

SCS 2104 Programming 3

Take Home Assignment - 2018

Name :- W.D.T.D.Alwis

Admission number :- 2016/cs/005

Index number :- 16000056

Database:

User name :- root

Password :- root

Application's :

User name : - admin

Password :- admin

Standalone University management system for NSBM green university

1. Requirements
2. EER diagram
3. Relational schema

4. Class diagram
5. Design pattern and the architecture
6. User Interfaces.

Requirements

Users:

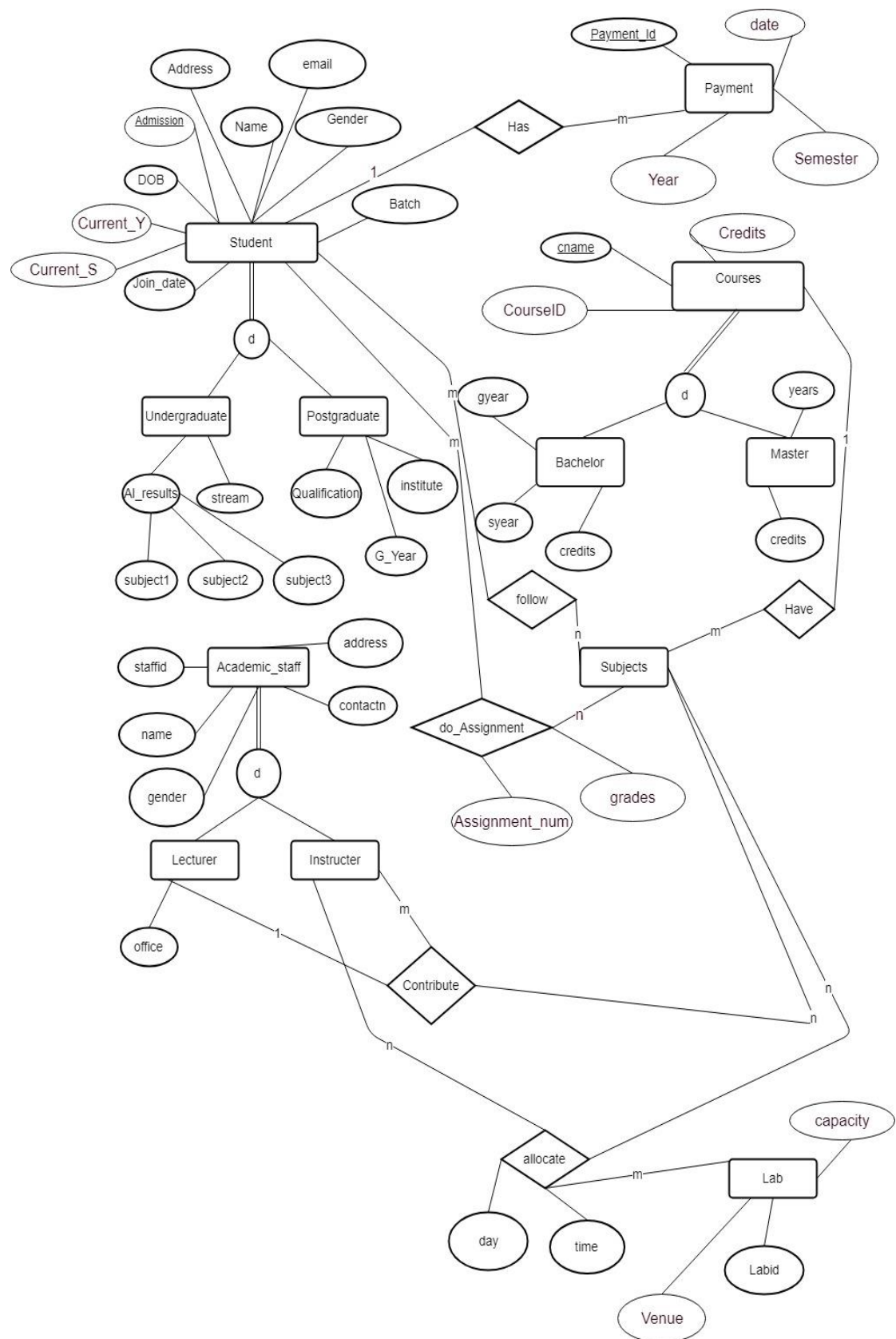
Admin

Functional requirements

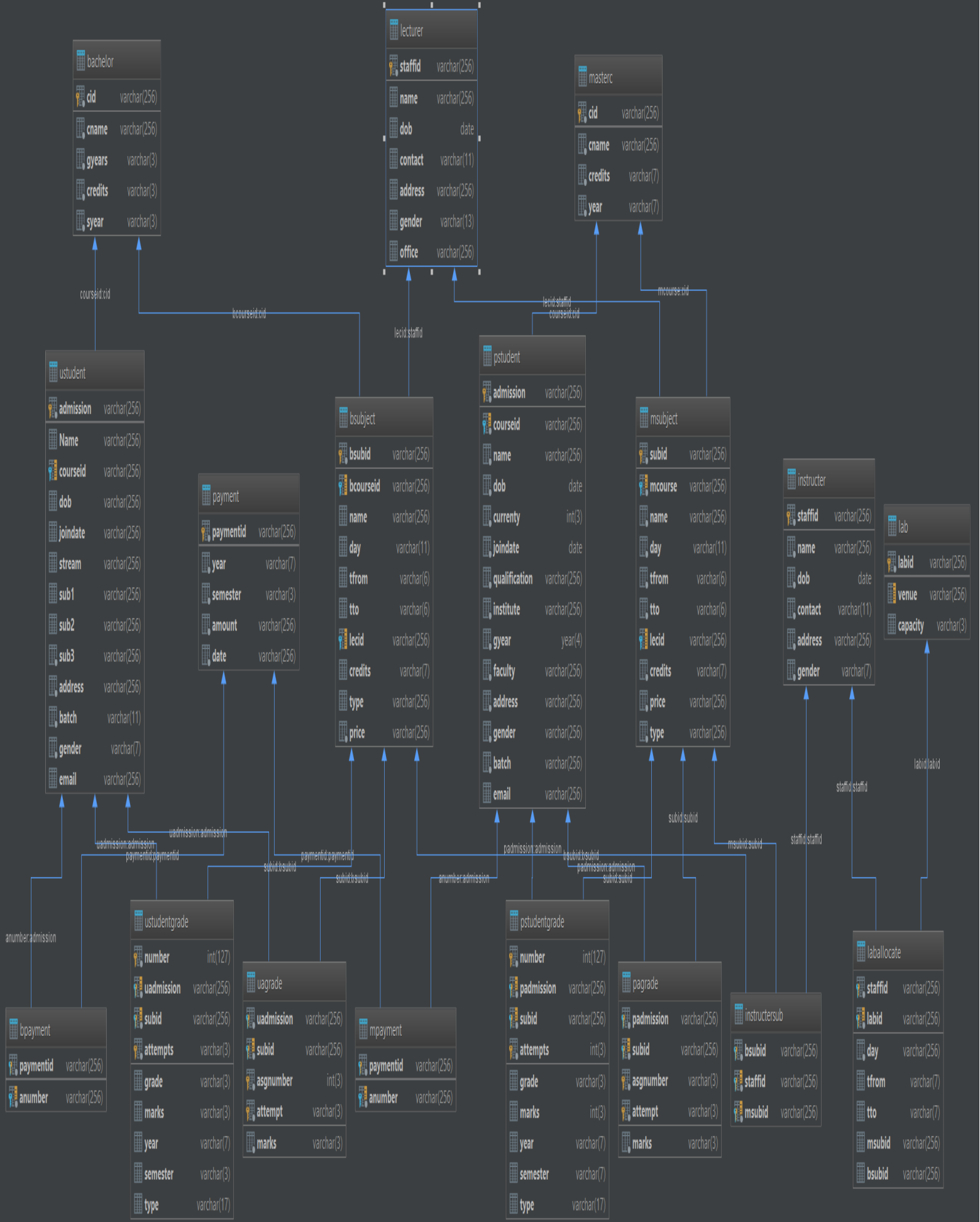
Should be able to,

- Manage student details
- Manage Staff details.
- Manage Lab, course, subjects details.
- Send emails.

