

*It is strongly recommended that you read this document **several** times before making any start.*



*National Council for Vocational Awards*

Information Technology CITXX  
(Clonmel Central Technical Institute)

Computer Architecture and  
Systems  
C20012

*Academic Year 2001-2002*

INITIAL DISCUSSION DOCUMENT

This project counts as 30% of the total module

## **The Company**

Mulligan Retail Limited is a small retail company that controls 17 shops in the West of Ireland in the Sligo, Roscommon, Mayo, Galway area. It has been in existence for 23 years, originally founded in 1979 by Jim Mulligan as a single shop which he opened using money he received as redundancy payment at that time, and a small bank loan, to target a perceived market niche.

## **What the company does**

The company now offers grocery services positioned between smaller villages which might not otherwise have such services by virtue of being too small to have their own grocery shop, or which only have very basic facilities. It was the targeting of groups of such villages, each within driving distance of some central point that enabled their niche market to be established. Each store provides a range of goods and services that would otherwise only be available in the larger towns – and therefore not within easy driving distance for the inhabitants of those villages.

## **Who works in the company**

The staff of the company consists of the office staff and one manager of each store. For purposes of this project, part-time staff, checkout operators, general operatives etc need not be considered as they will not be provided with personal IT facilities; rather, they will use the general POS systems provided. There is also a roving manager for each 5 stores.

## **The current solution in place**

Currently a small central operation runs the ordering, supply and other operations. The nature of the ordering process beyond this point is dictated by the level of technology in use by the suppliers; this level is increasing continually. However, the main attempt at implementation of automated ordering and stock control has been within the organisation itself.

Currently some shops have computers which are used to enter stock order levels into spreadsheets and which are then printed and posted to central ordering. Other shops transmit the same data by saving these to floppy disk and submitting them. Some shops have no computers in use, and manually generate lists of stock required (which then are re-assessed by central ordering to perform sanity-checking, as well as other checks (such as ensure no product lines are over-looked)). These manually generated lists may be posted or phoned into central ordering. In all cases, central ordering then re-enter these ordering requirements into the computer system and place the orders with the suppliers.

The computers which are in use are standard PCs with no particular customisations or specialised software in use; however, the shops which use spreadsheets are using spreadsheet files containing lists of available stock items which are posted out by central ordering on floppy disk. No advantage is perceived to retaining any of the existing PCs which may be sold off to recoup some costs.

Central ordering uses a small network of PCs which run 'standard' office software.

## **Why is the company making these changes now**

The company has added IT facilities as required over the years, based on what was compatible with items already in place. There are difficulties with this as any two or more stores may not have the same equipment, therefore making support, re-supply and other functions more difficult.

As a result of the unplanned growth of IT use as a direct result of the growth of the chain, there is no coherent Management Information System (MIS) in place.

The dependence on manual transmission of stock levels, orders, sales data and other vital information is considered to be a bottleneck in the MIS. Data is currently either posted or phoned into head office and re-entered on computer; some shops post data on floppy disk, or wait for the regular visits of the roving manager to hand-over detailed data. It is hoped to move to a faster transmission system to enable better decision making sooner at the central point.

The company is taking a year to make a significant re-investment in order to upgrade it's systems prior to continuing it's expansion, possibly into a wider geographical area. It is considered that such an expansion would not be either wise or achievable without the management infrastructure to enable proper MIS.

## **Overview of requirements**

Hi-POS 901 retail devices will be installed in all the retail outlets. Each device is a combination of check-out (till) and scanning computer that allows a product to have its barcode scanned at the checkout, which allows querying of a central database which returns product details, as well as updating stock levels in the central database to indicate that a product has been sold. The central database can be run on a computer running any operating system, as long as access to a serial port can be provided for each Hi-POS 901 device that needs to be connected. The actual connection can be implemented using either cable which plugs directly into the computer serial port, or via radio link to a matching serial device which plugs into the serial port. The purchase and provision of the Hi-POS devices is not your responsibility, but the provision of the central computers is.

The central computer for each branch must be able to connect to the central office computer on a regular basis to upload sales data and stock levels details. Each computer should also be able to accept in-bound communication from the central office in order to receive updated stock lists and software.

## **Budget**

A provisional budget of €75,000 has been allocated.

## **Brief specification of requirements**

Provide, in accordance with the marking scheme, an initial A4 page in which you specify the purpose of the project, sources of information are identified, a plan of progress for the project. This initial page should provide a discussion about the broad overview of the IT solution you propose putting in place.

At a later stage, for each person employed by Mulligan Retail Limited you must list what hardware and software they will receive, and why. To assist you with this a final list of employees and their functions will be provided. You are required to use considerable imagination in the provision of facilities. You will also be required to list *all* network related items to be installed. This list will include cost, function, purpose and justification for each item.

*Please note that there is no one right answer to this project. There are many valid solutions, as long as there good reasons for the solutions offered. Considerable imagination is required.*

**Please note that this is not the final document; updates will be provided, which will supersede this document. It is your responsibility to ensure you are working from the most up-to-date document.**