[10:29] John Piperias

**Week01**

**Relational Database Systems**

**John Piperias**

**Student Exercise**

**As part of codebase “fullstack” course, you will need to complete the following exercise.**

**CASE STUDY: FBN**

**Scenario**

You have been asked to design a database for a food franchise called **FreshBurgersNow** which currently has 10 outlets scattered across Scotland. The database proposed is one to cover a specific part of their ordering and employee systems.

So, it must importantly contain a list of the orders taken, this is based on the customers placing an order, however only registered customers are able to make an order either one telephone or app connection. The order is then passed to the kitchen area (i.e., cooks) who will make the various items and package them ready for delivery. Finally, the drivers will deliver these orders to the customer’s home address. The franchise is unique in that it does not take over the counter orders, and only concentrates on deliveries to its current database of customers.

When first registering the customer needs to provide the usual amount of personal information (e.g., name, address, email, mobile number etc.). Customers are also able to receive various promotional information via an email shot by the company that occurs every 2-3 months, this is based on a special menu that is devised by the local manager.

The staff that work for FBN also provide a similar amount of information when they start at the franchise, along with the various training courses they have completed, and skill set they possess. Certain information concerning the staff employment status is also kept e.g., the National Insurance number, scanned copy of their passport and a scanned copy of their driving licence (for drivers). The various employees can be either given a role as a driver, cook, order staff or shift-leader, these are entered into the system and updated when necessary. Also, some details about the basic pay rate for each member of staff will be kept on the system.

One part of the system is so the owner of the franchise can identify which member of staff takes the most orders and what are the most popular orders taken. The owner wants to track if the customer has made their payment by either cash or card. The owner can then collate this information for all the outlets and determine which of the outlets is performing best (and of course which needs to improve its performance).

There are two menus that the customer can chose from — the regular menu and the savers menu. All of the products sold should either be on the regular menu or on the saver’s menu. The regular menu has a breakfast section that finishes at 11am each day. The savers menu has a start and end date and is changed monthly. For example, in December they will have a festive savers menu.

The order system should keep track of the following:

* Which customer places which order.
* All items on that order.
* Customer paid by card of cash.
* Which member of staff took that order?
* Shifts for all staff members.
* Each item should relate to a food/drink product.
* The manager is responsible for keeping the stock up to date.
* The cooks do not take orders directly from customers.

**Naturally NO CASE STUDY can capture all the details of the operations of the franchise; you are permitted to make any assumptions (provided you write these down).**

**Week01: Task 1**

Business Case

**Task 1A.** Explain why a relational database would be suitable information system for the organisation such as the one provided in the case study and provide (3) three reasons to support your recommendation (200 words)

Implementing a relational database will improve organization, efficiency and most importantly sales. Since the uniqueness of the business relies on creating a base of stable clients (serving only registered members) it is fundamental to have a relational system in place that will allow to:

1. Keep permanent track of registered clients
2. Be able to link automatically a submitted order to the client who issued it
3. Improve in management of HR department

**Task 1B.** Explain (3) three **distinct** advantages concerning what a database management system provides to any organisation. Note: Make these relevant to the organisation in the case study (200 words).

1. Having in place an organized storage of large quantity of data easily accessible via queries: The company will be able to have a complete overview on clients, orders, and even be able to link the two in order to achieve a better understanding of target clientele to help with business planning.
2. It is fundamental for ecommerce business, as it is critical for any ecommerce business to have a webpage or webapp that grants the user easy ordering experience. The relational database will handle and store all the data input from the web application.
3. Saves an incredible amount of time to both the costumers and the business. Imagine having to insert your personal information every time you’re ordering food. And imagine having to write down the details of your client every time they order. A relational database will save time and efficiency.

Requirements Definition

Read the case study carefully, and decide what are the important (i.e., key) features of the system. Construct a basic prototype that will display the following:

**Task 1C.** Design a set of **Initial screens that can be shown to the client** – this allows for the input of information to satisfy the user requirements; you should produce at a minimum (5) five forms. Submit a softcopy that has a set of screen shots that illustrate the screen designs with appropriate narrative for each screen. (200 Words)

**Task 1D.** Design a set of typical reports that would be appropriate for the proposed company database – this requires you to assume the role of the user/manager and list three (3) likely reports he/she might need to do their job. It must show the report, its main features, and then populate it with some likely test data. Submit a softcopy that has a set of screen shots that illustrate these proposed screen designs. (200 Words)

Note:

A suitable package to do the above task (A to D) would be Microsoft Word or similar product.