Bachelor of Information Technology

**IT5x82: Fundamentals of Data Models and Databases**

**Assignment 2**

**Building a Database System**

**Due date and time**

Friday 21st Oct 2016 at 5pm sharp via Moodle dropbox only (no email submissions).

**Submission details**

Send an electronic copy of the Database Design and Implementation Report using the digital drop-box feature in the Assignments section of this paper’s Moodle site. Please ensure that the report includes your name and student ID. The report should be submitted on or before the above due date.

**Extensions**

Extensions of time will be granted for students who have an acceptable documented reason for not completing the assessment by the specified due date. When applying for an extension please email the lecturer before the due date with your reasons. An extension is not granted unless you receive written word from the lecturer. Late submissions, without an approved extension, will not be accepted without OfFA guidelines being applicable.

**Grading**

This assignment is worth 30% of the total module.

The assignment will be marked out of 100.

To pass this module an average mark of 50% must be achieved across all assessments.

**Purpose**

The purpose of this assignment is to build Thomas Cook Travels database system based on the requirements discovered while working on Assignment 1. ***All of you should have your assignment 1 with you.*** This solution should be used as the starting point for Assignment 2. Assignment 2 will involve completing the build for Thomas Cook Travels system using Visio and SQL Server Management Studio 2014. Once the database has been created, the database tables will be populated with atleast 2 records of data and queried using SQL.

This assignment is to be carried out individually.

**Deliverables**

Use Visio to complete the design for Thomas Cook Travels system based on the details described below. Using the details in your design, construct the database within SQL Server using Structured Query Language (SQL). Finally, test your database by populating each table with at least two records using SQL INSERT commands. You should also create a SQL SELECT query that will extract records from the database according to the instructions given below. The models you built in Visio and Visual Paradigm and the SQL commands used to build and query the database should be copied and pasted into the Database Design and Implementation Report. This report should be written using MS Word. The structure and content of this report should be as follows:

* 1. A title page that includes the name of the report, executive summary, assumptions and the students (including each student’s ID) within your group.
  2. A contents page that lists all the sections in the report and page number where each section can be found.
  3. Create a CRUD Matrix diagram in Visio based on the FHD and ERD already created in assignment 1.
  4. Modify the ERD created in assignment 1 by assigning an appropriate data type for each attribute in every entity. Examine the forms used by Thomas Cook Travels (see the case study used in Assignment 1) for clues as to what data is recorded against each attribute.
  5. Using your modified design, write SQL CREATE TABLE commands to build the database in SQL Server. There should be a high degree of consistence between your design and the database you build.
  6. Populate each table with at least two records using SQL INSERT commands.
  7. Write a single SQL SELECT query that extracts all the excursion records for the vacations booked by all clients.
  8. A list of any unresolved questions or problems that have come about from the design and construction of Thomas Cook Travels system. If you have none, then state this in your report.

**Software Support**

Create the CRUD Matrix diagram in Visio. Copy and paste your models from Visio into your MS Word report. **You should also include all of the SQL code used to build and query the database in your report.**

**JAD Session**

JAD sessions will be held during class time to help clarify Thomas Cook Travels requirements with students as they work through the assignment.

**Marking Schedule**

**Student SID’s:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Task** | **Description** | **Max Mark** | **Student Mark** | **Comments** |
| 1 | Executive summary – a very high level description of the content and purpose of the report. | **5** |  |  |
| 2 | Any assumptions that cannot be reasonably deduced from the case study. If none were made, say so. | **5** |  |  |
| 3 | A CRUD Matrix diagram constructed in Visio based on the FHD and ERD provided. | **15** |  |  |
| 4 | A modified ERD in which an appropriate data type has been assigned for each attribute in every entity. | **10** |  |  |
| 5 | The SQL CREATE TABLE commands used to build the database in SQL Server. | **20** |  |  |
| 6 | The SQL INSERT commands used to populate each table with at least two records. | **10** |  |  |
| 7 | The SQL SELECT query that extracts all the excursion records for each vacation booked by every client. | **10** |  |  |
| 8 | The consistency of the database system as compared with its design e.g. the table names, column names and the data types used. | **10** |  |  |
| 9 | How well the modelling tools in Visio have been used to document the system. | **5** |  |  |
| 10 | A list of unresolved questions or problems that have come about from the design and implementation of the system. If none were encountered, say so. | **5** |  |  |
| 11 | Quality of report: Table of contents, page numbering, grammar, layout, section headings, etc. | **5** |  |  |
|  | **Total** | **100** |  |  |