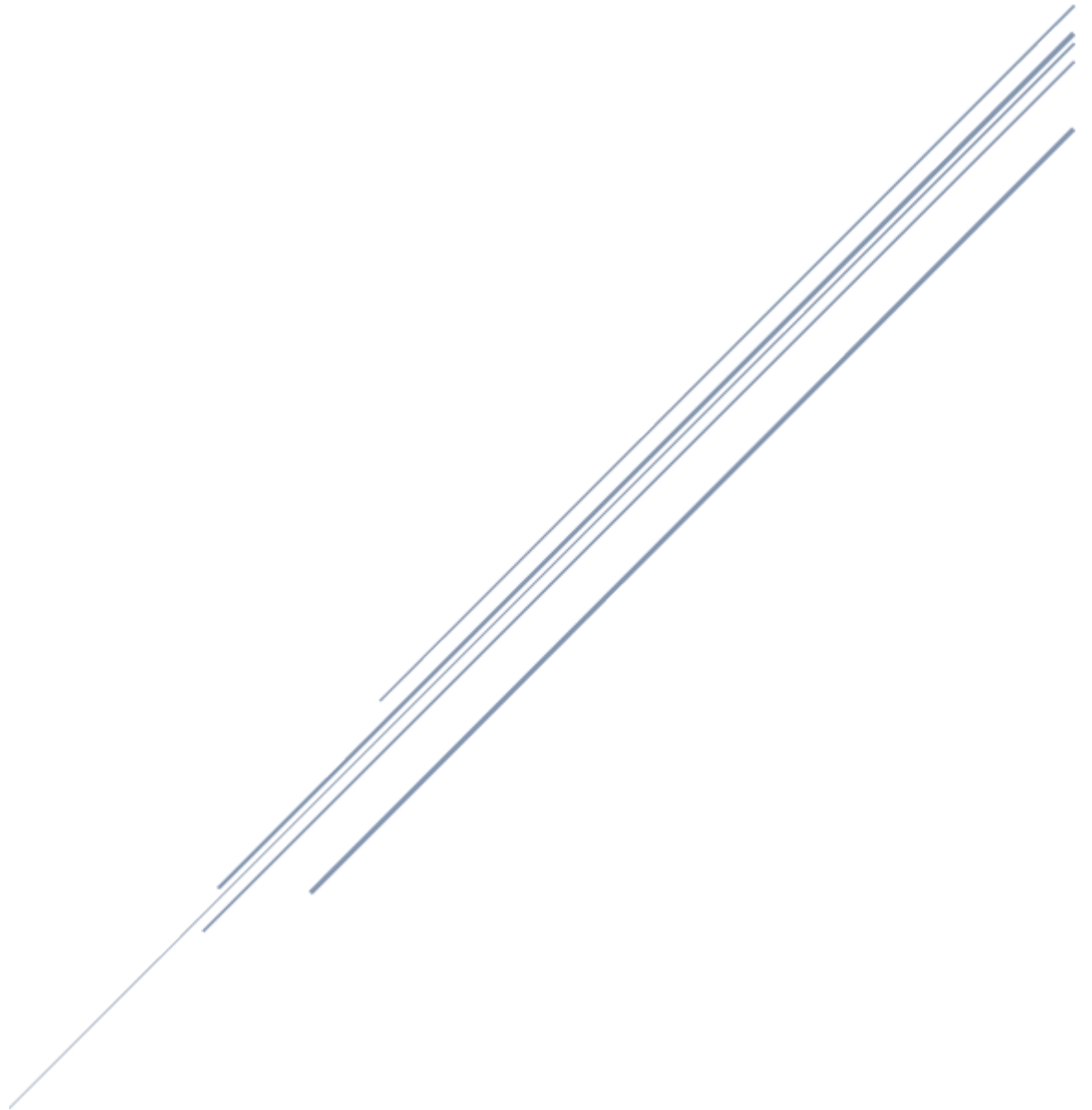


STUDENT ENROLLMENT REPORT

INFO601 Data Modelling & SQL



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Business case statement of work

Brief introduction of our project:

Our business case study is the course selection system. The aim of our project is to help organizations design the course enrollment system. Hence, they can easily manage the whole enrollment process each semester. The system should allow students to browse and select different courses they should learn in the following semester. About tutors, they can view which courses they would teach in the system. Additionally, the system should allow administrators to manage course information, student information, and tutor information.