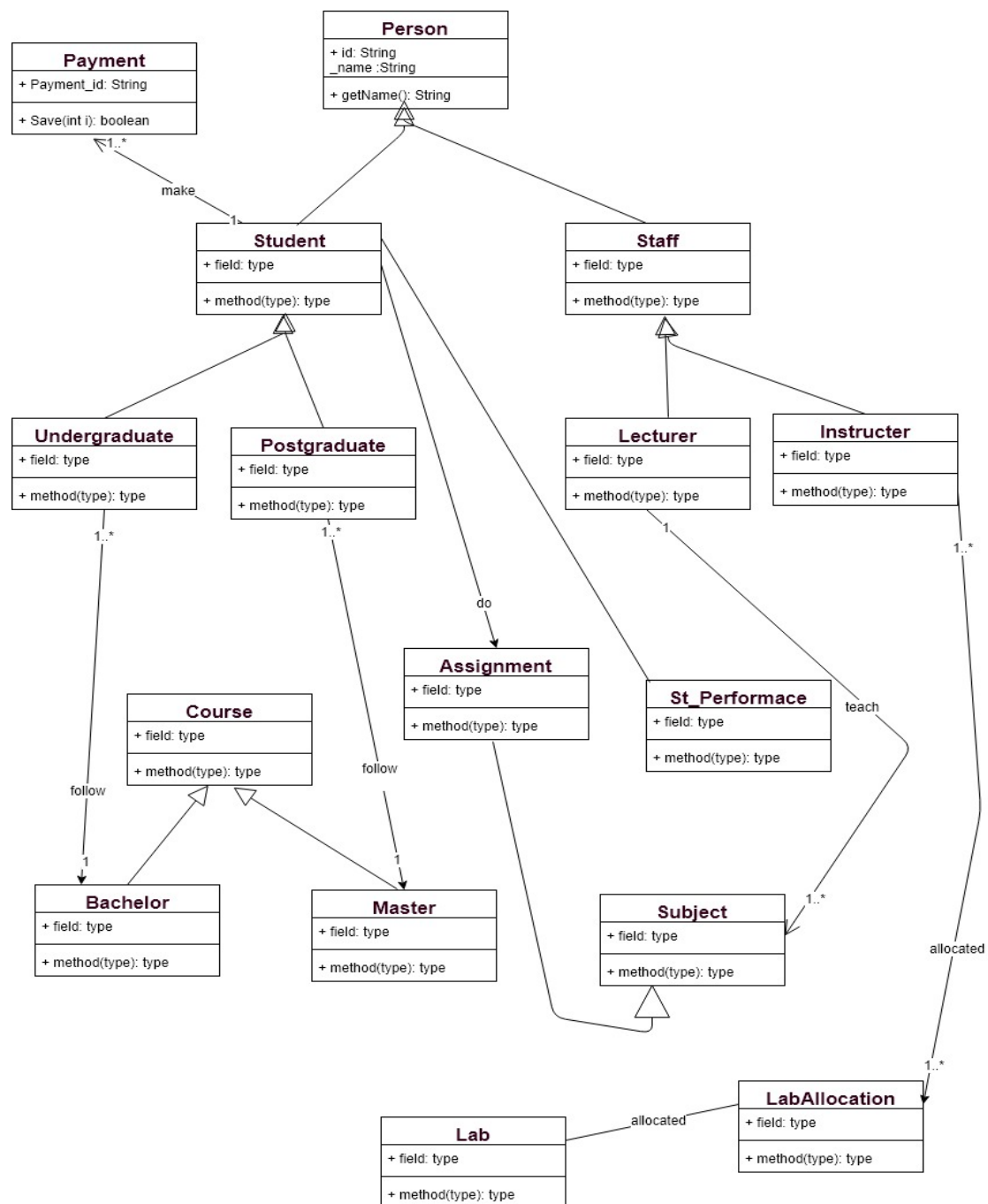
EER diagram.



