

Student Database Management System

Pascua, Kurt Isaiah R.

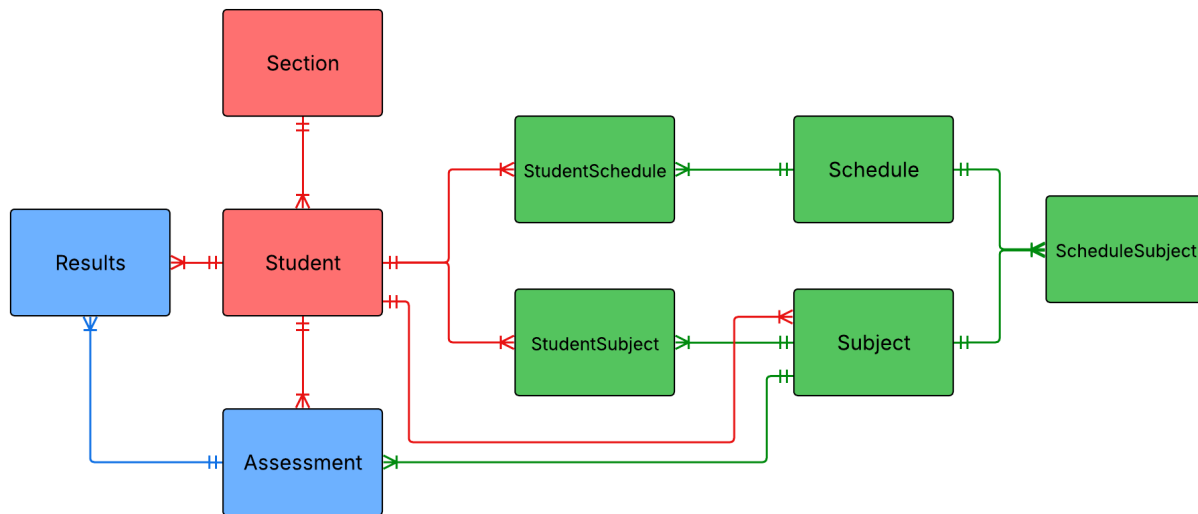
Advance Database Management System

Belgica, Edan

Database Design

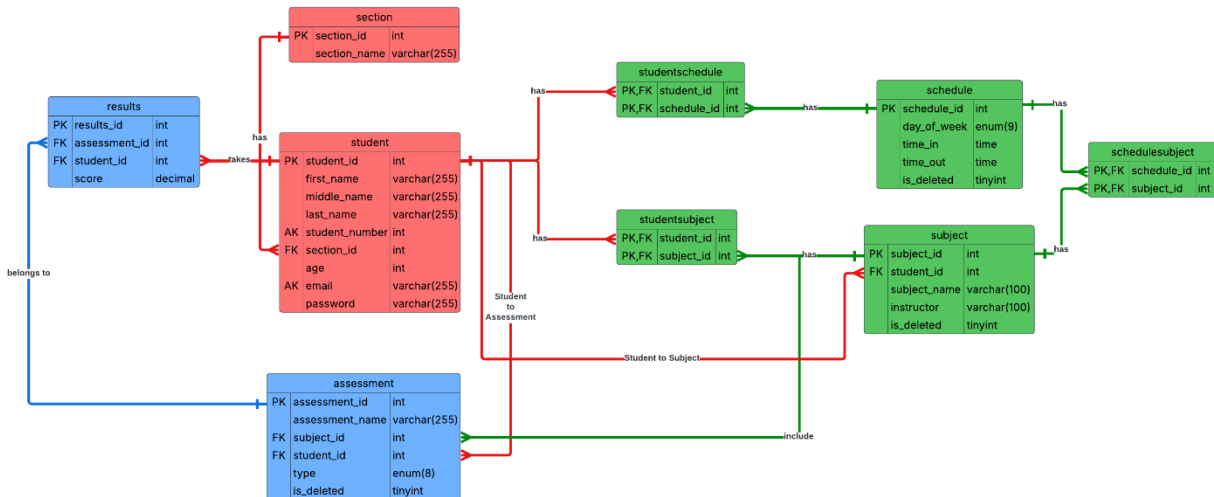
2.1 Entity-Relationship Diagram (ERD)

Conceptual ERD



In this conceptual ERD, there are 6 tables Student, Section, Subject, Schedule Assessment, and Result for the junction tables I have made 3 which are named StudentSchedule, StudentSubject, ScheduleSubject. The student table has a many-to-many relationship with the schedule and subject thus the 2 junction tables were needed as the schedule and subject have a many-to-many relationship with each other therefore the junction table schedulesubject were also created. The subject table has a relationship with the assessment table for each assessment type is unique to what subject is created by the student and the student table is directly linked to the subject making the subject that the student has unique to many subject, while the student takes the result of the assessment through the results table, thus the student has a relationship to the results table.

