**COMP6041 - Introduction to Databases**

Assessment 3: **PROJECT** **Design REport**

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# **Design Phase Report**

1. List the Objects/Entities, Relationships and Multiplicities that represent the database system described in the Project Requirements section.
2. Identify and list the Attributes for each of the Objects/Entities.
   1. You must indicate any Primary, Foreign and Candidate keys.
3. Draw a Class Diagram of the Database system.

**Objects/Entities:**

1. Customer\_details
2. Purchase\_order
3. Product
4. Merchants

**Relationships:**

* MERCHANTS\_serves\_ CUSTOMER DETAILS \_places\_ PURCHASE ORDER \_refer to\_ PRODUCT & MERCHANTS\_sotres\_ PRODUCT.
  1. CUSTOMER DETAILS \_one to many\_ PURCHASE ORDER
  2. Merchants\_zero to many\_ CUSTOMER DETAILS
  3. CUSTOMER DETAILS\_only one\_Merchants
  4. Merchants\_zero to many\_ Product
  5. Product\_only one\_Merchants
  6. PURCHASE ORDER \_only one\_ CUSTOMER DETAILS
  7. PURCHASE ORDER \_one to many\_ product
  8. Product \_zero to many\_ PURCHASE ORDER

**Multiplicities:**

* + CUSTOMER DETAILS \_ (1:\*)\_PURCHASE ORDER
  + Merchants\_(0:\*)\_ CUSTOMER DETAILS
  + CUSTOMER DETAILS\_(1)\_ Merchants
  + Merchants\_(0:\*)\_ Product
  + Product\_(1)\_Merchants
  + PURCHASE ORDER \_ (1)\_CUSTOMER DETAILS
  + PURCHASE ORDER \_ (1:\*)\_product
  + Product \_ (0:\*)\_ PURCHASE ORDER

**Attributes for Each of the Entities:**

1. CUSTOMER DETAILS:

* Customer\_ID
* lname
* fname
* sex
* DOB
* phone\_no.
* address
* City
* zipcode

1. PURCHASE ORDER:

* order\_ID
* Product\_ID
* Customer\_ID
* Order\_data
* To\_address
* To\_city
* To\_zipcode
* Total\_cost

1. PRODUCT:

* Product\_ID
* Product\_name
* Quantity
* Price
* Merchant\_ID

1. Merchants:

* Merchant\_ID
* Lname
* Fname
* country

# **Class Diagram**

Diagram

Description automatically generated

## **Additional Space:**

You can state any assumptions for your database design here if you have not already done so in this report.