George's Pharmacy

George's Pharmacy is looking for a computerised system to handle their stock of products. The stock that George holds consists of drug and non-drug products. The system will use a relational database which needs to support the requirements outlined below.

The pharmacy employs a number of people. Details that need to be stored in the system for members of staff include a staff ID, name, address, telephone number, email address, PPS number and their role within the pharmacy (e.g. counter staff, pharmacist, stock clerk etc.). Staff email addresses must contain the @ symbol, if no email address is provided a default value will be used. All other data must be provided.

Each product (drug or non-drug) has a stock code, a description, a cost price, a retail price and a brand name (e.g. Panadol, L'Oreal etc.). Each brand can have many products. Each product may come in many pack sizes (e.g. 12 or 24) but these pack sizes are usually common across a range of products. A single supplier is used for each product, but a supplier may supply many products. Each supplier has a unique ID. Also needed is the name of the supplier, address, and main telephone contact number.

If the product is a drug, it also has a drug type. Each drug type will have one or many brands. For example, Paracetemol is the drug type for both Panadol and for Tylenol products. The information required about a drug type is a name, a normal dosage, a 'P' if it is prescription only, dispensing instructions (for the pharmacist) and use instructions (for the customer).

All non-drug stock products are sold over the counter for payment by cash or credit/debit card. No customer details are recorded for non-drug products but details of the product, the amount sold, the date, time and member of staff who made the sale must be recorded.

Drug products are only available for sale through prescription. A customer who wants a prescription filled comes into the pharmacy and submits the prescription to Kevin who works behind the counter. The prescription contains the customer's name and address, the prescribing doctor's name and surgery details and for each drug on the prescription, the drug type, the dosage and the number of days for which it is to be taken. If a specific product is required this will be noted on the prescription also. If the customer has a medical card, then the medical card number is on the prescription also. Both customer details and doctor details are required for each prescription, otherwise the prescription cannot be filled.

If the customer does not exist within the database, Kevin will create a new record for the customer (name, address, contact details, medical card number (if any)). Each customer within the system has a unique ID. Similarly for the prescribing doctor, it they do not exist within the database Kevin will create a new record for the doctor (doctor's name, surgery name and surgery address) and assign a unique ID.

When inputting a new prescription into the system, Kevin will input partial details for the prescription including the customer details and prescribing doctor details. The system will assign a unique prescription ID. Kevin will note this on the physical prescription and put it in the pile of prescriptions to be processed by the dispensing pharmacist, George.

Kevin will be recorded within the system as the member of staff who created the prescription. If Kevin is not available, another member of staff will handle his role. A member of staff can enter many prescriptions but each prescription can only be input by one member of staff.

George is the dispensing pharmacist and processes the prescriptions (he will be considered a member of staff within the new system). He works through the pile of prescriptions to be processed. Each prescription has a list of one or more drugs to be dispensed to the customer. George is responsible to inputting details of the drugs issued as part of the prescription. He works through each drug on the prescription. Sometimes the doctor will have given a product brand name (e.g. Panadol), or sometimes the drug type (e.g. Paracetemol). If an unfamiliar drug brand name is given, George must locate the correct drug in his stock.

When George is dispensing a drug for a prescription, he picks an appropriate product from his stock. He updates the prescription within the system with the details of the drug, dosage, instructions etc. These will be based on the prescribing doctor's instructions and therefore may be different to those given by the drug brand and need to be recorded within the system. The system will record George as the person dispensing.

When a drug has been input for a prescription, the system will print a sticky label for the drug to include the Customer's name, the usage instructions for customer, and the dosage onto a sticky label, which he sticks onto the product. Once all drugs have been dispensed, George puts all of the products for the prescription and the prescription itself into a single bag and will print a label for the bag including the customer's name and the prescription number.

When the customer returns to collect the prescription, Kevin gives them the appropriate bag. He will record against the prescription that it has been collected, recording the date and time and that it has been paid for and record the payment type (cash, credit card/debit card or medical card).