Physical ERD



The physical ERD shows the field's datatype primary keys/foreign keys and their relationships.

2.2 Database Schema

In this part, it shows the schemas of all tables, fields, relationships, and primary/foreign keys.

Section Table

Key	Field name	Data type
Primary Key	section_id	int(11)
	section_name	varchar(255)

Student Table

Key	Field name	Data type
Primary Key	student_id	int(11)
	first_name	varchar(255)
	middle_name	varchar(255)
	last_name	varchar(255)

Alternate Key	student_number	int(11)
Foreign Key	section_id	int(11)
	age	int(11)
Alternate Key	email	varchar(255)
	password	varchar(255)

Schedule Table

Key	Field name	Data type
Primary Key	schedule_id	int(11)
	day_of_week	varchar(255)
	time_in	time
	time_out	time
	is_deleted	tinyint

Subject Table

Key	Field name	Data type
Primary Key	subject_id	int(11)
Foreign Key	student_id	int(11)
	time_in	varchar(255)
	time_out	varchar(255)
	is_deleted	tinyint

StudentSchedule Table

Key	Field name	Data type
Primary Key, Foreign Key	student_id	int(11)
Foreign Key, Foreign Key	schedule_id	int(11)

StudentSubject Table

Key	Field name	Data type
Primary Key, Foreign Key	student_id	int(11)
Foreign Key, Foreign Key	subject_id	int(11)

ScheduleSubject Table

Key	Field name	Data type
Primary Key, Foreign Key	schedule_id	int(11)
Foreign Key, Foreign Key	subject_id	int(11)

Assessment Table

Key	Field name	Data type
Primary Key	assessment_id	int(11)
	assessment_name	varchar(255)
Foreign Key	subject_id	int(11)
Foreign Key	student_id	int(11)
	type	Enum(“Quiz”, “Activity” “...”)
	is_deleted	tinyint

Results Table

Key	Field name	Data type
Primary Key	results_id	int(11)
	assessment_id	int(11)
Foreign Key	student_id	int(11)
Foreign Key	score	decimal(5, 2)

2.3 Sample Data

This part, shows sample data: example records for testing.

Section Table

The screenshot displays the MySQL Workbench interface. The top menu bar includes File, Edit, View, Query, Database, Server, Tools, Scripting, and Help. The left sidebar shows the 'SCHEMAS' panel with a tree view of databases: results, schedule, schedulesubject, section, student, studentschedule, studentsubject, and subject. The 'section' database is selected. The main query editor shows the query: `select * from section;`. Below the query editor, the 'Result Grid' is visible, showing a table with two columns: 'section_id' and 'section_name'. The first row has values '1' and '2-3'. The bottom panel shows the 'Output' tab with a table of action output logs. The logs show three rows of data, each with a status icon, a time stamp, an action description, a message, and a duration/fetch time.

#	Time	Action	Message	Duration / Fetch
15	21:30:55	select * from assessment LIMIT 0, 1000	2 row(s) returned	0.032 sec / 0.000 sec
16	21:32:03	select * from results LIMIT 0, 1000	2 row(s) returned	0.032 sec / 0.000 sec
17	22:23:24	select * from section LIMIT 0, 1000	1 row(s) returned	0.313 sec / 0.000 sec

Student Table

MySQL Workbench

localhost - Warning - not supp. x

File Edit View Query Database Server Tools Scripting Help

Navigator

Filter objects

- results
- schedule
- schedulesubject
- section
- student
- studentschedule
- studentsubject
- subject

Administration Schemas

Information

No object selected

SQL File 13 x

Limit to 1000 rows

1 • select * from student;

Result Grid

student_id	first_name	middle_name	last_name	student_number	section_id	age	email	password
1	Kurt	Isaiah	Reonal	202311233	1	20	kurt.pascua026@gmail.com	\$2y\$10\$yT5u8H6Vd5p1OAP3FBuL9gcVek5Uy...
2	Rin		Tohwa	202311212	1	20	toh.sakarin143@gmail.com	\$2y\$10\$cn5ck39esFBHMs15NEduBVQOPtzzFj1...

student 15 x

Output

Action Output

#	Time	Action	Message	Duration / Fetch
16	21:32:03	select * from results LIMIT 0, 1000	2 row(s) returned	0.032 sec / 0.000 sec
17	22:23:24	select * from section LIMIT 0, 1000	1 row(s) returned	0.313 sec / 0.000 sec
18	22:25:15	select * from student LIMIT 0, 1000	2 row(s) returned	0.047 sec / 0.000 sec

Object Info Session

Subject Table

MySQL Workbench

localhost - Warning - not supp. x

File Edit View Query Database Server Tools Scripting Help

Navigator

Filter objects

- results
- schedule
- schedulesubject
- section
- student
- studentschedule
- studentsubject
- subject

Administration Schemas

Information

No object selected

SQL File 13 x

Limit to 1000 rows

1 • select * from subject;

