Session 2- Seminar Activity 1

Build an ERD for the following scenario individually.

Compare your group with another student and draw the final agreed model.

Discuss your solution in the class.

Nottingham Aerospace Limited is an aircraft manufacturing company based in UK. It specialises in the manufacture of commercial passenger and freighter aircraft from its production field. The company manufacture a number of different types of aircraft as shown in the table below:

|  |  |  |
| --- | --- | --- |
| **Aircraft Type** | **Description** | **Price per unit £** |
| CU – 800 Commuter | *Short range commuter jet* | *£80,000,000* |
| CU – 900 Commuter | *Short range commuter jet* | *£190,000,000* |
| CU – 24 Slipstream | *Medium range airliner* | *£210,000,000* |
| CU – 80 Cloud Hopper | *Medium range airliner* | *£86,000,000* |
| CU – 8000 Stratocruiser | *Medium / long range airliner* | *£229,000,000* |
| CU – 9000 Mesocruiser | *Medium / long range airliner* | *£300,000,000* |
| CU – 10 Exolinear | *Long range super airliner* | *£400,000,000* |
| CU – 6X Rapid Lifter | *Medium range freighter* | *£280,000,000* |
| CU – 8X Heavy Lifter | *Medium / long range freighter* | *£100,000,000* |
| CU – 22 Executive Jet | *Business Jet* | *£110,000,000* |
| CU – X5 Spaceplane | *Orbital space plane* | *£600,000,000* |

The company’s customer base is mainly large commercial airlines and air cargo operators. Currently the company creates purchase orders for each customer. Each purchase order is numbered, dated and has to record with it information such as the customer’s details, the quantities and total costs of the aircraft being ordered. A customer’s details consist of contact information such as the airline / carrier name, head office address, city and country. Each customer is also identified by their unique airline / carrier code. An aircraft is designated by its type and has a unit price, along with a unique identification code.

A purchase order is associated with a single customer, but each customer can have several repeat orders with the company. Each purchase order can comprise of a fleet of multiple ordered aircraft which might consist of multiple quantities of same type of aircraft. For instance; Virgin Atlantic might want to update their current fleet with 12 new medium range CU – 24 Slipstream’s along with 10 additional short range CU – 800 Commuter jets.

In this activity review the problem brief again. Identify the entities about which the company wishes to maintain data to help manage their customer purchase orders more effectively. Identify the correct relationships that exist between the entities taking care to show the correct relationship cardinalities.

* **Create an ERD which shows the main entities you have identified for the problem and the relationships and cardinalities between them.**
* **Add appropriate labels to the relationships which will also help you to explain your design decisions.**