# SPECIFICATIONS

## Problem Background

The end user has a warehouse in Bolton. Customers come into the shop to purchase quantities of different types of fittings. The stock information must be updated on-line, and a running profit on each invoice is to be noted. Finally, an invoice for the customer is to be created and sent with the goods.

The discussion in the above paragraph helps in indicating the present system. But, included in this present system is a lot of paperwork. Most of the paperwork consists of faxes, invoices and order forms, each of which get passed between the wholesaler and the customer. All necessary details are on separate paper forms.

The order form used by the wholesaler and consists of a large list describing the various fittings wanted by the customer. This is set out in table format that includes the name and quantity wanted. The customer indicates what items they need by filling in the quantity column in the table next to the chosen fitting. The rest of the form shows the customer's details including name, address, telephone and fax numbers, the order number and the date the client would like the order to be completed by.

This gets faxed back to the wholesaler who, in turn, notes the details, packs the fittings and produces the invoice. This then gets dispatched to the appropriate customer.

The wholesaler has to keep a record of the sale, update the stock level and produce a copy of the transaction for storage.

Finally the wholesaler has to also note the invoice details and work out the profit made on that order.

## Interview

This interview was conducted with the end-user, Mr. Blobby. It helps in identifying what they want from a new system and also what their existing system is like by finding out the present hardware and software currently in use at the firm. It helps me note the latest IT skills of the end-user so that I know whether or not the new system has to be simple to use or if it can be more intricate. Also, whether or not he/she will need any further training so that they would be able to use the software that the new system will be based around.

## Results of Interview

1. **What system are you using at present, and how does it work?**
   Everything is done manually. We act as a seller of light fittings to shops.
   We carry a lot of stock, for example, at the moment we have over 200 different lights stored in the back on shelves. The only way we know what stock we have is to go to the back and count the fittings. We get deliveries of fittings, sometimes as a re-order, other times as a new item. The details we hold on each fitting, which is presently written on paper is
   - Light fitting's name
   - Light fitting's code
   - Cost price
   - Mark up (as a%)
   - Selling price
   - Quantity in stock

   We get an order from a client and we have to note (by hand): -
   - The client's name
   - Date of order
   - Order number
   - Light fitting name and quantity
   - Date when order is wanted

2. **What disadvantages do you find with this system?**
   Everything is unorganised. It is all on paper, orders can get lost, hard to keep track of clients orders. Hard to keep up with when something is due.

3. **Can you sate the hardware facilities currently being used on your computer/s in your firm?**
   None

4. **Can you specify your software facilities on your computer/s in your firm, giving the software name and version number?**
   None

5. **What improvements would you be looking for in the implementation of a new system?**
   User friendly, quick, efficient, beneficial, easy to maintain, reliable, well presented, to be able to deal with a large amount of orders and as automated as possible.

6. **What would you expect from a new system?**

Save order details
Link up order details and order form
Allow to update stock on sale
Allow me to create an invoice for the customer, save and work out the price.
Allow me to keep a note of the profits made
Print out daily sales details

7. **What information do you want to have in the invoice?**
   Date of invoice
   My company's name
   Order/invoice number
   Light fitting names
   Quantity of fittings sold
   Selling price
   Total for invoice

8. **How long would you want information (such as the orders) to be stored on your new system for?**
   Five years due to VAT and Tax reasons.

9. **Can you give an approximately monthly order quantity as a basis to the new system?**
   We get maybe 30 customers a day

10. **Could you describe the IT skills within the department as to help me know whether or not to make the new system simple to use?**
    None, very simple since everything is done manually

11. **Finally, would you be prepared to undergo any necessary training to familiarise yourself with the new system? I.e. training that will help you get to grips with any new software or hardware that you have not encountered before?**
    Yes.

**Qualitative criteria**

Before I start designing and implementing my new system I have to set myself certain questions which will help me design a new system. These questions will be answered at the end of the project as part of the evaluation. The performance indicators can also be referred to when I am doing the designing, test plan designing and testing sections as well as the evaluation part. They help me understand if the new system is being designed etc. in the appropriate way that the user asked for.They will help me decide whether or not the new system was a success or failure.

The new system needs to be: -

- User friendly so that even a person with limited I.T. skills will be able to use it.
- Quick, so that orders, and invoices can be typed and printed out immediately and the saving, printing etc... of
- documents won't be time consuming because macros will be created in order to cut down the amount of time used when orders, invoices etc.. are needed to be printed or saved and even created.
- Efficient so that the system will run smoothly and be able to cope with the amount of work being done on it, on a daily basis.
- It will have to be beneficial to the user so it will have to be much better than the present system that is currently in use.
- Easy to maintain.
- Reliable so that orders/invoices can be stored without the worry of them getting lost.
- The system must be presented well so that it looks good and it is clear and easy to understand.

**Objectives**

- Allow easy maneuverability around the screens
- Make all actions on-line and interactive
- Allow automatic saving of stock and sales files and shutdown of the system
- Add a new light to the stock
- Display all lights with all details
- Allow a sale of a light to be performed
- Update the lights stock level
- Create an invoice for a customer's purchase to be performed
- Print out a customer's invoice
- Allow daily sales details to be displayed for management use

**Hardware and Software Facilities**
In this section I will talk about the hardware and software requirements that the new system will need if it was to be implemented on the end-user's computer. As the interview suggests, the firm is not, in any shape or form computerised and will obviously have to be in order to get this system up and running.

