Databases

(6G4Z0016)

Entity Relationship Diagrams

ERD Exercise 1: Identifying Entities

E140

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Short note on ERDs before we start

- ERDs are not easy to draw
- They are perhaps the hardest thing you will learn to do on this unit
- It will probably take you at least a couple of weeks of playing around to get the hang of them
- That is OK, just keep asking questions. We're here to support you.
- The idea here is to just start with a basis one to build your confidence

What is an Entity?

- **Something** of **significance** to the system **about which information is held**
  - E.g. Banking System entities will include **customers**, **bank account** and **loans**

- Thus, an **entity** is a **specific object/thing** that should answer **YES** to the following 3 questions:
  - Is there more than one?
  - Can I think of data to be held?
  - Can I think of a suitable key?

- **If it does not satisfy all of the above, then it is unlikely to be an Entity**

Identifying Entities

- One way of identifying possible entities is to find all the **nouns** in a description of a system

- But, be careful as…

  - Some of these might be **attributes**

  - Some of these might be **neither** entities nor attributes

Big Jim's Bikes

1. Big Jim sells Bikes on the Internet. Customers email Big Jim with their details and those of the bike that they want to buy

2. The customer takes the details from the bike list posted on Big Jim's Website, where every bike is listed with a unique stock number

3. On receipt of an email order Big Jim checks the bike details and then requests payment in full

4. On receipt of payment Big Jim wraps the bike in brown paper and posts it to the customer using Royal Mail

5. Big Jim stores customer details in case they buy another bike. No details of payments are stored

Now try to draw the ERD

- Steps:

  - Draw relationships
  - Add attributes and keys