In this assignment you are required to:

- Design and implement a solution to a business problem.
- Implement the solution using Microsoft SQL Server and an appropriate web based front-end development tool of your choice.
- Document the solution as set out in the assignment requirements.
- Submit a CD containing the softcopy of both your documentation and application.
- Present your work in week 14. Presentation schedules will be published at a later date.

The Lotus University Faculty Module Management Case Study

Faculty Module Management System is a database system which can be used to manage, maintain and secure the faculty total modules / subjects offered across the schools. This system is further described below:

Faculty:

The University maintains 3 main faculties: Engineering, Computing and Business & Management. Each faculty runs many programs which are maintained independently by another system. Each faculty is further divided as clusters as follows:

Computing:

a) Application
b) Interactive Media
c) ICT

Business & Management:

a) Management
b) Media
c) Tourism / SM
d) Accounting
e) Maths

Engineering: No clusters

Module:

Each module offered at Lotus University is best selected and derived from current needs of industries. The modules are developed and maintained to be accessed by the module leaders and module lecturers as a reference to delivery in classes for each batch of students. Each module is managed by a Faculty which is lead by the module leader under each cluster.

Over the time, each module will be revised to adapt to the latest needs of industry. Therefore, module leaders will update the current module descriptor and release it as a new version.

The system should store the module descriptor contents as below:

Name of Module:					
Module Code:					
Version:					
Module Leader:					
Total Student Learning Time (SLT)	L	T	P	O	I
L = Lecture T = Tutorial P = Practical O= Others I= Independent					
Credit Value:					
Prerequisite:					
Objectives					
Learning Outcome:					
Transferable Skills:					
Teaching-learning and assessment strategy:					
Synopsis:					
Mode of Deliver					
Assessment Methods and Types					
Topics & Hours spent for each topic (16 week of classes)					
Books and References					

Staff:

The Lotus University has 250 full time lecturers and 50 part timers. Each lecturer is assigned to 1 or more modules at any one time. Part of the full time lecturers who have administrative duties are given roles as module leaders. A lecturer may or may not be assigned as a module leader. Any lecturers may be assigned 1 or more than 1 module to be lead at any one time. The system should be able to create and maintain the records of staffs and the relationship between staff, faculty and modules.

Module Examination Maintenance:

Each module may or may not be offered in every intakes scheduled by the university. Module lecturer has to prepare the exam questions and assignments for the module that is offered in a semester. The set of exam questions are referred by class code / intake code. Other attributes maintained are Module Code, Module Description, Exam Date, Venue, Module Lecturer, Module leader, Prepared Date.

Furthermore, each exam paper prepared has to be verified internally and externally. The internal moderators are the other lecturers who have been lecturing the same module or a subject expert. This verification process will be complete with the moderators name, date moderated and remarks.

The final step before printing the exam papers, the external board of moderators will moderate and comment / give feedback on the exam paper quality. This moderation process will be complete with the moderators name, date moderated and remarks. *Note: External moderators are NOT staffs of Lotus University*

The system has to maintain and manage the preparation of exam paper date, intake code and the process of verification and moderation. System does NOT need to cater for exam paper / question banks.

Module External Board Moderation Maintenance:

After the examination and marking, the results of each class / intake is further discussed in the external moderators board. Each module will be reviewed by picking up sample scripts and overall score of the class.
The moderator will comment on the module results, performance of class students, assignments and much more.
The system must be able to create and maintain the records of moderators by module and class/ intake code. Some data that need to be managed are : Module Code, Module Name , Moderator name, Date of Moderation, Remarks.

Once the external board has finalised their comments, the class lecturers has to login to the system and review the comments given to them. They will NOT be able to edit or modify the review. They are encouraged to discuss their opinions about the comments given to the module lecturer.

Module lecturers MUST login to the system at the end of each semester to read the reviews. They have to reply to the comments given by the moderator and update the system.

These module moderation reports will be printed and will be handed in for the Exam board meeting every half yearly.

Job Tasks:

Design

Design a database solution for the given scenario and document the following:

1. Produce a complete Entity Relationship (ER) diagram (include attributes, keys and participation constraints) for the above mentioned scenario. State and justify all business rules applicable in your design.
2. Map your ER diagram to its corresponding relational schema and normalise all relations up to third normal form clearly illustrating the normalisation process undertaken.
3. Document the Normalisation process that defines the sets of entities obtained.