Result Grid

subject_id	student_id	subject_name	instructor	is_deleted
1	1	DCIT 55	Edan Belgica	0
2	1	COSC 65	Nestor Miguel Pimentel	0
3	1	GNED 14	Jessica Ann Sambrano	0
4	1	GNED 08	Russel Adrianne Villareal	0
5	1	FITT 04	Ms. Mendoza	0
6	1	MATH 02	Maniel Castillo	0
7	1	DCIT 25	Rachel Rodriguez	0
8	1	COSC 70	Clarissa Rostrollo	0
9	2	DCIT 55	Mr. Ipsum	0

subject 16 x

Output

Action Output

#	Time	Action	Message	Duration / Fetch
17	22:23:24	select * from section LIMIT 0, 1000	1 row(s) returned	0.313 sec / 0.000 sec
18	22:25:15	select * from student LIMIT 0, 1000	2 row(s) returned	0.047 sec / 0.000 sec
19	22:25:39	select * from subject LIMIT 0, 1000	9 row(s) returned	0.031 sec / 0.000 sec

Object Info Session

Schedule Table

MySQL Workbench interface showing the 'schedule' table data. The query executed is `select * from schedule;`. The result grid displays 13 rows of schedule data.

schedule_id	day_of_week	time_in	time_out	is_deleted
1	Monday	10:00:00	12:00:00	0
2	Monday	14:00:00	16:00:00	0
3	Monday	16:00:00	17:30:00	0
4	Monday	19:00:00	20:30:00	0
5	Tuesday	07:00:00	09:00:00	0
6	Tuesday	13:00:00	14:00:00	0
7	Tuesday	15:00:00	18:00:00	0
8	Thursday	07:00:00	10:00:00	0
9	Thursday	13:00:00	16:00:00	0
10	Friday	07:00:00	08:00:00	0
11	Friday	08:30:00	22:00:00	0
12	Friday	10:00:00	13:00:00	0
13	Friday	17:00:00	19:00:00	0

The output window shows the following action output:

#	Time	Action	Message	Duration / Fetch
18	22:25:15	select * from student LIMIT 0, 1000	2 row(s) returned	0.047 sec / 0.000 sec
19	22:25:39	select * from subject LIMIT 0, 1000	9 row(s) returned	0.031 sec / 0.000 sec
20	22:26:08	select * from schedule LIMIT 0, 1000	15 row(s) returned	0.063 sec / 0.000 sec

StudentSchedule Table

MySQL Workbench interface showing the 'studentschedule' table data. The query executed is `select * from studentschedule ;`. The result grid displays 13 rows of student schedule data.

student_id	schedule_id
1	1
1	2
1	3
1	4
1	5
1	6
1	7
1	8
1	9
1	10
1	11
1	12
1	13

The output window shows the following action output:

#	Time	Action	Message	Duration / Fetch
19	22:25:39	select * from subject LIMIT 0, 1000	9 row(s) returned	0.031 sec / 0.000 sec
20	22:26:08	select * from schedule LIMIT 0, 1000	15 row(s) returned	0.063 sec / 0.000 sec
21	22:27:47	select * from studentschedule LIMIT 0, 1000	15 row(s) returned	0.032 sec / 0.000 sec

StudentSubject Table

MySQL Workbench

localhost - Warning - not supp... x

File Edit View Query Database Server Tools Scripting Help

Navigator

Filter objects

- results
- schedule
- schedulesubject
- section
- student
- studentschedule
- studentsubject
- subject

Views

Administration Schemas

Information

No object selected

Object Info Session

schedule section student subject schedulesubject results studentsubject studentschedule SQL File 13' x

Limit to 1000 rows

1 • select * from studentsubject;

Result Grid

	student_id	subject_id
▶	1	1
	1	2
	1	3
	1	4
	1	5
	1	6
	1	7
	1	8
	2	9
*	NULL	NULL

studentsubject 19 x

Output

Action Output

#	Time	Action	Message	Duration / Fetch
20	22:26:08	select * from schedule LIMIT 0, 1000	15 row(s) returned	0.063 sec / 0.000 sec
21	22:27:47	select * from studentschedule LIMIT 0, 1000	15 row(s) returned	0.032 sec / 0.000 sec
22	22:29:11	select * from studentsubject LIMIT 0, 1000	9 row(s) returned	0.032 sec / 0.000 sec

StudentSubject Table

MySQL Workbench

localhost - Warning - not supp... x

File Edit View Query Database Server Tools Scripting Help

Navigator

Filter objects

- results
- schedule
- schedulesubject
- section
- student
- studentschedule
- studentsubject
- subject

Views

Administration Schemas

Information

No object selected

Object Info Session

schedule section student subject schedulesubject results studentsubject studentschedule SQL File 13' x

Limit to 1000 rows

1 • select * from schedulesubject;

Result Grid

	schedule_id	subject_id
▶	1	1
	2	2
	3	3
	4	4
	5	5
	6	6
	7	1
	8	7
	9	2
	10	3
	11	4
	12	8
	13	7
...		

