BATAILLARD UGO s4

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**INFS7907 Advanced Database Systems**

**Part I - DISTRIBUTED DATA**

**University of Queensland**

1. **Overview**

The company provides:

* Laptops
  + Packard Bell
  + Apple
  + Sony
  + ……
* Network switches
  + Cisco
  + …..
* IT books
  + “Windows Vista for dummies”
  + “Databases in three lessons”
  + “Software design”
  + …….
* Technical support at home
  + Support for installing Windows
  + Support for installing a switch
  + Emergency
  + ………..

They are 4 different outlets.

1. **Quantitative analysis**
2. For the laptop type, we have 40 different laptops so we have 40 records for this type. We state that each record takes 16 bytes.

For the switches type, we have 14 different brands so we have 14 records for this type. We state that each record takes 16 bytes.

For the book type, we have 60 different books so we have 60 records for this type. We state that each record takes 16 bytes.

For the technical support type, we have 5 different kinds so we have 5 records for this type. We state that each record takes 16 bytes.

1. This online company has a lot of success, so we estimate that we 2000 queries every day and 1000 purchases a day.

Two years is 730 days. Every customer buys 2 things in average so two records are stored.

An individual record is 16 bytes. So we have:

730 \* 2 \* 1000 \* 16 = 23360000 bytes = 23 Mbytes.

**3. Central database schema**

Product catalogue

|  |  |  |  |
| --- | --- | --- | --- |
| Product\_ID | Product\_Type | Product\_Price |  |

Outlet

|  |  |  |
| --- | --- | --- |
| Outlet | Product\_ID | Product\_Stock |

Customer

|  |  |  |
| --- | --- | --- |
| Customer\_ID | Customer\_Name | PayPal\_Details |

Customer History

|  |  |  |  |
| --- | --- | --- | --- |
| Customer\_ID | Product\_ID | Quantity | Date |

Shopping Card

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Shopping\_Card\_ID | Customer\_ID | Product\_ID | Quantity | Active |