NGEE ANN POLYTECHNIC

School of InfoComm Technology

Databases

Diploma in IT / DS

October 2023 - February 2024

Continuous Assessment (Team)

Checkpoint Submission Due in Week 7:

- Softcopy – 3 Dec 2023 (Sun) 2359 hr (BrightSpace)
- Hardcopy – submit to your tutor from 4 Dec 2023 (Mon) 0900 hr during the F2F session with your tutor.

This assessment hand-out consists of **8** pages (including this cover page and appendices).

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Assessment Checkpoint

1. Overview

You are required to work in teams for this assignment. Each team should have 4 to 5 members.

MyCondo is a condo management system widely adopted by property management companies, condo owners, and tenants. The system necessitates account creation, subject to approval by MyCondo staff. Information collected during registration involves personal and property details. Users can book condo facilities, make categorized posts, and apply for vehicle labels for parking. Condo management holds the authority to post announcements and maintain a list of useful contacts like local businesses. The case scenario in the appendix describes the setting of the database to support the MyCondo management system which your team has been tasked to develop.

Your team will design and implement a database to realise the implementation of the MyCondo management system. To help you design the database for MyCondo, your team is expected to explore the major condo/property management websites and apps to understand the necessary features, functions, and data requirements of the system. While the case scenario in the appendix spells out certain specific requirements for MyCondo, your team is expected to brainstorm and come up with brief but accurate details of the data requirements of the system. Although all teams are assigned the same scenario, the quality of your assignment will be reflected in your team's effort and ability to analyse the details of the MyCondo management system, in terms of the comprehensiveness of features, functions and data requirements.

There is one checkpoint in this part of the assessment. The deliverables and expectations of the checkpoint are described below.

2. Checkpoint submission

2.1 Deliverables

- **Introduction**
- **Description of the condo management system**
- **Assumptions and constraints (if any)**
- **ER Model**
- **Description of each entity in the ER model**
- **Queries (for each team member).**

2.2 Notes on Deliverables

A. After analysing and brainstorming the requirements of MyCondo, in terms of its features, functions, and data requirements, each team should provide the following:
   - Introduction of the MyCondo management system (not more than 50 words);
   - Clear, accurate, organized and concise details of the MyCondo system, in terms of its features, functions and data requirements (not more than 600 words);

- List of assumptions made and/or constraints of your ER model;
- Finalised ER model drawn (preferably using MS Office PowerPoint). It should contain at least 8 entities identified from the core functions of the system;
- Description of each entity in the ER model and its corresponding attributes.

B. Each student should also provide 3 queries:

- these queries should be unique, i.e. students in a team should not have exactly the same query
- the queries should be non–trivial, i.e. they should involve at least two entities (tables) and meet one of the following criteria:
  - Utilises at least a scalar or aggregate function
  - Utilises the GROUP BY clause
  - Utilises a Sub Query
  - A combination of the above
- Technically trivial queries are those that involve retrieving information from only one entity (table) without complicated functions or search conditions, although such queries may not be trivial from the business point of view.
- You will learn more about queries involving multiple tables over the next few weeks

2.3 Deadline for submission

- Softcopy by Sunday, 03 Dec 2023, 2359hr to Brightspace Checkpoint Submission link.
- Hardcopy to be submitted to your tutor from 04 Dec 2023 (Mon) 0900 hr during the F2F session with your tutor.

3. Plagiarism and Copyright Issues

Ngee Ann Polytechnic (NP) develops students to uphold good academic practices, academic integrity and respect for the works of others. These practices are guided by the NP Plagiarism Policy which mandates that students assume full responsibility for the content and integrity of the academic work they submit.

The Policy and disciplinary procedures for offences is located at:
https://www1.np.edu.sg/clte/antiplagiarism/policy.htm

Plagiarism means, “copying any part of a source, and then submitting it, claiming that it is your own work.”

Please ensure that all the works submitted by you are not copied from other sources. Any attempt to plagiarize will be dealt with severely, and it may result in your failing the module.

If you have made any references to certain materials, make sure you cite the sources by acknowledging and providing the information necessary to find the source (e.g. Title and author of book, Internet links, etc.)