Implementation

Use Microsoft SQL Server and an appropriate web based front-end development tool to implement your solution based on the design produced from Design, namely:

1. Produce a set of tables and relationships based on your Entity Relationship Diagram that represent a fully normalised data model suitable for the Faculty Module Management System. You should identify the primary keys in each table and each field's data type. Include appropriate integrity constraints in your tables.
2. A copy of the relationship diagram between all tables in the database (Database schema) should be attached in your documentation.
3. Corresponding DDL statements for the tables and DML statements (abstracted from your coding) should be documented.
4. Produce a application which meets the **minimum** requirements:

    a) A login menu to control access of the lecturers, module leaders, external moderators and administrator (power user).

    b) Interactive forms with validations and tab control. Standardised buttons (Add, Edit, Update, Delete ... etc)

    c) Data Entry forms for all modules mentioned above. Appropriate menu management.

    d) Database: Ms SQL Server database is COMPULSORY. Tables / Entities with relationship between them. Identify the primary keys and foreign key. Attributes which is not identified in above case study should be created to meet the domain needs.

e) Reports : *(All reports should include search functions)*

i) Staff Listing (By Faculty / By Cluster) sorting enabled will be nominated extra points.
ii) Module Listing (Module Leaders, Faculty and Cluster indicated) sorting enabled will be nominated extra point.
iii) Module Verification Form (Internal Moderator's comments and External Board's comments) – before exam, add in sorting features
iv) Module Scripts Moderation Comments (External Moderator's comments and module leader's reply) – after exam for all module, add in sorting features
v) Module Descriptor Form

Note: You are required to document the application interface, search / query display and report in your documentation. Include also any justifications you deem is necessary.

5. You are expected to include appropriate validations within your application.

Submitting the files

The instructions for submitting files are:

- Your assignment should be submitted on or before week 14.
- You are required to submit a CD containing the softcopy of both your documentation and application.
- It is vital that you keep an electronic copy of the 'submitted file(s)' as your receipt. The onus will be on you to produce this in case your disks/CDs become unreadable for some reason.

The Presentation

You are required to present your work to your lecturer. Please note the following:

- You will be advised of the time and place where you will do your presentation in due course, but these will normally take place on week 14/15.
- The presentation should not exceed 20 minutes.
- You will be responsible for loading and accessing any files you require. The time you take to do this is inclusive of the 20 minutes you are allocated.
- The breakdown of marks for this assignment is as defined on the next page.

Marking Scheme

Report and Application (70%)		
Criteria	**Module Learning Outcomes Assessed**	**Marks**
Task 1 ERD	LO4: Design and justify the design of a database system and select, justify the selection and exploit any associated underpinning technologies.	15
Mapping and normalization		10
Task 2 Table design		10
Forms	LO2: Create, alter and remove tables, indexes and data using an appropriate database language.	10
Queries		10
Reports		10
Toolbar		5
Presentation (30%)		
Criteria	**Module Learning Outcomes Assessed**	**Marks**
Understanding and analysis of problem	LO4: Design and justify the design of a database system and select, justify the selection and exploit any associated underpinning technologies.	10
Ability to answer questions		10
Ability to manipulate RDBMS using SQL	LO2: Create, alter and remove tables, indexes and data using an appropriate database language.	10

Assessment Criteria:

The following guidelines indicate the standard that will be expected for each grade.

Grade A (70% and above)
Demonstrates an excellent understanding of the problem. The ERD will be implementable and any errors and/or omissions will be minor. The assumptions for the ERD will be logical and almost comprehensive. The database will be implemented to a high standard of functionality, with appropriate integrity constraints in place and will be appropriately normalised. Queries will have been attempted and all or most queries will function. The forms produced would be well designed with user-friendly features and include appropriate validations. The report feature will be well implemented. Toolbar appropriately implemented, well integrating the working prototype application. Documentation will be to a high standard. The student will be able to discuss his/her design and implementation at the presentation and will be able to explain the way in which he/she has attempted the project.

Grade B (60 – 69%)
Demonstrates a good understanding of the problem. The ERD will be implementable and errors and/or omissions will be minor. The assumptions for the ERD will be logical but with some minor errors and/or omissions. The database will function and will be appropriately normalised although with some errors and/or omissions. Some integrity constraints may be omitted. Queries will have been attempted and most queries will function. The forms produced will be satisfactorily designed with user-friendly features. There may be some minor validations errors. The report feature will be satisfactorily implemented. The toolbar feature will be appropriately implemented, satisfactorily integrating the prototype application. Documentation will be satisfactory. The student will be able to discuss his/her implementation at the presentation and will be able to explain the way in which he/she has attempted the project.

Grade C (50 – 59%)
Demonstrates an adequate understanding of the problem. The ERD will be implementable although with some errors and/or omissions. The assumptions for the ERD will be logical but with some errors and/or omissions. The database will function and will be appropriately normalised although with some errors and/or omissions. Some integrity constraints may be omitted. The forms produced would be satisfactorily designed with user-friendly features but there may be some validation errors. Queries will have been attempted and the majority of the queries will function. The report feature will be satisfactorily implemented though with some errors and/or omissions. Toolbar appropriately implemented though with some errors and/or omissions and satisfactorily integrated with the application. Documentation will be adequate. The student will be able to discuss his/her implementation at the presentation and will be able to explain the way in which he/she has attempted the project.