schedulesubject 20 x

Output

Action Output

#	Time	Action	Message	Duration / Fetch
21	22:27:47	select * from studentschedule LIMIT 0, 1000	15 row(s) returned	0.032 sec / 0.000 sec
22	22:29:11	select * from studentsubject LIMIT 0, 1000	9 row(s) returned	0.032 sec / 0.000 sec
23	22:30:01	select * from schedulesubject LIMIT 0, 1000	15 row(s) returned	0.015 sec / 0.000 sec

Assessment Table

MySQL Workbench interface showing the 'Assessment Table' query results. The query is `select * from assessment;` and the results are displayed in a grid. The table has columns: `assessment_id`, `assessment_name`, `subject_id`, `student_id`, `type`, and `is_deleted`.

assessment_id	assessment_name	subject_id	student_id	type	is_deleted
1	Midterm Quiz 1	1	1	Quiz	0
2	Midterm Quiz 1	2	1	Quiz	0

The output pane shows the following action output:

#	Time	Action	Message	Duration / Fetch
22	22:29:11	select * from studentsubject LIMIT 0, 1000	9 row(s) returned	0.032 sec / 0.000 sec
23	22:30:01	select * from schedulesubject LIMIT 0, 1000	15 row(s) returned	0.015 sec / 0.000 sec
24	22:30:27	select * from assessment LIMIT 0, 1000	2 row(s) returned	0.031 sec / 0.000 sec

Results Table

MySQL Workbench interface showing the 'Results Table' query results. The query is `select * from results;` and the results are displayed in a grid. The table has columns: `results_id`, `assessment_id`, `student_id`, and `score`.

results_id	assessment_id	student_id	score
1	1	1	26.00
2	2	1	34.00

The output pane shows the following action output:

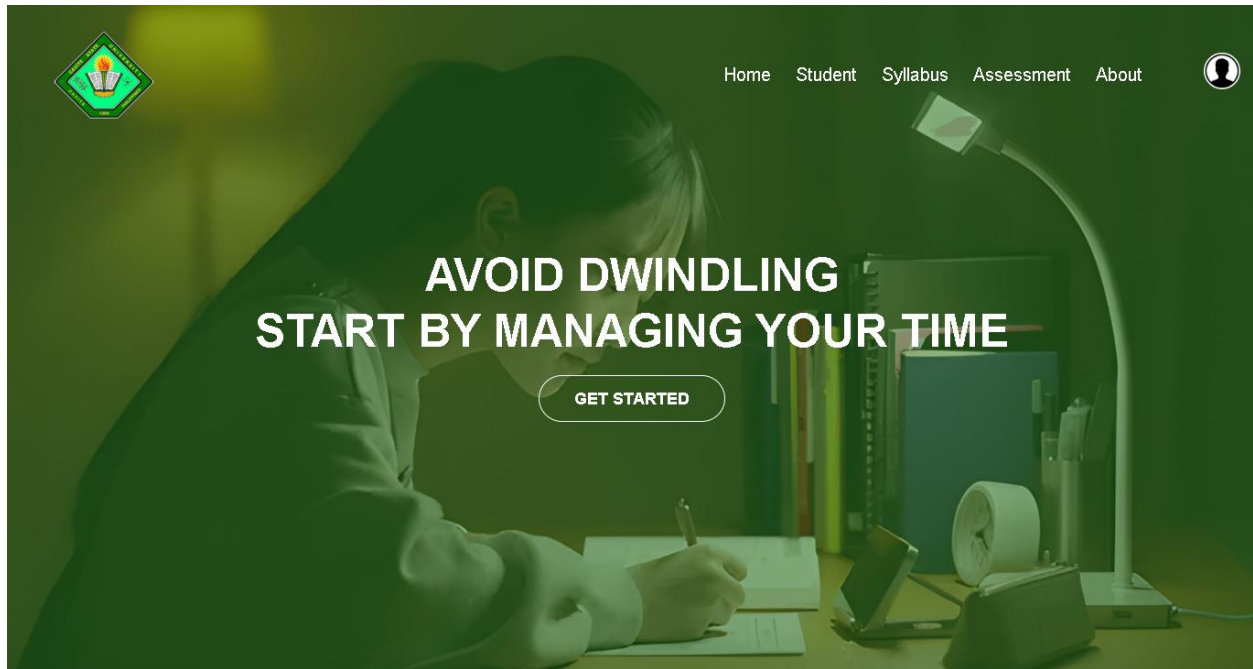
#	Time	Action	Message	Duration / Fetch
23	22:30:01	select * from schedulesubject LIMIT 0, 1000	15 row(s) returned	0.015 sec / 0.000 sec
24	22:30:27	select * from assessment LIMIT 0, 1000	2 row(s) returned	0.031 sec / 0.000 sec
25	22:30:57	select * from results LIMIT 0, 1000	2 row(s) returned	0.047 sec / 0.000 sec

Features and Functionalities

3.1 Student Information Management


This is the landing page of the project; it consists of 5 options(excluding the home button) that will take you to each page of the project.

