

Edmund's Electrics

Edmund owns a domestic appliance shop called Edmund's Electrics. He **sells** domestic **appliances** ranging from kettles, toasters, etc, to dishwashers and cookers. Every appliance sold **has a guarantee**. The **length** of the guarantee depends on the brand of the appliance. For example, a *Phibbs-Browne 22" auto-light hob* has a guarantee of 24 months from the **manufacturer**, Phibbs-Browne, while a *Rimmel-Haynes Fast-Boil Steamer 2 kettle* **has a 12 month guarantee** from the **manufacturer**, Rimmel-Haynes. Edmund's Electrics have a computerised system on which each **appliance sold** is recorded, with the **date of sale** and the **customer information**. When the **guarantee** expires on the **appliance**, the appliance is automatically deleted from a computerised system.

Garry, Edmund's brother provides an on-site **repair** service. For appliances that cannot be fixed on site, Garry **sends the appliance** to a **service centre** designated by the appliance **manufacturer**. When an **appliance** is brought into the company for repair, Edmund takes the **appliance** and checks the **serial number** to see if the **appliance** is under **guarantee**. If so, he **fills out a fault sheet** for the appliance. The information on the **fault sheet** describes the appliance (**the appliance manufacturer, brand and serial number, date of purchase** (e.g. *Rimmel-Haynes, Fast-Boil Steamer 2, KL-104-A, 26/2/2001*)), the **customer** (**the customer name, address and daytime contact number**) and the **fault** (**fault description (as described by the customer), date submitted for repair and condition of electrical appliance** (as decided by Edmund)). All **fault sheets** are input into the computer system. Edmund keeps all **appliances** for repair, along with their **fault sheets**, in a crate that Garry collects each morning. Garry takes the fault sheet and checks the serial number of the **appliance** on the computer to see if it has been repaired before. He assesses the **appliance** to see if it can be **repaired on-site**. If the appliance needs to be **sent to a service centre for repair**, Garry looks up the **appliance brand and manufacturer** on the computer system to get a list of **service centres** that **service appliances for the manufacturer**. He then prints off the **fault information**, the **service centre contact name and address** and sends it with the appliance, to the **service centre**.

When the repair has been done, Garry adds **repair information** to the computer system. For **on-site repairs**, **date of repair, part replaced and duration of repair** are added. For **repairs that have been sent out**, Garry adds the **date the repaired appliance was returned to Edmund's Electrics, the part replaced and service centre that repaired it**. The **repaired appliance is returned to Edmund along with the updated fault sheet**. When the customer collects the repaired appliance, he / she signs the fault sheet.

Edmunds Electrics B.

New Stock

Manufacturer Id: RH Manufacturer name: Rimmel-Haynes Change Manufacturer

Appliance Brand: Fast-Boil Steamer 2 Kettle Guarantee: 12 Cost: £29.99 Quantity in stock: 4

KL-104-A Register stock item Change Brand

Figure 1 New Stock Screen

Manufacturer

Manufacturer Id: PB Add View

Manufacturer Name: Phibbs-Browne

Address: Unit 21A Stevens Ind Park, Stepside

Service centres Exit

Figure 2 Manufacturer Screen

About once a month, Edmund gets new **stock** into the shop. Each **delivery** from a **manufacturer** is accompanied by a contents sheet, **describing what is in the delivery**. Edmund checks manually to see if everything is present and then he updates his computer system, by running the 'Enter New Stock' task. The first screen that is displayed is the New Stock Screen (see Figure 1). He can either type in the **Manufacturer's Id**, in which case the **Manufacturer's name** is displayed, or he can click the 'Change Manufacturer' button. **Need to handle details in the screen as attributes**

If Edmund clicks the 'Change Manufacturer' button, the Manufacturer screen (see Figure 2) is displayed. From there, he can add a new manufacturer or view details of an existing one (he can also associate service centres with the manufacturer, but that is outside the scope of this study). When he has finished adding / viewing manufacturers, he returns to the New Stock screen by clicking the Exit button (see Figure 2). From there, he enters the **brand name of the first set of appliances** he wishes to record, along with **the length of the guarantee** and the **cost of the brand**. He then records the **serial number of each appliance** of this brand, clicking the 'Register stock item' button after each one. This records the **appliance** in the system and increments the **quantity in stock** field on the screen. If he has another brand of appliance to enter, he clicks the 'Change Brand' button and types in the new brand name and registers more serial numbers. He keeps doing this until he has registered all the new stock. Then he exits by closing the New Stock screen.