The analysis of MoSCoW:

MUST	Should
<ul style="list-style-type: none"> • Student information management • Tutor information management • Course enrollment for students every semester • The view of timetable • Course information management Assign tutors for different courses 	<ul style="list-style-type: none"> • Sign up and log in system
Could	Won't
<ul style="list-style-type: none"> • Images on tutors • Images on students 	<ul style="list-style-type: none"> • Family recording of personal data

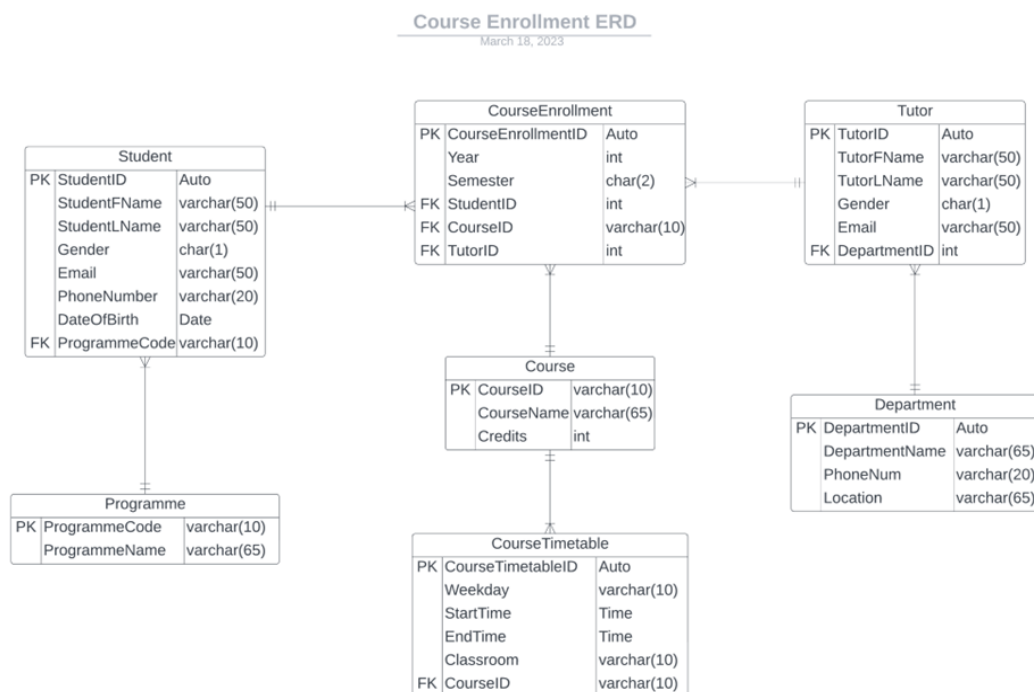
MVP — Minimum Viable Product:

1. Sign up and log in system
2. Student information management
3. Tutor information management
4. Course enrollment for students every semester
5. The view of timetable
6. Course information management
 - a. Assign tutors for different courses

Application form designs

To ensure effective management and secure access rights, we have divided the application into three distinct interfaces - one each for students, tutors, and administrators. Each interface allows the relative user to manage, enroll in, and display courses. The administrator interface grants the highest level of access and allows the user to add, modify, and delete both students and tutors. The student interface permits course selection and profile editing, while the tutor interface only facilitates course arrangement viewing and profile editing.

Data model



Data dictionary

Programme table

Attribute	Data type	Length	PK – FK	NOT NULL	Default Value	constraints
ProgrammeCode	varchar	10	PK			
ProgrammeName	varchar	65		NOT NULL		

Student table

Attribute	Data type	Length	PK – FK	NOT NULL	Default Value	constraints
StudentID	int		PK			
StudentFName	varchar	50		NOT NULL		
StudentLName	varchar	50		NOT NULL		
Gender	char	1				M, F, O
Email	varchar	50		NOT NULL		
PhoneNumber	varchar	20		NOT NULL		
DateOfBirth	Date					
ProgrammeCode	varchar	10	FK	NOT NULL		

Course table

Attribute	Data type	Length	PK – FK	NOT NULL	Default Value	constraints
CourseID	varchar	10	PK			
CourseName	varchar	65		NOT NULL		
Credits	Int			NOT NULL		