Relational schema



Class diagram

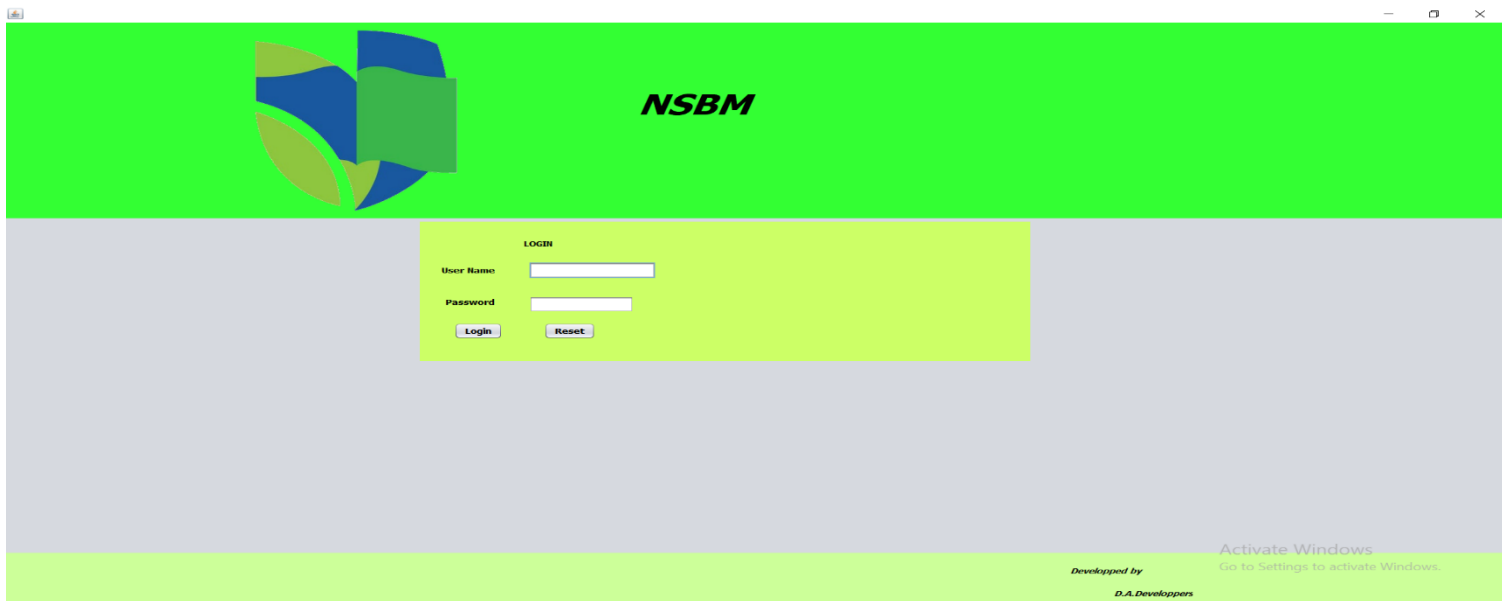


Architecture used here is,
MVC.

Design pattern is,
Singleton pattern is used for database connectivity.

User Interfaces

Login



Allow admin to login

Home page



Register Student

The screenshot shows the "Register Student" form in the NSBM University Management System. The form is divided into several sections for data entry. A message box indicates "Data Entered successfully".

Register Student

Admission number: U003 Course Code: B001

Name: Sajun Sandaruwan

DOB: 1996 Year: December Date: 24

Joined d...: 8/7/18

Gender: Male

Type: ☒ Undergraduate ☐ Postgraduate

Batch: B67

Email: sajunsandaruwan@gmail.com

Address: AAAA111111112223

Undergraduate

Subject	Grade	Stream
Maths	A	Maths
Physics	B	
Chemistry	C	

Postgraduate

Qualification	
Institute	
Year	

Save Clear

Activate Windows
Go to Settings to activate Windows.