Appendix A: MyCondo – Case Information

MyCondo is a Condo Management System used by many property management companies. To use the system, a condo owner or tenant needs to create an account which requires an approval by MyCondo staff. A property management company who manages a condo must first create an account which also requires approval from MyCondo staff. Information collected during the registration includes name, address, email address and contact number. Property management company is required to provide its business registration number, the name of its contact person and the respective contact number. Condo owner needs to include the date when he/she starts owning the property. Tenant is required to include the start and end date of the tenancy contract. Assume that each account can only be associated with one condo development.

Information of each condo development listed in the system includes condo's name, address, email address and contact number.

The system allows account holders to book condo facilities for example BBQ pits, function room, and tennis courts. Each facility may have multiple time slots for booking. One must specify which time slot to book and pay a deposit that may be required for the booking. Booking needs to be made at least 24 hours in advance, and failure to submit the required deposit within 1 hour results in automatic cancellation.

Owners or tenants who own vehicles need to apply for vehicle label to park their vehicles within the condo parking facility. The label is free for their first car. If they have more than one car, they can apply for additional labels, but the approval is subject to availability of parking lots and may incur a monthly charge. Additionally, they can also apply for a free temporary parking label for their overnight guests. Information required in the application includes ownership info of the vehicle (own, rented, company, others), vehicle number, IU number, make and model. The condo management will review each application, approve it if it meets all the requirements and issue a vehicle label with a unique number to be displayed on each vehicle.

Account holders can post feedback related to the condo which is subsequently attended by the condo management. A feedback can fall under different categories such as security, cleanliness, plumbing, facilities, etc.

Condo management can post announcement to the residents and indicate the duration of time for it to be shown in the system's notice board. Examples of announcement could be about general cleaning of the common areas, mosquito fogging, and upcoming Annual General Meeting.

A list of useful contacts is available to provide convenience to the condo dwellers. This could be businesses in the neighbourhood such as restaurants, medical clinics, tuition centres, laundromats etc. Information of each business such as the services or goods offered, address, contact number may be included.

To allow the platform to be ready in time for the launch, the following function will be handled by another development team:

- The interfaces with the banks for the deposit payment that may be required to secure a facility booking and payment of monthly parking charges.

Appendix B: Examples

Below are examples of how to describe or specify an **entity** or a **query**. These are only examples; they are incomplete and may not be relevant in your design.

Description of Entity

For example, an entity named 'Account' should be tabulated as shown:

Account Entity

Description	Stores details of all account holders.
Attribute Name	**Description of Attribute**
AccountID	Primary key to uniquely identify an Account holder
AccountName	Name of the Account holder
AccountEmail	Account holder's email address
……..	……

Queries

Below are examples of how to specify the queries

a. Which type of the condo facility is the most commonly booked?
b. Who are the account holders with temporary parking label?

Note : The sample queries above should not be included as any of your 3 queries.