CourseTimetable table

Attribute	Data type	Length	PK – FK	NOT NULL	Default Value	constraints
CourseTimetableID	int		PK			
Weekday	varchar	10		NOT NULL		
StartTime	Time			NOT NULL		
EndTime	Time			NOT NULL		
Classroom	varchar	10		NOT NULL		
CourseID	varchar	10	FK	NOT NULL		

Department table

Attribute	Data type	Length	PK – FK	NOT NULL	Default Value	constraints
DepartmentID	int		PK			
DepartmentName	varchar	65		NOT NULL		
PhoneNum	varchar	20		NOT NULL		
Location	varchar	65		NOT NULL		

Tutor table

Attribute	Data type	Length	PK – FK	NOT NULL	Default Value	constraints
TutorID	int		PK			
TutorFName	varchar	50		NOT NULL		
TutorLName	varchar	50		NOT NULL		
Gender	char	1				M, F, O
Email	varchar	50		NOT NULL		
DepartmentID	int		FK	NOT NULL		

CourseEnrollment table

Attribute	Data type	Length	PK – FK	NOT NULL	Default Value	constraints
CourseEnrollmentID	int		PK			
Year	int			NOT NULL		
Semester	char	2		NOT NULL		S1, S2
StudentID	int		FK	NOT NULL		
CourseID	varchar	10	FK	NOT NULL		
TutorID	int		FK	NOT NULL		

Any assumptions regarding your data model & implementation

1. Each student will have a unique student ID and profile information, such as their name, contact details, and study program.
2. Each course will have a unique course ID and information such as course name, tutor, and number of credits.
3. Each student can select one or more courses.
4. Each tutor can teach one or more courses.
5. The system will have a user interface for students to browse and view available courses, add courses by clicking the enroll button.

Evidence of database implementation and data

The data in Programme table:

	ProgrammeCode	ProgrammeName
1	P100	Bachelor of Science in Computer Science
2	P101	Bachelor of Arts in Psychology
3	P102	Master of Business Administration
4	P103	Doctor of Medicine
5	P104	Bachelor of Education in Mathematics
6	P105	Bachelor of Fine Arts in Acting
7	P106	Master of Science in Environmental Science
8	P107	Bachelor of Science in Nursing
9	P108	Bachelor of Arts in English Literature
10	P109	Master of Engineering in Electrical Engineering

The data in Student table:

	StudentID	StudentFName	StudentLName	Gender	Email	PhoneNumber	DateOfBirth	ProgrammeCode
1	1	John	Doe	M	johndoe@gmail.com	0210291520	1998-04-21	P100
2	2	Jane	Doe	F	janedoe@gmail.com	0210298463	1998-04-27	P101
3	3	Bob	Smith	M	bobsmith@gmail.com	0210298430	1999-03-23	P100
4	4	Alice	Johnson	F	alicejohnson@gmail.com	0210224863	1999-03-24	P105
5	5	David	Lee	M	davidlee@gmail.com	0210224867	2000-10-18	P102
6	6	Sarah	Wilson	F	sarahwilson@gmail.com	0210224861	2000-10-19	P108
7	7	Michael	Chen	M	michaelchen@gmail.com	0210278433	2000-10-20	P106
8	8	Emily	Garcia	F	emilygarcia@gmail.com	0210274561	2001-12-04	P103
9	9	William	Kim	M	williamkim@gmail.com	0210274562	2001-12-09	P109
10	10	Olivia	Taylor	F	oliviataaylor@gmail.com	0210274563	2001-08-12	P107

The data in Course table:

	CourseID	CourseName	Credits
1	ART101	Art Appreciation	15
2	BIOL101	Introduction to Biology	15
3	CHEM101	General Chemistry I	15
4	COMM101	Public Speaking	15
5	CSCI101	Introduction to Computer Science	15
6	ENG101	Composition I	15
7	HIST101	Introduction to World History	15
8	MATH201	Calculus I	15
9	PHYS101	Introduction to Physics	15
10	PSYC101	Introduction to Psychology	15

The data in Department table:

	DepartmentID	DepartName	PhoneNum	Location
1	1	Computer Science	0800501400	Building A, Room 101
2	2	Mathematics	0800501401	Building B, Room 201
3	3	Engineering	0800501402	Building C, Room 301
4	4	Business	0800501403	Building D, Room 401
5	5	History	0800501404	Building E, Room 501
6	6	English	0800501405	Building F, Room 601
7	7	Psychology	0800501406	Building G, Room 701
8	8	Biology	0800501407	Building H, Room 801
9	9	Chemistry	0800501408	Building I, Room 901
10	10	Physics	0800501409	Building J, Room 1001

The data in Tutor table:

	TutorID	TutorFName	TutorLName	Gender	Email	DepartmentID
1	1	John	Smith	M	john.smith@gmail.com	1
2	2	Jane	Dickson	F	jane.dickson@gmail.com	2
3	3	Bob	Johnson	M	bob.johnson@gmail.com	1
4	4	Samantha	Green	F	samantha.green@gmail.com	3
5	5	David	Nguyen	M	david.nguyen@gmail.com	2
6	6	Linda	Garcia	F	linda.garcia@gmail.com	3
7	7	Michael	Rodriguez	M	michael.rodriguez@gmail.com	1
8	8	Emily	Kim	F	emily.kim@gmail.com	2
9	9	Steven	Chen	M	steven.chen@gmail.com	3
10	10	Catherine	Wang	F	catherine.wang@gmail.com	1

The data in CourseEnrollment table:

	CourseEnrollmentID	Year	Semester	StudentID	CourseID	TutorID
1	1	2022	S1	1	CSCI101	2
2	2	2022	S1	1	PSYC101	2
3	3	2022	S1	2	MATH201	2
4	4	2022	S1	2	ENG101	8
5	5	2022	S1	2	CHEM101	10
6	6	2022	S2	6	PHYS101	1
7	7	2022	S2	7	HIST101	3
8	8	2022	S2	8	BIOL101	5
9	9	2022	S2	9	ART101	7
10	10	2022	S2	10	COMM101	9

The data in CourseTimetable table:

	CourseTimetableID	Weekday	StartTime	EndTime	Classroom	CourseID
1	1	Monday	09:00:00.0000000	10:30:00.0000000	Room A	CSCI101
2	2	Tuesday	13:00:00.0000000	14:30:00.0000000	Room B	PSYC101
3	3	Wednesday	10:00:00.0000000	11:30:00.0000000	Room C	MATH201
4	4	Thursday	11:00:00.0000000	12:30:00.0000000	Room D	ENG101
5	5	Friday	14:00:00.0000000	15:30:00.0000000	Room E	CHEM101
6	6	Monday	13:00:00.0000000	14:30:00.0000000	Room F	PHYS101
7	7	Wednesday	09:00:00.0000000	10:30:00.0000000	Room G	HIST101
8	8	Thursday	09:00:00.0000000	10:30:00.0000000	Room H	BIOL101
9	9	Tuesday	10:00:00.0000000	11:30:00.0000000	Room I	ART101
10	10	Friday	11:00:00.0000000	12:30:00.0000000	Room J	COMM101

Display the overall course enrollment information:

	CourseEnrollmentID	Year	Semester	StudentID	Student Full Name	CourseID	CourseName	Credits	TutorID	Tutor Full Name
1	1	2022	S1	1	John Doe	CSCI101	Introduction to Computer Science	15	2	Jane Dickson
2	2	2022	S1	1	John Doe	PSYC101	Introduction to Psychology	15	2	Jane Dickson
3	3	2022	S1	2	Jane Doe	MATH201	Calculus I	15	2	Jane Dickson
4	4	2022	S1	2	Jane Doe	ENG101	Composition I	15	8	Emily Kim
5	5	2022	S1	2	Jane Doe	CHEM101	General Chemistry I	15	10	Catherine Wang
6	6	2022	S2	6	Sarah Wilson	PHYS101	Introduction to Physics	15	1	John Smith
7	7	2022	S2	7	Michael Chen	HIST101	Introduction to World History	15	3	Bob Johnson
8	8	2022	S2	8	Emily Garcia	BIOL101	Introduction to Biology	15	5	David Nguyen
9	9	2022	S2	9	William Kim	ART101	Art Appreciation	15	7	Michael Rodriguez
10	10	2022	S2	10	Olivia Taylor	COMM101	Public Speaking	15	9	Steven Chen