Student.php



One of the options is the Get Started button. This page displays the student information, but they must create an account first or log in if already registered. Below is the create/register page where you will insert your personal information to create an account.

Registerpage.php




Registration

First Name	<input type="text" value="Kurt Isaloh"/>	Middle Name	<input type="text" value="Reonal"/>
Last Name	<input type="text" value="Pascua"/>	Student Number	<input type="text" value="202311233"/>
Section	<input type="text" value="2-3"/>	Age	<input type="text" value="20"/>
Email	<input type="text" value="kurtpascua026@gmail.com"/>		
	Password		
	<input type="password" value="....."/>		

Register


After creating/registering an account you can log in by inserting your email and password and by clicking the login button.

Login.php




Login Form

<input type="text"/>
<input type="password"/>
<input type="button" value="Login"/>
Forgot Password?
Register Here




The user can also click the forgot password button if somehow accidentally forgot their password, they will be redirected to the forgot password page, and they can reset their password information.

forgotpass.php

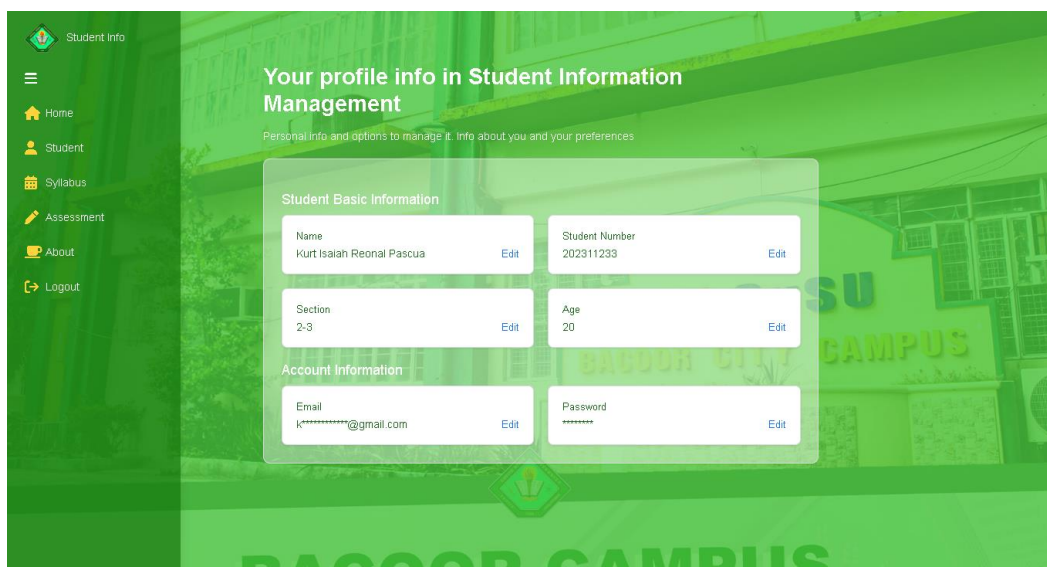


The image shows a 'Reset Password' form on a green gradient background. The form is white and contains the following elements:

- Reset Password** (Section Header)
-
-
-
- [Back to Login](#)
- 

After logging in, you will be redirected to the student page where all the student's personal information is displayed.

Studentinfo.php



The image shows a 'Student Information Management' page with a green background and a sidebar. The sidebar contains the following links:

- Student Info
- Home
- Student
- Syllabus
- Assessment
- About
- Logout

The main content area is titled 'Your profile info in Student Information Management' and includes the following information:

Personal info and options to manage it. Info about you and your preferences

Student Basic Information	
Name Kurt Isalah Reonal Pascua	Student Number 202311233
Section 2-3	Age 20

Account Information	
Email k*****@gmail.com	Password *****

By clicking the edit button, you will be redirected to the edit information page or update student information page where you can edit/modify your personal information.

Update_studentinfo.php

Edit Your Personal Info
Update your personal info and your preferences

Basic Information

First Name: Kurt Isaiah Middle Name: Reonal Last Name: Pascua

Student Number: 202311233 Age: 20 Section: 2-3

Account Information

Email Address: kurtpascua026@gmail.com New Password: *****

Save Changes

3.2 Subject and Schedule Management

After checking the user's information page, the user can also click the syllabus page where the user can see the list of his/her subject and schedule.