Student registration form

Form to manipulate student data

The screenshot displays the NSBM University Management System interface. The top navigation bar includes links for Add Student, Student Update, Student Subjects, Student Performance, Subject, Lab, Lab schedule, Course, Grades, Assignments, Subject Marks, and Payment. The main content area is titled 'Update student data' and features a form for updating student information. The form includes checkboxes for Undergraduate (checked) and Postgraduate, and input fields for Batch (B67), Admission number (U003), Name (Sajun Sandaruwan), Course (B001), Email (nsandaruwan@gmail.com), and Address (AAAA111111111122237). A 'Get' button is located next to the Batch field. To the right of the form is a table displaying student data. The table has columns for Admis..., Name, Course, Email, Address, DOB, JDate, stream, sub1, sub2, sub3, and Gender. The table contains three rows of data: U001, U002, and U003. The U003 row is highlighted. At the bottom of the form are buttons for Update, Cancel, and Remove. An 'Activate Windows' watermark is visible in the bottom right corner.

☒ Undergraduate ☐ Postgraduate

Batch: B67

Admission number: U003

Name: Sajun Sandaruwan

Course: B001

Email: nsandaruwan@gmail.com

Address: AAAA111111111122237

Admis...	Name	Course	Email	Address	DOB	JDate	stream	sub1	sub2	sub3	Gender
U001	K.L.Liy...	B001	dulee...	aaaaa...	1996...	8/8/18	Maths	Maths-A	Physic...	Chem...	Male
U002	AL Pa...	B001	dulee...	uijkhv...	1997...	6/6/17	Maths	Maths-A	Physic...	ICT-A	Male
U003	Sajun...	B001	sajun...	AAAA1...	1996...	8/7/18	Maths	Maths-A	Physic...	Chem...	Male

Activate Windows
Go to Settings to activate Windows.

Allow to view, update , remove student details

Student's subjects selection form

Select student's subjects

☒ Undergraduate ☐ Postgraduate Course: B001 Show

Year: 2013 Semester: 1

Admission number: U001 Attempt: 1 Check

Select subjects

	Subject Name	Code	Credits	Type	
Subject1	Maths	SB001	2	compulsory	Remove
Subject2	DSA	SB002	3	compulsory	Remove
Subject3	Physics	SB003	3	optional	Remove
Subject4	SE1	SB004	2	optional	Remove
Subject5	Discrete Maths	SB005	2	optional	Remove
Subject6	AAA	SB007	3	optional	Remove
Total credits			15		

Save Change Clear

Subjects

Subject	Code	Credits	Type
Maths	SB001	2	compulsory
DSA	SB002	3	compulsory
Physics	SB003	3	optional
SE1	SB004	2	optional
Discrete Maths	SB005	2	optional
Computer systems	SB006	2	optional
AAA	SB007	3	optional

Activate Windows
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Subjects can be selected according to course student follows and can change the subjects.

Student performance form

Student Performance

Email: Password:

☒ Undergraduate ☐ Postgraduate

Batch:

Admission number:

Name:

Year: Semester: Attempt:

Students

Admission	Name	Email
U001	K.L.Lyanagama	dulepalwis@gmail.com
U002	A.L.Pande	dulepalwis@gmail.com
U003	Sajun Sandaruwan	sajunandaruwan@gmail.com

Student's performance

Subid	Name	Grade
SB001	Maths	B
SB002	DSA	
SB003	Physics	
SB004	SE1	
SB005	Discrete Maths	
SB007	AAA	

Activate Windows
Go to Settings to activate Windows.

Allow to view each student's subject grades according to the year and semester and email it to the corresponding student's email.

Form to maintain subject details

Subject details

Course: ☒ Bachelor ☐ Master

Subject code:

Name:

Day:

Time: From To

Lecturer: Price:

Credits: Type:

Course	Subject	Name	day	Start	end	Lectu...	Credits	Type
B001	SB001	Maths	Monday	11:00	11:30	L001	2	comp...
B001	SB002	DSA	Monday	9:00	11:00	L003	3	comp...
B001	SB003	Phys...	Friday	9:00	11:00	L003	3	optio...
B001	SB004	SE1	Thurs...	9:00	11:00	L001	2	optio...
B001	SB005	Discr...	Tues...	1:00	3:00	L002	2	optio...
B001	SB006	Com...	Monday	11:00	1:00	L002	2	optio...
B001	SB007	AAA	Tues...	1	3	L003	3	optio...