Grade D (40 – 49%)
Demonstrates some understanding of the problem. The ERD will be implementable although with some errors and/or omissions. The assumptions for the ERD are acceptable although with some errors and/or omissions. The database will function although with some errors and/or omissions. Some integrity constraints may be omitted. Most data will be in 3NF but there may be some normalisation issues. The forms produced would be adequately designed though not with user-friendly features and there will be validation errors. Queries will have been attempted and some queries will function. The report feature will be implemented though with some errors and/or omissions. Toolbar implemented though with some errors and/or omissions and there may be errors in integrating with the application. Documentation will be adequate but explanations may be limited during the presentation.

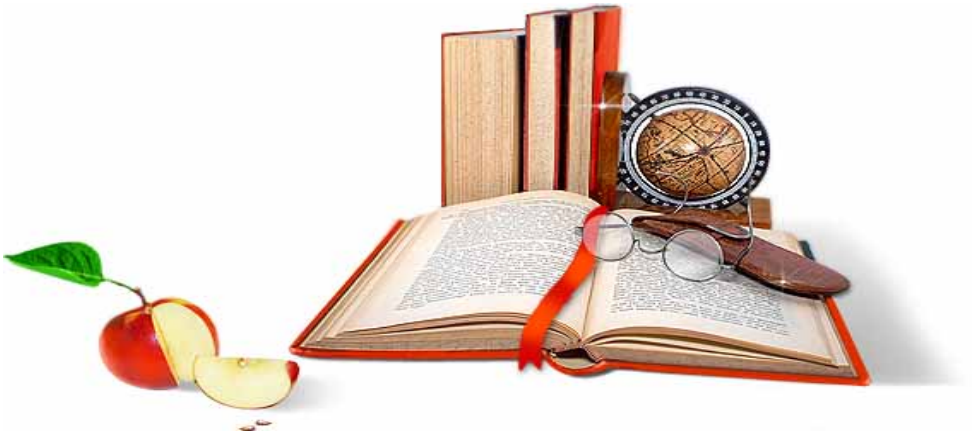
Grade E (fail) **(30 – 39%)**
Demonstrates limited understanding of the problem. The ERD will not be implementable or will not cover major aspects of the scenario. The assumptions for the ERD do not reflect the scenario. The database will function but will have major errors and/or omissions. Most integrity constraints will be omitted. Most data will be in 3NF but there may be some normalisation issues. The forms would be poorly designed, with hardly any validations and possibly with integration issues. Queries may not have been attempted or very limited queries have been produced. Other elements limited or not satisfactory. Documentation may be limited or not to an acceptable standard. Explanations will be limited but sufficient to demonstrate that the student understands the work that has been submitted.

Grade F (fail) **(0 – 29%)**
Demonstrates poor understanding of the problem. The ERD will not be implementable or will not cover major aspects of the scenario. The assumptions for the ERD do not reflect the scenario. The database may have limited functionality and major errors and/or omissions are likely. The forms will be very poorly designed with no validations and will have issues in integrating with the database. Queries may not have been attempted or very limited queries have been produced. Other elements not attempted or not satisfactory. Documentation very limited or not to an acceptable standard. Explanations will be limited and likely to be insufficient to demonstrate that the student understands the work that has been submitted.

Zero marks will be awarded for single table implementation or insufficient explanations to demonstrate that the student understands the work that has been submitted.

BESPLATNI GOTOVI SEMINARSKI, DIPLOMSKI I MATURSKI RAD.

RADOVI IZ SVIH OBLASTI, POWERPOINT PREZENTACIJE I DRUGI EDUKATIVNI MATERIJALI.



WWW.SEMINARSKIRAD.ORG

WWW.MATURSKIRADOVI.NET

WWW.MATURSKI.NET

WWW.SEMINARSKIRAD.INFO

WWW.MATURSKI.ORG

WWW.ESSAYSX.COM

WWW.FACEBOOK.COM/DIPLOMSKIRADOVI

NA NAŠIM SAJTOVIMA MOŽETE PRONAĆI SVE, BILO DA JE TO SEMINARSKI, DIPLOMSKI ILI MATURSKI RAD, POWERPOINT PREZENTACIJA I DRUGI EDUKATIVNI MATERIJAL. ZA RAZLIKU OD OSTALIH MI VAM PRUŽAMO DA POGLEDATE SVAKI RAD, NjEGOV SADRŽAJ I PRVE TRI STRANE TAKO DA MOŽETE TAČNO DA ODABERETE ONO ŠTO VAM U POTPUNOSTI ODGOVARA. U BAZI SE NALAZE GOTOVI SEMINARSKI, DIPLOMSKI I MATURSKI RADOVI KOJE MOŽETE SKINUTI I UZ NJIHOVU POMOĆ NAPRAVITI JEDINSTVEN I UNIKATAN RAD. AKO U BAZI NE NAĐETE RAD KOJI VAM JE POTREBAN, U SVAKOM MOMENTU MOŽETE NARUČITI DA VAM SE IZRADI NOVI, UNIKATAN SEMINARSKI ILI NEKI DRUGI RAD RAD NA LINKU IZRADA RADOVA. PITANjA I ODGOVORE MOŽETE DOBITI NA NAŠEM FORUMU ILI NA MATURSKIRADOVI.NET@GMAIL.COM