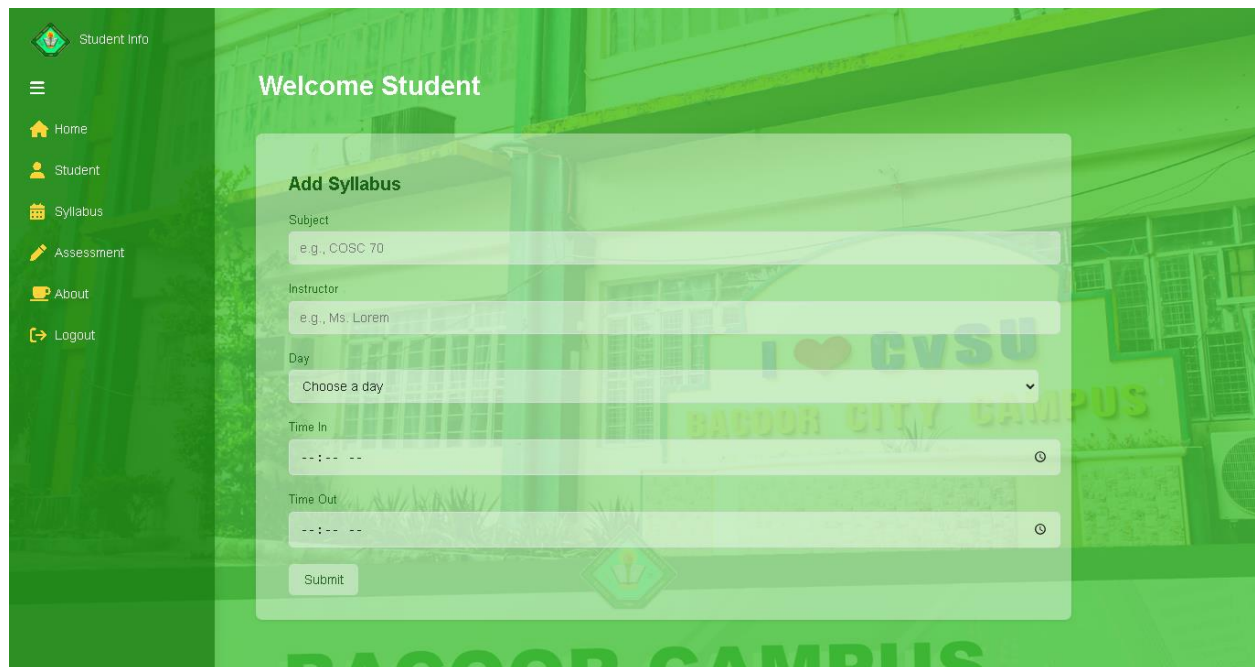
Syllabus.php

Subject	Instructor	Day	Time In	Time Out	Modify
DCIT 55	Edan Belgica	Monday	10:00 AM	12:00 PM	Update Delete
DCIT 55	Edan Belgica	Tuesday	03:00 PM	06:00 PM	Update Delete
COSC 65	Nestor Miguel Pimentel	Monday	02:00 PM	04:00 PM	Update Delete
COSC 65	Nestor Miguel Pimentel	Thursday	01:00 PM	04:00 PM	Update Delete
GNED 14	Jessica Ann Sambrano	Monday	04:00 PM	05:30 PM	Update Delete
GNED 14	Jessica Ann Sambrano	Friday	07:00 AM	08:00 AM	Update Delete
GNED 08	Russel Adrianne Villareal	Monday	07:00 PM	08:30 PM	Update Delete
GNED 08	Russel Adrianne Villareal	Friday	08:30 AM	10:00 PM	Update Delete
FITT 04	Ms. Mendoza	Tuesday	07:00 AM	09:00 AM	Update Delete
MATH 02	Marlei Castillo	Tuesday	01:00 PM	02:00 PM	Update Delete
MATH 02	Marlei Castillo	Friday	07:00 PM	08:30 PM	Update Delete
DCIT 25	Rachel Rodriguez	Thursday	07:00 AM	10:00 AM	Update Delete
DCIT 25	Rachel Rodriguez	Friday	06:00 PM	07:00 PM	Update Delete
COSC 70	Clarissa Rostrollo	Friday	10:00 AM	01:00 PM	Update Delete

Add Syllabus

Users can also add another subject and schedule by clicking the add syllabus button. This way they will be redirected to the add syllabus page.

