

Assignment Group Project for ECE3076 Database System

This assignment contributes 15% to course work marks. The allocated marks are 50

In this assignment you will form a group of 3 students to design and model a simplified database for an online business. All project titles must be unique and should not be similar to other groups. Please refer to the registered assignment title before you register your group and title. The chosen online business should be the one you have experience in using it. The due date for the final submission is **25 Mac Friday 2022 before 5pm (week 11)**. The database design report should be submitted by **25 Feb 2022 (week 8)**.

A few suggestions for the online system is listed below

1. Covid19 vaccination appointment system
2. Near expiry date food management system
3. Online quiz for Malaysian primary school mathematic subject (example <https://pandai.org/>)
4. Online child sitter example <https://www.aunty.sg/>

The database design and implementation are divided into 3 phases as listed below.

- Phase 1: Design (3 weeks)
- Phase 2: Implementation (2 weeks)
- Phase 3: Analysis (2 weeks)

Phase 1 (Database Modeling and Design)

1. Introduction to business operation scenarios
 - Business rules
2. Scenario overview (Database design)

Explanation on data dictionary for all tables, Entity Relationship Diagram (ERD), Entity and referential integrity.
3. Normalization
 - Show how normalization methods are used to achieve the minimum 3rd normal form (3NF)

Submit report on initial database design.

Phase 2 (Database implementation)

Implement the database using MySQL SQL commands

Test the script with sufficient records for each table. Perform queries on the tables. Submit SQL scripts.

Phase 3 (Database Testing and Submit Final Report)

Analyze the database and make further improvement. Test the database by entering sample data according to predefined business operation. Submit final report and SQL scripts after testing. The lecturer will assign 5 queries for the database. Make presentation to lecturer

Rubrik for Assessment (50 Marks)

The detail assessment is described in the assessment rubrics. Each successful implementation of the requirement earns a maximum of 5 marks. All rubric's achievement is demonstrated through the final assignment report and presentation after the submission deadline.

References

1. Database Systems: Design, Implementation, & Management 13th Edition
by Carlos Coronel (Author), Steven Morris (Author)
2. <https://www.datanamic.com/support/lt-dez005-introduction-db-modeling.html>
3. <https://towardsdatascience.com/designing-a-relational-database-and-creating-an-entity-relationship-diagram-89c1c19320b2>
4. Database design course online
<https://www.youtube.com/watch?v=ztHopE5Wnpc>

**ECE3076 Database System Group Assignment Project Assessment
Rubrics**

Phase	Total Marks
Phase 1	30
Phase 2	10
Phase 3	10
Assessments Rubriks	
Phase 1	
Criteria	Total Marks
Introduction	5
Business Rules	5
Entities and Attributes (Data dictionary)	5
Entity relationship diagram	5
Entity integrity and Referential Integrity	5
Normalization	5
Subtotal	30
Phase 2	
Quantity of records (minimum 20 records for each table)	5
SQL scripts for database implementation	5
Subtotal	10
Phase 3	
SQL Queries Answered. Queries will be given to the students 2 weeks before the submission deadline.	5
Presentation on database design and implementation	5
	10
Grand total	50