I will suggest the type of Hardware and Software facilities that are needed to implement this new system. The firm then knows what kind of hardware and software they will need when this system is installed.

The user has already assured me that they are willing to undergo any necessary training so that they can familiarise themselves with the programme and also with a computer, as the interview shows nobody in the firm has any kind of I.T. skills.

As stated previously in the user's environment there are no computers whatsoever and so they will have to get computerised to be able to use this system. I will be using a PC, with

Pentium Intel Processor with 512MB RAM
40 GB hard drive space and floppy
HP LaserJet 960 printer

The software to be used will be Microsoft Excel 2000, a spreadsheet, and Microsoft Word 2000, a word processor. This package will be used to customise the solution for Mr. Blobby.

During the designing and implementation of the new system all the files will need to be stored onto a 3-½ " floppy disk for easy transportation between home and college and the end-user.

**Choice of Software**
The software run on the computer should include Microsoft word and more importantly Microsoft Excel, which is the basis of this new system. This software package is ideal as it includes various features that can be used in implementing and customising the new system. These include: -

- The ability to link details in one worksheet with another worksheet or spreadsheet.
- The ability to protect certain cells on worksheets, or the whole of a worksheet. This is so that the user won't accidentally destroy formulae, headings, information etc.
- The ability to produce macros that will automate various functions
- Macros that will automatically open and/or close workbooks or worksheets at the click of a button.
- The ability to create toolbars that are appropriate to the end-user's desired requirements.
- The ability to produce formulae that will automate the process of 'adding-up' a client's bill.

**Constraints and Limitations**
Constraints and limitations simply state whether or not there are any user requirements that cannot be fulfilled by myself. In the implementation of this new system I will try and fulfil all the requirements that the end-user will want for the new system.
As I have a limited amount of development time it will be quite difficult to ensure the system will be presented well and written and presented in a clear, understandable way.
As the user has very limited I.T skills it may prove to be difficult in creating a system that is quick and easy to get to grips with, without making it not sufficient enough for the requirements that the end-user has asked for. Without a longer a development time it will be difficult to make it easy to use and highly intricate so that it can deal with the amount of information and orders that is going to be stored on it.

I will only be solving a sub section of the problem, as described in the Objectives.

**Benefits of Proposed Solution**
The proposed solution would bring the user an organised order system where he is able to create his very own invoices. He will be able to update all of his stock quickly and on arrival, where as before he would have to do this manually and that was proven to be taking him along time. Whereas by computer it will be much quicker and a lot more organised.

All of his orders/invoices will be filed into a well organised spreadsheet package that is clear and easy to use and understand.

The invoices that are sent to his customers showing them their order and the bill they have to pay will all be worked out automatically by the computer which will have formulae programmed into it, to enable the price to be worked out. This will save a lot of time because before, the user had to manually write out the client's invoice and work out the price by either using a calculator or by the user's own mathematical skills! That could prove to be risky. But, by computer the invoices will be produced, again, more clearly and much more accurate.

Also the stock will be updated automatically, so no more walking around and counting the fittings.

Overall the system will prove to be of great benefit to the user because it will be much more organised, a lot clearer and easy to use. It will much quicker than writing everything down by hand and also safe in knowledge that no orders will end up being misplaced or lost because they will all be typed up on computer, saved and done in an accurate way too.

**System Overview**
The system will have one main function; to automate the process of dealing with customer orders between customer and retailer.

The system will have various worksheets on it. Each of which perform and carryout different tasks. At the 'centre' of the system there will be a main menu that will direct the user to the appropriate worksheet they wish to go to. The main menu is also necessary for when the user wishes to exit the system.

There will be five worksheets in the system, these are: -

- Main Menu – This will be the 'centre' of the system and this is what will enable the user to navigate around the system and go to various worksheets.
- Stock – This will allow the user to add new products, and also to display all product details
- Customer purchase – Here the user will be able to register the customer's purchase.
- Invoices – Here the user will be able to produce an invoice confirming the client's purchase.
- Daily Sales – Here the user will be able to view the profit made on each customer's purchase

In each worksheet there will always be a 'set' of macros, formulae etc. that will automate the work and meet up with the objectives set by him in the interview.

In this system a point/click will be present which will be customised to the user's specific needs. This will enable the user to navigate around the system much more easily and much more quickly.

**User Interface**
I want the user to be able to manoeuvre between screens without the hassle of having to go to 'file', 'open', then open the appropriate spreadsheet that he wants to use. By having a menu screen the user will come 'face to face' with a screen that has various buttons on which will take you to an appropriate workbook e.g. customer orders, when the system is switched on. This will be quicker and easier to use for a person who has limited I.T. skills Such as the user.

By having a menu screen, when the system is switched on the user will automatically be taken to this screen and from here he will be able to navigate himself around various parts of the system i.e. to different worksheets such as the stock or invoices. He will also be able to exit the system and save any changes that have been made during the use of the system in that particular day.

The system will be performing repetitive tasks, such as going from one particular spreadsheet to another. By having a menu screen and toolbar this will make the system more interesting and also, perhaps more pleasing to the eye.