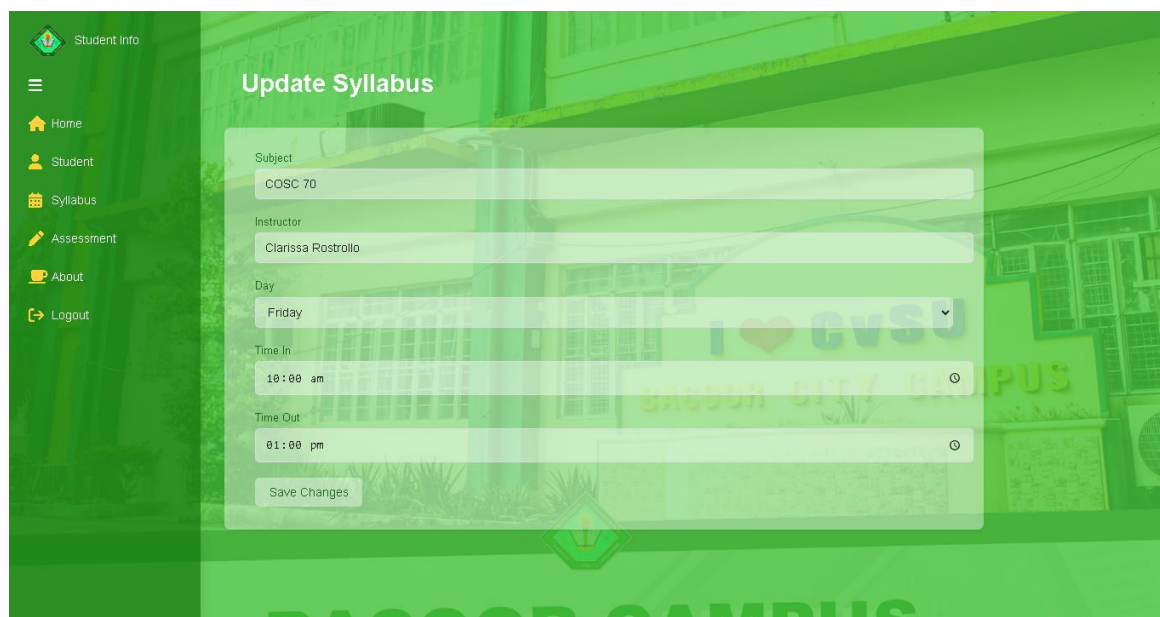
Syllabus.php



The screenshot shows a web application interface with a green sidebar on the left containing navigation links: Student Info, Home, Student, Syllabus, Assessment, About, and Logout. The main content area has a green background with a building image and the text 'WELCOME STUDENT'. Overlaid on this is a white 'Add Syllabus' form. The form contains the following fields: 'Subject' (text input with placeholder 'e.g., COSC 70'), 'Instructor' (text input with placeholder 'e.g., Ms. Lorem'), 'Day' (dropdown menu with 'Choose a day'), 'Time In' (time picker showing '--:--'), and 'Time Out' (time picker showing '--:--'). A 'Submit' button is at the bottom of the form.

The user can also update their information by clicking the update button from the syllabus page. The UI design was the same as the add syllabus page, but their functionality is different this time as it updates the already created subject and schedule information.

Update_syllabus.php



The screenshot shows the same web application interface as the previous one, but with the 'Update Syllabus' form overlaid. The form contains the following fields: 'Subject' (text input with value 'COSC 70'), 'Instructor' (text input with value 'Clarissa Rostrollo'), 'Day' (dropdown menu with 'Friday'), 'Time In' (time picker showing '10:00 am'), and 'Time Out' (time picker showing '01:00 pm'). A 'Save Changes' button is at the bottom of the form.

The user can also delete the subject and schedule data/information by clicking the delete button from the syllabus page, the system will notify the user if he/she wants to delete data/information, this serves as a warning from a data deletion. One of the small functionalities that are added is the backup system where the subject and schedule data/information are stored in a CSV file format saved in backup folder, this way the user can view deleted contents for future reference.

Delete_syllabus.php

The screenshot shows the Syllabus page with a confirmation dialog box overlaying the table. The dialog box is titled "localhost says" and contains the text "Are you sure you want to delete this syllabus?". It has two buttons: "OK" and "Cancel".

Welcome to Syllabus

Subject	Instructor	Day	Time In	Time Out	Modify
DCIT 55	Edan Belgica	Monday	10:00 AM	12:00 PM	Update Delete
DCIT 55	Edan Belgica	Tuesday	03:00 PM	06:00 PM	Update Delete
COSC 65	Nestor Miguel Pimentel	Monday	02:00 PM	04:00 PM	Update Delete
COSC 65	Nestor Miguel Pimentel	Thursday	01:00 PM	04:00 PM	Update Delete
GNED 14	Jessica Ann Sambrano	Monday	04:00 PM	05:30 PM	Update Delete
GNED 14	Jessica Ann Sambrano	Friday	07:00 AM	08:00 AM	Update Delete
GNED 08	Russel Adrienne Villareal	Monday	07:00 PM	08:30 PM	Update Delete
GNED 08	Russel Adrienne Villareal	Friday	08:30 AM	10:00 PM	Update Delete
FITT 04	Ms. Mendoza	Tuesday	07:00 AM	09:00 AM	Update Delete
MATH 02	Mariel Castillo	Tuesday	01:00 PM	02:00 PM	Update Delete
MATH 02	Mariel Castillo	Friday	07:00 PM	08:30 PM	Update Delete
DCIT 25	Rachel Rodriguez	Thursday	07:00 AM	10:00 AM	Update Delete
DCIT 25	Rachel Rodriguez	Friday	05:00 PM	07:00 PM	Update Delete
COSC 70	Clarissa Rostrollo	Friday	10:00 AM	01:00 PM	Update Delete

3.3 Quiz, Activity, and Exam Tracking

After the syllabus page, there is also an assessment page where the user can add, track/read, update, and delete their assessment information.