Football competition coordination

The local County Council runs a schoolchildren's football organisation. The Council runs several different **football competitions sponsored** by businesses in the **County**. If a company or individual wishes to **sponsor** a competition, they give the Council the following information: **the sponsor, the age group of the teams that are eligible, the fee, the prize and the organizer's name and contact number**. As only the Council has the full list of **Clubs**, the most successful way to run a competition is to run it through the Council. The Council office records new **competitions** that are being offered by sponsors. **Clubs** around the **County** **register teams** with the Council.

When a **club** registers a **team** with the Council to **play** competitions, they must provide information about the club if it is not already known by the Council – i.e. **clubhouse (or contact) address, club manager's name, location of their home ground and instructions on how to get to it**. For each **team** that is **registered**, the **age group of the team, the manager's name and contact phone number and address** must be provided to the Council. Each club **may register more than one team for each age group, but each team must be under a separate name**. Each **team has a set of players**. The **player** must be **assigned to the team** in the register that is sent to the Council. Information required on **players** is their **date-of-birth, name, address and name of guardian**. Each team is **registered to play in each competition** for the eligible **age group**. The Council office records these details.

The Council also keeps a register of **referees**. An applicant must have a **qualification** before being eligible to be a referee. If an applicant has a qualification, then it is submitted to the Council, along with the **referee's contact details**. The Council places the applicant on their list of referees. Referees can also request to have their names withdrawn from the list.

Every week, the competition organiser arranges **matches between teams in the competition**. The **match** has a **venue (the location of the home team), a home team, and an away team and a date and time**. The **date is the following Saturday and the time is 11am by default**. Only **teams** that are **registered** for that **competition can be involved in a match run by that competition**. When the **matches** for the *following week have been arranged, the Council office informs a popular newspaper in the County and posts the fixtures (match times, teams and venues) on their notice board*. The Council **assigns a referee to each match and send details of the match to the referee by post**.

When the game has been played, the **referee** (who is provided by the Council) submits the **home team's score and the away team's score on a score sheet**. The Council holds this information.

When all of the **matches** in the **competition** have been played, the council publishes which teams won which competitions in the newspaper and sends an invitation to the **team manager** to bring the team to a **prize giving**, stating what competition was won by which **team** and what the **prize** is.

Linda's Lighting Emporium

A lighting shop Linda's Lights sells **lighting systems** to **customers**. The shop specialises in all **types of lighting** – indoor and outdoor, commercial and domestic. As well as selling **light fittings and parts** over the counter to the public, the shop offers a service whereby they will **design** a **lighting system** to the **customer's specifications**. The **customer gives his/her name and address and the specification of the area to be lit** to the **sales assistant** in the shop. The **sales assistant** records it and gives the **customer** a **date and time to return** to look at the designed system. Later on, the **lighting designer** takes the **customer's specification** and designs a **lighting system** that will suit the **customer**, using lights that are in the shop's current **lighting stock** and pricing the system using the **price of the stock**. To do this, she needs to use her skill as a designer, providing **design information** that is not already in the system. The **customer** returns to the shop at the appointed time and, together with the **designer**, makes adjustments to the design to suit his/her needs and **budget**, once again, using only lighting that is in **stock**. When the **customer** is satisfied with the design and **cost**, he/she arranges for the **lighting system** to be **fitted by** an **electrician** from Linda's lights. When the **electrician** has finished the job, he records the **job as being completed**. The **sales assistant** then invoices the **customer** with the agreed **cost**. The **customer** submits a single **payment** for the job. The **sales assistant** records this in the ledger. At the end of every week, the **sales assistant** checks which lighting needs to be restocked and **orders** it from the **supplier**. The **supplier** delivers the **stock** a few **days later** and is **paid on delivery** by the **sales assistant**, who checks the **stock** supplied against the **order** that was made. The **payment** is recorded in the ledger.

The following sheet records **stock** that has been reordered in the last week by Linda's lights. Every **stock** item **can only be supplied** by a single **supplier**, but **orders** are sent out frequently. When **stock** comes in, it is charged to whichever **department** is responsible for it. This is determined by the **Stock category**. For example, all lights are charged to the design department, while electrical stock is charged to the fitters. Items that are sold over the counter are charge to the shop floor.

Linda's Lights Stock order sheet

Supplier Id: S47

Supplier Name: Electrical Wholesale

Address: Unit 50, John Good Industrial Estate., D 19.

