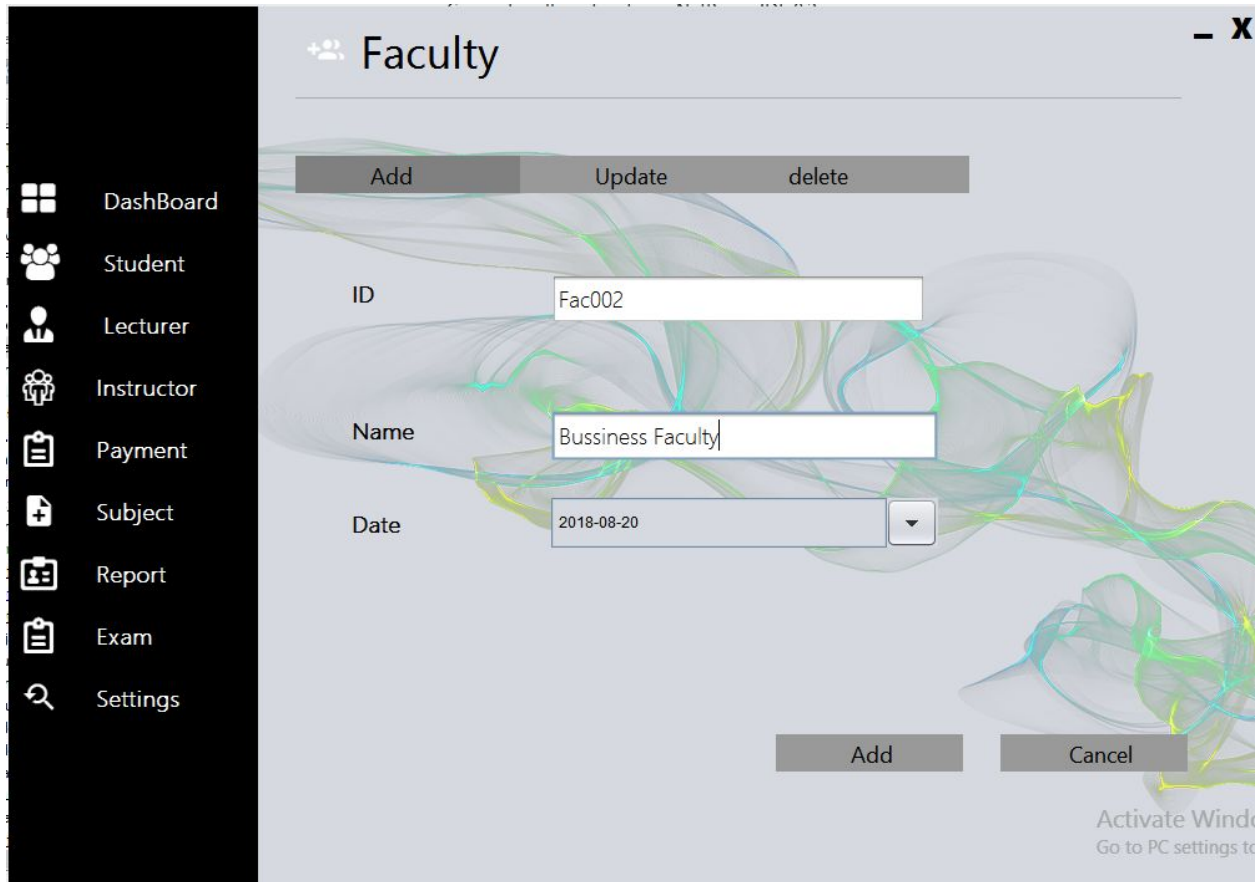
Activate Windows

Go to PC settings to

Used to track all the payment details of student

Settings

- Faculty Setting



The screenshot shows a web application interface for managing faculty. On the left is a dark sidebar with a menu containing icons and labels for: DashBoard, Student, Lecturer, Instructor, Payment, Subject, Report, Exam, and Settings. The main content area is titled 'Faculty' with a plus icon and a close button. Below the title are three buttons: 'Add', 'Update', and 'delete'. The form contains three input fields: 'ID' with the value 'Fac002', 'Name' with the value 'Bussiness Faculty', and 'Date' with the value '2018-08-20' and a dropdown arrow. At the bottom right of the form are 'Add' and 'Cancel' buttons. A watermark with colorful, swirling lines is visible across the center of the form. At the bottom right of the window, there is a faint system message: 'Activate Windows Go to PC settings to activate Windows.'

In here u can add faculty to system,delete and update them.can use to manage physical resources of university

- Course Setting

Course

Add

Update

delete

ID

BF

Faculty

UCSC

Name

Management

Subject per sem 1

8

Subject per sem 2

8

Year

2018

Type

BSC

Creadit per sem

32

Add

Cancel

Activate Window

Go to PC settings to

In here u can add delete,update any course of faculty.this feature only available in admistrator

- Lab Setting

Lab Managing

Add Update delete

ID Lab003

Name Lab C

size 40 num of computers 40

type practical

Add Cancel

Can use to manage lab resources of university

Discussion

The system was checked for errors and usability from the beginning of the coding period because congenial process of the system is very significant. Whole operation was checked by using sample data.

The use of the system assists to manage payroll easily. Interface performances and coding backing supported to user to identify errors and validated fields support to correct data entry.

*****End*****