Assessment.php

The screenshot shows the Assessment page with a table of assessment data. The page has a sidebar with navigation links and a search bar.

Welcome to Assessment

Subject	Type	Name	Score	Modify
DCIT 55	Quiz	Midterm Quiz 1	26.00	Update Delete
COSC 65	Quiz	Midterm Quiz 1	34.00	Update Delete

[Add Assessment](#)

This is the update assessment page. Same UI and functionality as the syllabus page.

Update_assessment.php

Update Assessment

Subject: DCIT 55

Assessment Type: Quiz

Assessment Name: Midterm Quiz 1

Score: 26.00

Update

Delete_assessment.php

Search assessment...

Are you sure you want to delete this assessment?

OK Cancel

Subject	Type	Name	Score	Modify
DCIT 55	Quiz	Midterm Quiz 1	26.00	Update Delete
COSC 65	Quiz	Midterm Quiz 1	34.00	Update Delete

[Add Assessment](#)

The system also has a search functionality for both syllabus and assessment pages. This way the user can easily identify what schedule or assessment they want to see or what information they want to update or delete.

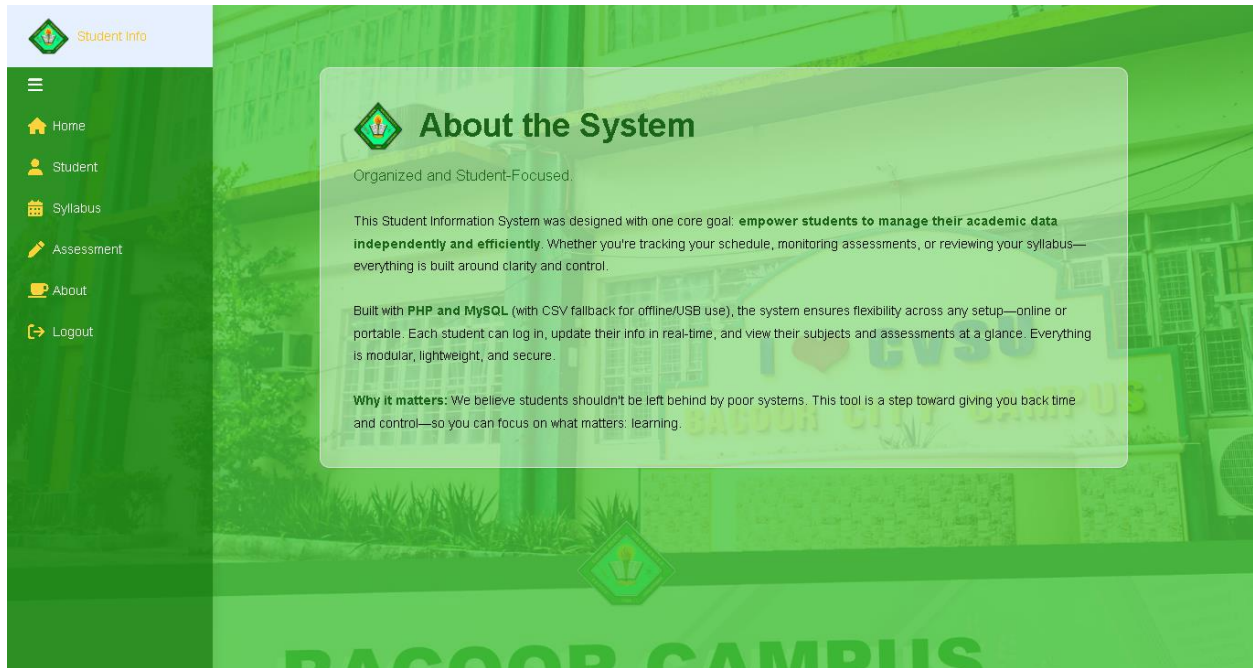
DCIT

Welcome to Syllabus

Subject	Instructor	Day	Time In	Time Out	Modify
DCIT 55	Edan Belgica	Monday	10:00 AM	12:00 PM	Update Delete
DCIT 55	Edan Belgica	Tuesday	03:00 PM	06:00 PM	Update Delete
DCIT 25	Rachel Rodriguez	Thursday	07:00 AM	10:00 AM	Update Delete
DCIT 25	Rachel Rodriguez	Friday	05:00 PM	07:00 PM	Update Delete

[Add Syllabus](#)

After all of that, the user can log out from the system, and they will be redirected to the login page where they can log in and come back anytime.



And lastly, one unnecessary page but still hold importance are the about page. This concludes the purpose and about the system. Because we believe students should not be left behind by poor systems. This tool is a step toward giving them back time and control—so they can focus on what matters: learning.