Appendix C: Screen Shots of MyCondo App

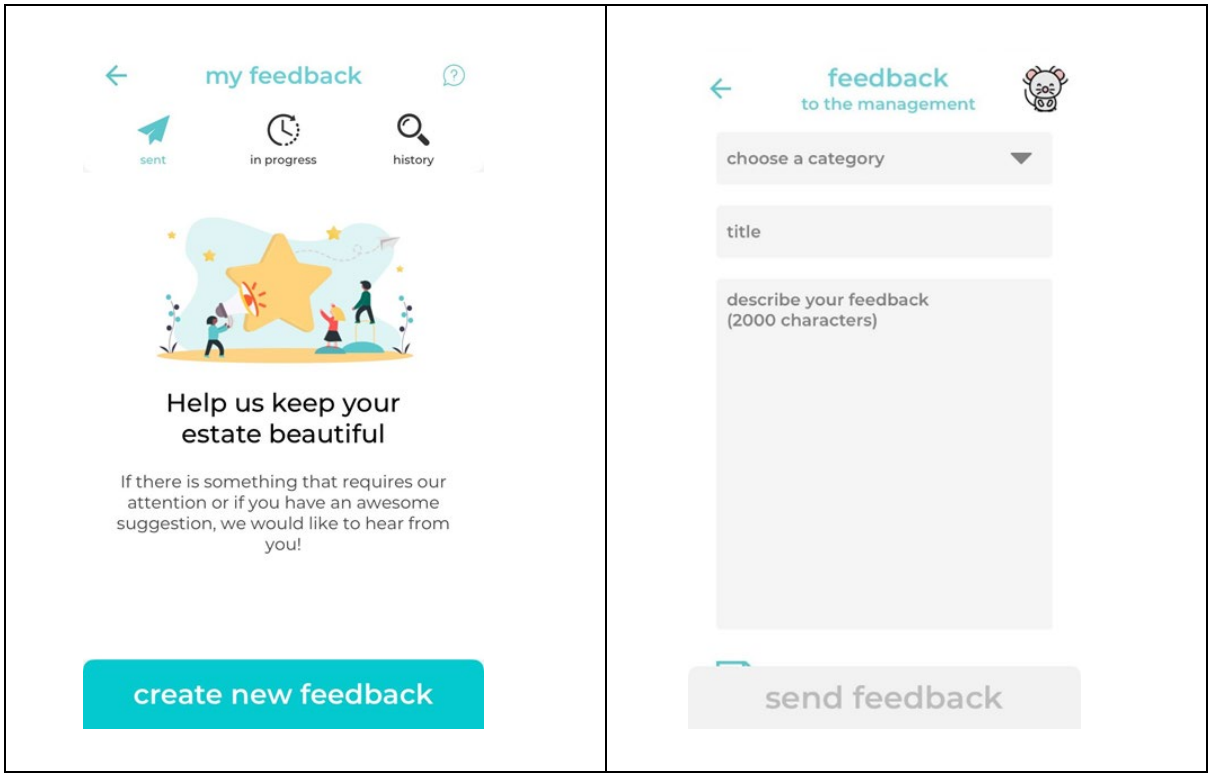

Figure 1. Example of feedback UI

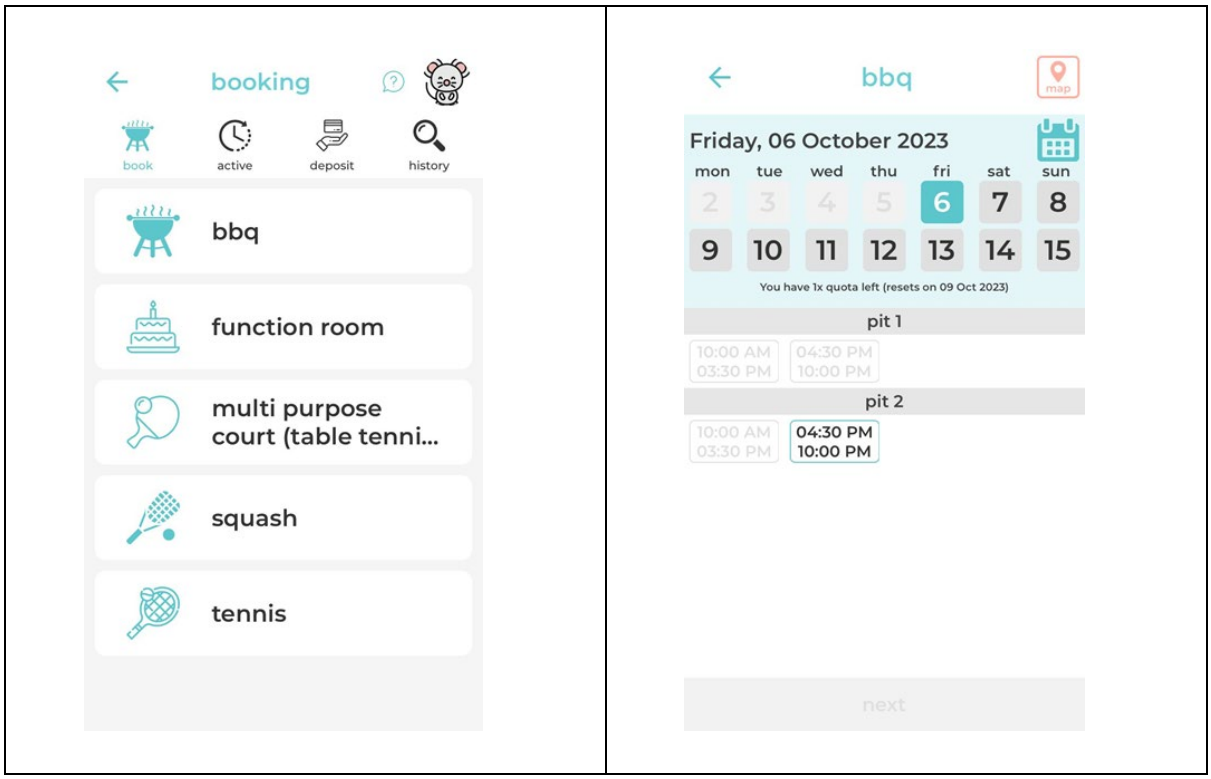

Figure 2. Example of facilities booking UI

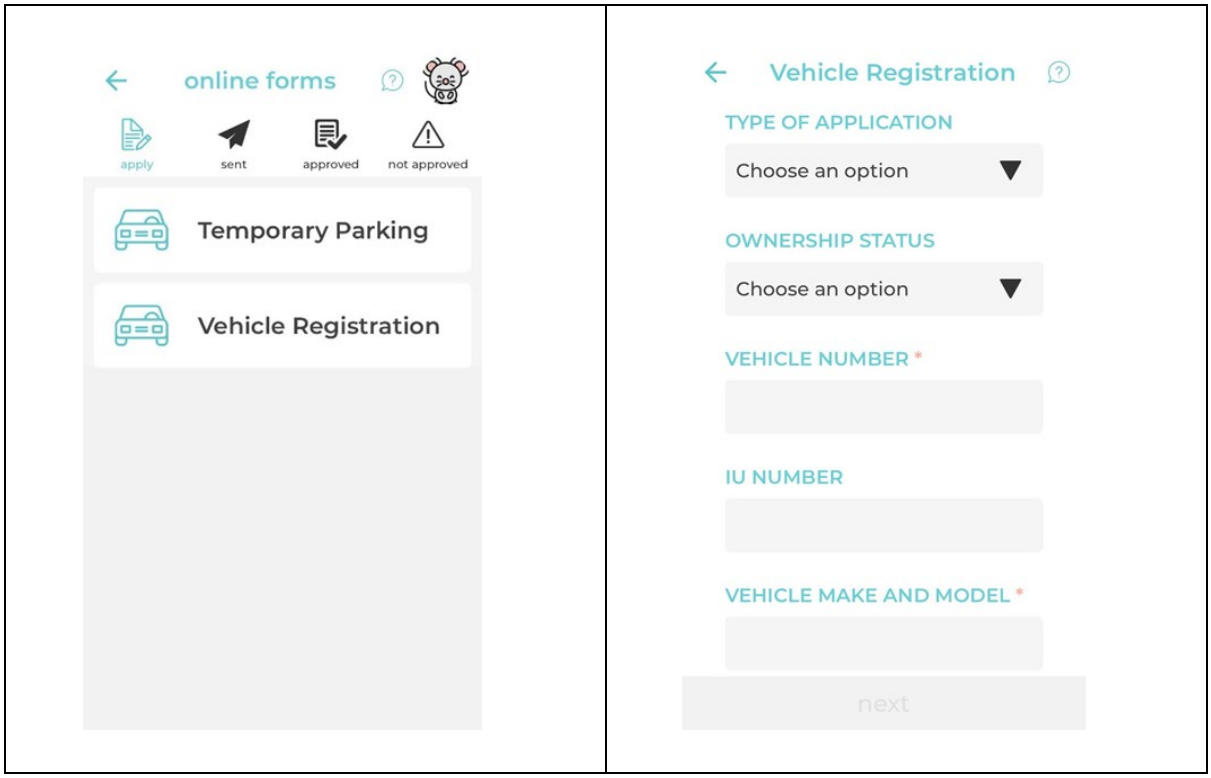

Figure 3. Example of vehicle registration/parking UI

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DATABASES

October 2023 -- February 2024

SCHOOL OF INFOCOMM TECHNOLOGY

Diploma in Information Technology
Diploma in Data Science

Databases Assignment

(40% of DB Module)

Checkpoint Submission (15% of the Assignment)

Deadlines: 3 Dec 2023, 23:59 pm (Softcopy - BrightSpace)

From 4 Dec 2023, 09:00 am (Hardcopy) to your tutor

DB Class Group			
Team Number			Team Grade:
Tutor			
Members	Student No.	Student Name	