<i>Order number</i>	<i>Order date</i>	<i>Stock code</i>	<i>Stock description</i>	<i>Stock category</i>	<i>Department charged</i>	<i>Number of units</i>	<i>Price per unit</i>
E1121	2/1/2001	L104	Recessed light	Light	Design	10	£30
E1121	2/1/2001	L240	1.5m fitting	Electrical	Fitters	10	£25
E1122	11/1/2001	L105	Wall light	Light	Design	12	£13.50
E1122	11/1/2001	L105	Centre light	Light	Design	6	£4.99
E1128	18/1/2001	L104	Recessed light	Light	Design	10	£30
E1128	18/1/2001	L220	Set of twist bulbs 40w	Sundry	Shop floor	10	£15.99
E1129	20/1/2001	L500	Domestic wiring drum	Electrical	Fitters	2	£150
E1129	20/1/2001	L501	Outdoor wiring drum	Electrical	Fitters	2	£299
E1129	20/1/2001	L501	Outdoor sockets	Electrical	Electricians	10	£15

In Linda's lights the computer system holds information on the customer's **lighting specification**. It starts off when the customer gives an initial specification to the **sales assistant**. From then, the **designer** takes the specification and fills it out with **appropriate lighting**. The **customer** may return to view the specification within a week of the appointed date. If he / she does not, the specification is considered expired and is deleted from the system. If the **customer** does return, he / she may then adjust the specification to his / her liking or may reject it altogether. If it is rejected, it is deleted. If the customer accepts the specification and agrees to have it fitted, then the specification becomes an **agreed** specification. When the electrician has fitted the lighting system, the specification becomes **fitted**. At this stage, it awaits the **customer payment**. When customer **payment** has been entered, the specification is deleted from the system.

Nursing Home

Helen and Maya run a nursing home in West Cork where they offer nursing care to **patients** recovering from operations, or long-term patients whose **carers** are on holiday. **Accommodation** is **booked** on a nightly basis. There is a high demand for this service, so **guests** must **book** places in advance with Maya.

Maya has a diary in the reception area where she writes in **bookings**. When the **booking** comes in, Maya checks the bookings diary to see if there is a vacancy for the time required and writes the **guest's** identity into the diary for **each night** of their expected stay. She keeps a history of all of the guests that have been staying for the last five years.

If a **guest** has not stayed before, she makes out a new **chart** for that **guest**. On the **chart**, she keeps information about what the **guest's dietary and medicinal needs**. When the **guest** arrives to stay, Maya **records** his / her **arrival** in the diary as part of the **booking**.

When the **guest's departure date** arrives, Maya makes out a report, by copying the **notes on the guest's welfare** from the **chart**. She makes up an **invoice** for the guest by looking up the **bookings** diary to see **how long the guest stayed, adding in charges for special dietary requirements, extra care, such as physiotherapy or constant supervision, or doctor's visits**.

The **guest pays** for the stay and leaves. Maya writes the **payment** into the account ledger.

There is accommodation for 25 **guests** in single **rooms**. 13 of these are on the ground **floor**, and of those, 8 are on a **closed-circuit monitoring system**, 24 hours a day. Each **bed has a type**; for example, an orthopaedic is one that can be adjusted, and has a very hard mattress. Usually these **guests require** a lot of **equipment**, but may not need a lot of **monitoring**. **Staff members** need to know if the **room** is in a **secured part of the building**. If any **guests** are suffering from **diminished responsibility**, they may wander off and get lost. Those **guests** must be kept in an area that is safely supervised, with a **security person** on the door to allow authorised entry and exit.

Some **guests have special dietary requirements** (these are only recorded for **special-diet guests**). If it is not standard, a list of **food** that the **guest can and cannot eat** is recorded. **Food** is bought in from the allowed list. This **food** is **charged** at **cost plus 15%**.

A **guest** can be a **special-care guest**. This may mean they **need** to be **moved every hour**, or that they need physiotherapy for some condition they have, or that they need dressings changed. A **guest can be special-care or special-diet, neither, or both**. For special care, the **frequency of care and the description** of it must be **recorded beforehand, and charted when it is done**.

The information kept about each **guest** is their **name, date of birth, reason for requiring nursing home care, home address, and next of kin**. For **special-diet guests**, the **set of foods they are allowed, the set they are forbidden, and their recommended calorie intake**. If they are a **special-care guest**, we need to know the **nature and frequency of treatment, and whether any special equipment is required**.