Activate Windows
Go to Settings to activate Windows.

Allow enter new subjects, edit, remove subjects.

Lab details form

Lab's details

Lab id:

Venue:

Capacity:

Labid	Venue	Capacity
LB001	olu	13
LB002	olu	13
LB003	olu	13

Message: Record updated successfully

OK

Activate Windows
Go to Settings to activate Windows.

Allow to view, add , remove , update Lab details

Lab schedule form

Lab shedule

☐ Master ☒ Bachelor

Subject: SB001

Year: 2013

Semester: 1

Get the count: 1

Lab: LB001

From: To:

Day: Monday

In charge: IO01

Save Change Cancel Remove

Labs

Labid	Venue	Capacity
LB001	olu	13
LB002	olu	13
LB003	olu	13

Schedule

Incharge	Lab	Bacc_Subj	Master_S	Day	sTime	eTime
IO01	LB001	SB001		Monday	11:00	1:30

Message: Record updated successfully

Activate Windows
Go to Settings to activate Windows.

Allow to view, edit schedule of the labs.

Course details maintaining form

Courses

Master courses

☐ Master ☒ Bachelor

Course Id: M001

Course name: Engineering

☐ Bachelor ☐ Master

Bachelor degree

General degr... Special degr...

Number of ye...: 2

Number of credits per y...: 31

Update Save Reset Remove

Master degree

Number of ye...: 2

Number of credits: 31

Message: Data Updated successfully

Activate Windows
Go to Settings to activate Windows.

Add, remove , Change course details.

Form to maintain student assignment grades

The screenshot displays the NSBM University Management System interface. The top navigation bar is green with the NSBM logo and a home icon. Below it is a menu bar with buttons for 'Add Student', 'Student Update', 'Student Subjects', 'Student Performance', 'Subject', 'Lab', 'Lab schedule', 'Course', 'Grades', 'Assignments', 'Subject Marks', and 'Payment'. The main content area is titled 'Assignment grades' and contains a form for adding or updating student assignment grades. The form includes fields for 'Undergraduate' (checked) and 'Postgraduate' (unchecked), 'Year' (2013), 'Semester' (1), 'Attempt' (1), 'Subject' (SE001), 'Admission number' (U001), 'Assignment number' (1), and 'Marks' (1). There are 'Show', 'Save', 'Change', and 'Cancel' buttons. On the right, a table shows the assignment grade for SE001, with columns 'Admission' and 'Attempt', and a row for U001 with attempt 1. An 'Activate Windows' watermark is visible in the bottom right corner.

Admission	Attempt
U001	1

Add, change student's assignment grades.

Form to maintain student's subject grades

Student grades

☒ Undergraduate ☐ Postgraduate

Year: 2013 Semester: 1 Attempt: 1

Subject: SB001

Admission num...: U001

Marks: 0

Admission	Attempt	Marks
U001	1	77

Activate Windows
Go to Settings to activate Windows.

