



# Beijing-Dublin International College

## COMP2013J - Databases

### Conceptual Design Worksheet



## 1 Worksheet Details

**Submission Type:** Individual assignment

**Due date:** 17<sup>th</sup> of April 2020 @ 17:00 Beijing Time (No Late Submissions)

**Worksheet Weight:** The same as 1 Quiz

**Submission Requirements:** A PDF document containing the following:

1. Your UCD student number.
2. Your name.
3. A glossary of terms describing the key concepts and their connections.
4. An entity relationship diagram showing how you have modelled the data.

This worksheet is based on the techniques learned in the Conceptual Design lecture. You will be given some text describing a database and you are required to produce a glossary of terms and an Entity-Relationship diagram to represent it.

The glossary of terms should be submitted in the pdf in a table format. The diagram should be created using suitable image creation/drawing software (I use Omnigraffle on macos) and should be neat and understandable. There will be marks deducted for unclear or messy diagrams and any hand drawn submissions will be given 0.

## 2 Problem Statement: Car Rental Company

Our company runs a car rental service, and needs a database to keep track of the cars in stock as well as the customers and the cars that they rent. Cars are rented based on their class (that is SUV, compact, saloon, hatchback, luxury etc.) and each class has an associated price per day for rental. Within each class, the company has a number of different types of cars. For each type of car, we want to store the make (manufacturer), model, transmission (automatic or manual), engine size, the number of seats and the cargo capacity. The company often buys many of the same type of car and needs to record the registration number, vehicle identification number (VIN) and value of every car that they own and is available to be rented. For each customer, we record their name (given name and family name) as well as their phone number, email address, drivers license number, and payment details, stored as credit card number and address (including number, street, district, city and country). A customer may have multiple phone numbers and payment details. When a customer rents a car, we record the start date and end date of the rental agreement as well as the total cost.

## 3 Solution

### 3.1 Glossary of Terms

Term	Description	Synonyms	Links
Class	General classification of different types of cars		Type
Type	A more specific classification of different car types		Class, Car
Car	An individual car that can be rented by a customer	Vehicle	Type, Customer
Customer	A person who rents cars from this company	User, Client	Car, Payment Detail
Payment Detail	The information about how the customer will be charged for the service	credit card, card details	Customer

### 3.2 Entity Relationship Diagram

