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| Submission Deadline | Marks and Feedback |
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| Before 10am on:  13/01/2023 | **20 working days after deadline (L4, 5 and 7) 15 working days after deadline (L6) 10 working days after deadline (block delivery)** |

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| **Key assignment details** | |
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| Unit title & code | CIS108-6 Data Modelling, Management and Governance |
| Assignment number and title | Report |
| Assignment type | Report (design) and implementation |
| Weighting of assignment | 100% |
| Size or length of assessment | 5000 words |
| Unit learning outcomes | 1. Exhibit a balanced and systematic understanding and knowledge of data modelling and management theory and data governance practice (including querying languages).   2. Apply knowledge of data modelling and management concepts to design, develop and critically evaluate an information system within a chosen field of interest |

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| What am I required to do in this assignment? |
| This assessment is an individual assignment.  You are required to write a report on **how you design and implement** a database solution for **a sports club record system**. Remember this is **NOT** a research project. Your report cannot be research report.    **The sports club scenario**  You have been employed as a **database designer** to design and implement a **Sportclub record system** that stores information about sports activity and taught class bookings.  The imagination sport club exhibits the following facts:   1. Each sports **club member** has a unique membership number, the system needs to store member’s first name, surname, address, telephone number, email address, date of birth and any medical conditions. 2. Each sports **club staff** also has a unique staff number, first name, surname, role and a contact number. 3. Each sports class (staff teach) must have a unique class code, title, day and time of delivery. 4. Non-class Activity (only use facilities) and class bookings must follow the following rule:    1. Each member can book up to **five** sports classes per week.    2. Each member can only book **once of any one sport activity** (like badminton, Basketball, …**)** and **the maximum “two-hour” time slot.**    3. No activities that overlap can be booked.    4. Sports class only runs from 9am to 5pm but activity can run from 6am to 10pm. 5. The system should allow:    1. An instructor (staff member) to search for the activities running on a particular day.    2. Sports club staff members and staff can check and update their personal details.    3. Sports club staff can record attendance for a class they are teaching.    4. Each club member can view their daily or weekly activity bookings.   Your report must provide (minimum):   1. A relational database system named “Sports Club Management System”. 2. A **“Use-case diagram”** that identifies the key actors and use-cases in the system and represents the requirements specified in the scenario. 3. An “**Activity diagram**” for a club member to book an “badminton session” and a “Yoga” class. 4. An **“Entity Relationship diagram”** that you designed can satisfy the requirements outlined by the “**use-case diagram**” and the “activity diagram”. 5. A list of the SQL statements that covers:    1. Used to create tables that implement the ERD identified in 3.    2. shows how a sports club member can view their current bookings and reflect the booking rules.    3. displays the current week activities booked club members.    4. Display the current week class offered by the club including staff and number of class size.    5. Show most active members monthly (most bookings and most attendance)   Your report should explain your **design process** and **decisions at each phase.** You should also identify any issues or challenges that you faced in each step. |
| What do I need to do to pass? (Threshold Expectations from UIF) |
| 1. Provide a clear data system design process and decision you made 2. Provide a “use case diagram”, an “activity diagram” and “ERD” that accurately represents the requirements for the scenario given 3. SQL statements that create the relevant tables with sufficient attributes name, type and domain and queries that evidently shows the required function are implemented |
| How do I produce high quality work that merits a good grade? |
| 1. Evidently demonstrated you have sufficient knowledge of system design process, methodology and use of necessary tools. 2. Requirement’s analysis: identify proper use cases. Provide reasonable UML use case diagram to reflect your understanding of the given scenario, a supplementary use case document may be provided 3. Provide an “Activity diagram” that check booking constraints and make book successfully. 4. Provide an Entity Relationship model that accurately reflects the scenario and that captures appropriate attributes and correctly identifies relationship cardinality (e.g., 1-to-1; 1-to-Many or Many-to-Many). A supplementary annotation may be provided to   explain your design rationality.   1. Define appropriate primary and foreign keys for the relevant tables, a “relation scheme diagram” may be provided to show all the tables and relations between tables in your system. Justify and analyse the design decisions that you have made. 2. SQL statement with running results clearly demonstrated the requirements are utilised. Particularly demonstrate the constrains of booking are implemented. 3. Structure your report with a clear table of contents, including section numbers and page numbers, correctly formatted tables, figures with captions, whole report should have no spelling errors or grammatical mistakes. 4. Extra marks will be awarded to any creative idea, constructive analysis and evidently demonstrate the report beyond the requiments listed in this section but towards more professional practice in the industry such as “system tech design report, implementation report, testing report and operation manual (typical usage) etc.”. |
| How does this assignment relate to what we are doing in scheduled sessions? |
| This assignment brings together database design (use-case, requirements specification, Entity Relationship Modelling) and implementation (tables creation, primary and foreign key assignment) and testing through use of SQL queries. |

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| How will my assignment be marked? |
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| Your assignment will be marked according to the threshold expectations and the criteria on the following page.  You can use them to evaluate your own work and consider your grade before you submit. |

|  | **Pass – 40-49%** | **Pass – 50-59%** | **Commendation – 60-69%** | **Distinction – 70%+** |
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| **1** | System design process was evidently display with some key activities missing or inaccurate. | System design process was evidently display. | Accurate system design process was evidently display. Rational decisions were made briefly explained the reason of the decisions | Accurate system design process was evidently display. Rational decisions were made by listing positive and negative factors concerned. |
| **2** | Provide a UML use case diagrams, but the diagram has some wrong syntaxes or wrong use cases | Provide a UML use case diagrams with no mistakes all 4 elements are at presents., but the diagram only has couple of wrong syntaxes. Some requirements were not captured | Provide a UML use case diagrams has all elements, and all relationship are displayed, all diagram syntaxes are correct, the diagram fully reflected the analysis results without any misunderstandings | Provide a syntactically and semantically correct use-case diagram with all elements and all relationships clear discussion/justification of how it meets the needs to the assignment scenario. |
| **3** | A ERM model diagram has been provided but with some wrong syntaxes or wrong elements or attributes or relations according to the scenario analysis | A ERM model diagram has been provided but with only couple of wrong syntaxes or wrong elements or attributes or relations according to the scenario analysis | A ERM model diagram has been provided without obviously faults and the model truly reflect the scenario requirements | An ERM which is closely linked and to and allows the implementation of the use-case diagrams that were part of the requirements analysis stage. All attributes and relationships are correctly defined, and there is no redundancy or repetition in the ERM. |
| **4** | Database system has been selected with a partial implementation | Database system has been selected with good reason and a partial implementation | Database system has been selected with good reason and full implementation | Database system has been set up with appropriate primary and foreign keys in place and is an accurate reflection of the ERM. |
| **5** | The report contains all required elements, but structure, language and diagram styles need to be improved for understandability.  The report fits to the size limitations. | The report contains all required elements, structure and discussions are reasonably well and understandable.  The report fits to the size limitations. | The report contains all required elements, the analysis discussions are in depth with fully explanations on diagrams and database design process.  The report fits to the size limitations. | A professional report which addresses all aspects of the assignment. The report is logically structure with a clear table of contents, page numbers and high levels of analysis and criticality. |
| **6** | All elements include supplementary are at present | 1 or 2 reasonable analyses lead to design decision as consequence | Some throughfall analyses lead to creative design ideas | Report is in high quality and clearly demonstrate student extend knowledge beyond the requirements of the unit and gain significant knowl3dge from resources pointed on class |