Add, change student marks for subject

Form to calculate student grades

Student Grades

☒ Undergraduate ☐ Postgraduate

Year: 2013 Semester: 1 Attempt: 1

Subject: SB001

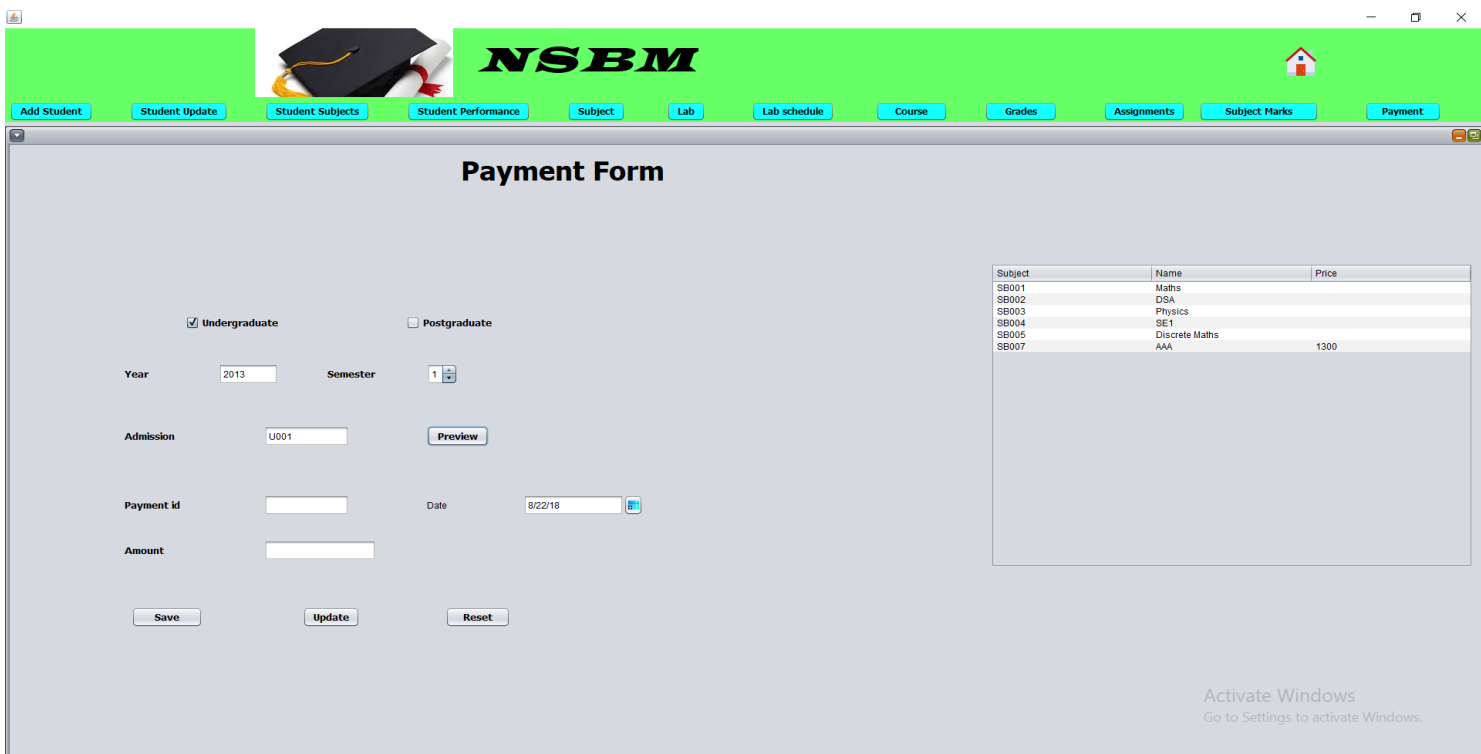
Admission number: U001

Final grade: B

Activate Windows
Go to Settings to activate Windows.

Can view who are the students' follow a particular subject and can calculate their grades according to assignment and final exam marks.

Form to maintain student payment



The screenshot shows a web application interface for NSBM. The top navigation bar includes links: Add Student, Student Update, Student Subjects, Student Performance, Subject, Lab, Lab schedule, Course, Grades, Assignments, Subject Marks, and Payment. The main content area is titled "Payment Form".

On the left side of the form, there are several input fields and checkboxes:

- ☒ Undergraduate ☐ Postgraduate
- Year: 2013
- Semester: 1
- Admission: U001
- Payment id:
- Amount:
- Date: 9/22/18

Buttons for "Preview", "Save", "Update", and "Reset" are located at the bottom of the form.

On the right side, there is a table with the following data:

Subject	Name	Price
SB001	Maths	
SB002	DSA	
SB003	Physics	
SB004	SE1	
SB005	Discrete Maths	
SB007	AAA	1300

At the bottom right, there is a watermark: "Activate Windows Go to Settings to activate Windows."

Allow add payment details to the system.