Assignment 1: Database Design using Entity Relationship Diagram (ERD) Modelling

This is a **group** based assignment where you will be working in a group of maximum **TWO (2)** students for eight (8) groups and **THREE (3)** students for 1 group due to the odd total number of students. You may discuss general points of view about the assignment with the other groups, but you are not permitted to work with them in completing this assignment.

Each group is required to complete all tasks in sequence as on below:

- Task 1: Documentation Professionalism
- Task 2: Choosing a System to Designing Database (ERD)
- Task 3: System Introduction
- Task 4: Find out System Business Rules
- Task 5: Find out Entities and add to the ERD
- Task 6: Find out Super Type, Sub Type and Nested Subtype Entities and add to the ERD
- Task 7: Find out Attributes and add to the ERD
- Task 8: Identify the Unique Identifiers and add to the ERD (i.e. Primary key and foreign key attributes
- Task 9: Apply NF1, NF2 and NF3 Normalization Forms
- Task 10: Define the relations between Entities and add to the ERD
- Task 11: Convert ERD to Engineering Relational Model
- Task 12: Presentation

Tasks description and guides to score full marks are detailed in page 2 onwards. You are advised to read them thoroughly.

Deliverables

Upon submission, students must submit the tasks in both hardcopy and softcopy:

1. **Softcopy**
   - Cover page: Consists of module code, module name, title of the assignment, semester and academic session, student's Full Name, Student ID Code, Programme Title, Submission Date, Module lecturer name and Politeknik Brunei logo.
   - Report in both the Portable Document Format (PDF) and Microsoft word (doc or docx) file to submit online using the module's Politeknik Brunei's Learning Management Systems (PBLMS) respectively and rename the file according to the format **GroupNumber_GroupCode_DBDI_AS2** (Example: Group01_DDAS01_DBDI_AS2).

Deliverables
Upon submission, you must submit the following:

- Softcopy only

Due Date:
28 March 2022 at 23:59pm

Penalties:
Penalties of 10% deduction of marks for assignment received for each working day after the due date. After one week of submission from due date consider as Fail.

Lecturer
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Resources
Student own research, lecture and tutorial covered.

Equipment/Software
Microsoft Words and other relevant software.

Weightage
The total marks of this assignment is 100. This assignment contributes **25%** of the final grade.

Grading Criteria

Below is the guideline on how this assignment will be evaluated:

<table>
<tr><th>Task</th><th>Grading Criteria</th><th>Marks</th></tr>
<tr><td>1</td><td>Documentation Professionalism:
The report should not be less than 10 pages.
Fonts should be standardized for your entire report, the font size for the body content should be size 12 (size 16 for main title and size 14 for subtitles), the font face / name restricted to Times New Roman, a spacing of 1.5 between each line and all paragraph should be justified accordingly.
DBDI Assignment Document Structure must be in a professional form as below:
✓ Proper cover page.
✓ Table of Contents.
✓ Proper spacing and fonts.
✓ Professionalism in documentation.
✓ References.</td><td>5 Marks</td></tr>
<tr><td>2</td><td>Choosing System to Designing Database (ERD):
In this task students are required to choose any one system topic from below:
<table><tr><td>1. Movie Streaming App</td><td>2. Taxi Rentals</td></tr><tr><td>3. Towing Vehicles</td><td>4. Tailoring Shop</td></tr><tr><td>5. Laundry Shop</td><td>6. Hardware Servicing Shop</td></tr><tr><td>7. Workshop</td><td>8. Online Workout App</td></tr><tr><td>9. Car Wash</td><td>10. Online Advertisement</td></tr></table>Note: Before choosing a system make sure no clashes of choices. Students must do a system booking at bit.ly/DBDI-AS02-DDAS01 , it is a first come first served basis.</td><td>1 Mark</td></tr>
<tr><td>3</td><td>System Introduction:
In this task DBDI students are required to provide complete detailed introduction of the chosen system.</td><td>5 Marks</td></tr>
<tr><td>4</td><td>Find out System Business Rules and Constraints:
In this task DBDI students are required to find out at least Five (5) Business rules and Constraints.</td><td>5 Marks</td></tr>
<tr><td>5</td><td>Find out Entities and add to the ERD:
In this task DBDI students are required to find out all Entities.</td><td>12 Marks</td></tr>
<tr><td>6</td><td>Find out Super Type, Sub Type and Nested Subtype Entities and add to the ERD:
In this task DBDI students are required to find out all Super Type, Sub Type and Nested Subtype Entities.</td><td>5 Marks</td></tr>
<tr><td>7</td><td>Find out Attributes and add to the ERD:
In this task DBDI students are required to find out all attributes.</td><td>15 Marks</td></tr>
</table>

8	**Identify the Unique Identifiers and add to the ERD (i.e. Primary key and foreign key attributes:** • In this task DBDI students are required to find out all Primary key and foreign key attributes.	**12 Marks**
9	**Apply NF1, NF2 and NF3 Normalization Forms:** • In this task DBDI students are required to Apply NF1, NF2 and NF3 Normalization Forms rules in to ERD.	**15 Marks**
10	**Define the relations between Entities and add to the ERD:** • In this task DBDI students are required to define many to one, one to one and many to many relation as on requirement in to ERD.	**10 Marks**
11	**Convert ERD to Engineering Relational Model:** • In this task DBDI students are required Convert ERD Engineering Relational Model.	**5 Marks**
12	**Presentation (Counted as Individual task)**	**10 Marks**

Assignment Rules

1. Plagiarism is a serious academic offence. You will be penalized heavily if caught plagiarizing. You must take necessary steps in ensuring your work is plagiarism-free. For severe cases of plagiarism, grade 'F' (Fail) will be awarded. Zero marks will be recorded for your first attempt. The same applies to collusion.

2. Any deliverables that are under suspicion of Plagiarism, Ghost Writing, Collusion and Purloining, the student(s) will be called by the lecturer to be interviewed to prove the originality of their work. Failure to prove the originality of their work in the interview will result in FAILURE (0 marks) of the assignment.

3. Any problems with your own group should be settled internally first. If it cannot be resolved then you may involve the module lecturer by approaching via e-mail on initial. Module lecturer has the rights to not entertain if the complaint is highlighted within five (5) working days before the assignment's deadline.

4. You may consult with the module lecturer if you are not clear with the assignment. But the module lecturer has the rights not to entertain any questions except for questions in regards to submission within three (3) working days before the assignment's deadline.

5. If you have problems in completing the assignment due to illness, you must REPORT to the facilitator immediately. Last minute notification will not be entertained unless student presents a medical report that is issued and endorsed by any government health centers.

6. In the event you are unable to complete the assignment or submit partially completed assignment, the following actions will be taken:

    a. For **significantly incomplete** assignment or **non-submission**, you will be automatically awarded with grade 'F' (Fail). You will be asked to complete the assignment however as a **second attempt**. Marks will be capped at 50%.

    b. For submission of **partially completed** assignment, marks will be awarded as per work submitted. Should marks fall below the passing grade, you will be referred to case (6.a) above.

7. Students are to make sure the submitted softcopy are not corrupted. Corrupted submission will be penalized accordingly.

8. It is your responsibility to check the PBLMS regularly for any new updates or announcement. Do not simply rely on your friends to get updates.

9. Rules may be updated from time to time. Any updates will be posted on the PBLMS.

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