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YouTube: <https://youtu.be/PqsnI88PnT8>

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Database Design Document

Jens’ salon

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# Overview

Jens’ salon is a chain of hair salons in the south east of Ireland. The business has recently scaled up and expanded and now requires a database to manage business data across three sites.

# Entity type definitions and descriptions

* The salon consists of three branches spread throughout the southeast. Each branch is staffed independently, staff are not shared between sites. An address is stored for each branch consisting of street, town, county and Eircode. A contact number and salon email address is also stored.
* Each salon has a record of personal details for each employee such as employee name (first name, last name), employee address (street, town, county, eirCode), contact number, email address, position, start date and manager employee Id.
* The business employs two sub types of employee, full time employee for which they store a salary and business pension contribution percentage. The salon also employs part time employees for which an hourly rate of pay is recorded.
* The salon has a single manager working on each site.
* The business keeps a list of customers who are also immediate family members for each employee. Family members are entitled to services at a discounted rate. For each family member, employee relationship and discounted rate are stored.
* The salon maintains a list of customers with personal details for each customer such as customer Id, customer name (first name, last name). A contact number is also stored for each customer.
* A record of each appointment is stored, this record consists of an appointment date and time and services rendered.
* A list of products used by the salon daily is also maintained. Data stored for each product consists of description of the product, current stock quantity for each product, finally the unit cost of each product.
* The products and quantity used for each appointment is also recorded.
* A record of the time an employee spends on each appointment is also maintained to ensure efficient staffing management.
* A list of product suppliers is on file. Details stored for each supplier consists of a company name, address (street, town, county, eirCode), contact number and email address.

# Cardinality Definition

* Each customer may book zero or more appointments. Each appointment can be booked by only one customer.
* An employee can manage zero to many employees. An employee can also be managed by zero or one managers.
* Each appointment is worked on by at least one employee. Each employee can work on zero or many appointments.
* Zero or many products may be used in an appointment. Likewise, a product may be used in zero or many appointments.
* There is only one supplier for each product and each supplier may supply zero or many products.
* An employee has just one branch in which they work. A branch has a minimum of one employee. However, a salon can have many employees.
* Each employee may have zero or many family members on file, each family member should be linked to only one employee.
* Each employee can be either a full time employee or part time employee, but cannot be both.

# Business need and benefits of implementing system

Database implementation should provide the following benefits for the business:

* Potential to make increased scale of business easier to manage and plan.
* Potential for improved CRM practices.
* Improvement in inventory tracking.
* Resource management may become more efficient.
* Centralised repository for all business data.
* Improved data security.
* Minimize data redundancy.
* Improved data integrity.

# Conceptual Design - Enhanced ERD

# Logical Design - ERD Relationship Mapping

## **Branch**

(

branchId, street, town, county, eirCode, contactNumber, emailAddress )

Primary Key : branchId

## **Employee**

( employeeId, fName, lName, street, town, county, eirCode, contactNumber, emailAddress, position, startDate, managerEmpId, branchId)

Primary Key : employeeId

Foreign Key : managerEmpId reference Employee(employeeId)

Foreign Key : branchId references Branch(branchId)

## **familyMember**

(employeeId, customerId, relationship, discountRate)

Primary Key : employeeId, customerId

Foreign Key : employeeId references Employee(employeeId)

Foreign Key : customerId references Customer(customerId)

## **fullTimeEmployee**

( employeeId, salary, pensionContribution )

Primary Key : employeeId

Foreign Key : employeeId references Employee(employeeId)

## **partTimeEmployee**

( employeeId, hourlyRate )

Primary Key : employeeId

Foreign Key : employeeId references Employee(employeeId)

## **worksOn**

( employeeId, appointmentId, duration )

Primary Key : employeeId, appointmentId

Foreign Key : appointmentId references Appointment(appointmentId)

Foreign Key : employeeId references Employee(employeeId)

## **Customer**

( customerId, fName, lName, contactNumber )

Primary Key : customerId

## **Appointment**

( appointmentId, appointmentDate, appointmentTime, service, customerId )

Primary Key : appointmentId

Foreign Key : customerId references Customer(customerId)

## **appointmentUses**

( appointmentId, productid, quantity)

Primary Key : appointmentId, productid

Foreign Key : appointmentId references Appointment(appointmentId)

Foreign Key : productId references Product(productId)

## **Product**

( productid, description, stockQuantity, unitcost, supplierId )

Primary Key : productid

Foreign Key : supplierId references Supplier(supplierId)

## **Supplier**

( supplierId, companyName, street, town, county, eirCode, contactNumber, emailAddress )

Primary Key : supplierId