*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

REQUIREMENTS LISTING

This project counts as 30% of the total module

The Hardware

Categories of computer required:

Figure 1

Category	Type	Detail
A	Standard desktop PC	To enable ordinary employee to perform normal office tasks.
B	High Performance PC	To enable ordinary employee to perform normal office tasks, but higher than required spec. used as perk for favoured employee or manager; may have multimedia components added.
C	Laptop	To enable roving staff to plug into shop LAN as well as office LAN; also enables dial-up via GSM.
D	Shop Server	Medium specification PC with one free serial port per till it will control. Also enables connection to head office by dial-up line.
E	Network Server	Medium to high specification server with significant resources enabling control of LAN and acceptance of dial-in from client computers.

Printers:

Figure 2

Category	Type	Detail
A	Low volume Inkjet (colour)	Suitable for shops and ordinary employees. Not used to produce large quantities of printouts, but has full range of colour options.
B	High volume laser (mono)	Suitable for high-volume centralised printing.
C	Wide carriage dot matrix	Used for multi-part stationery.
D	Large size inkjet	Used to produce documents of sizes larger than A4. Enables Co. to produce much of its own promotional materials.

NB: Sundry other hardware items, such as networking components, scanners etc may be required.
NB: *Every* computer should be equipped with a NIC

The Software

Software Bundles:

Figure 3

Bundle	Type	Detail
A	Standard office: ○ WP ○ SS ○ DB ○ Email ○ Internet	Allows employees to perform 'regular' office tasks.
B	Medium office: As standard with: ○ DTP	Allows employees to perform 'regular' office tasks, plus some more advanced tasks including posters, leaflets etc.
C	Accounting office As standard office with:	Allows employees to perform 'regular' office tasks, as well as process company accounts.

	o Payroll o Accounting	
D	Management office All functions plus: o Time management software o Contact list management	Allows all functions to be performed, though management is unlikely to perform all such functions themselves.
E	Shop server	Runs POS controller software, stores local files for shop LAN workstations, connects to head-office network for updates.
F	Full LAN Server	Full file and internet server, should have modems to allow DUN from the shops.

NB: Sundry other software packages/functions may be required.
NB: *Every* computer will need an appropriate OS installed.

The Shops

Mulligan Retail Limited has 17 shops with the following hardware requirements:

Figure 4

Shop	Computers required:			
	Category A	Category B	Category D	Tills
1	2	0	1	2
2	1	0	1	1
3	1	1	1	3
4	1	0	1	1
5	1	0	1	1
6	0	1	1	1
7	1	0	1	2
8	1	0	1	1
9	2	1	1	4
10	1	0	1	1
11	1	0	1	1
12	0	1	1	1
13	0	1	1	2
14	2	0	1	3
15	1	0	1	2
16	1	0	1	1
17	1	0	1	2
Totals	**17**	**5**	**17**	

NB:
- ?   Each shop will need to be provided with a small network to enable connection of the local server (D) to whatever number of workstations (A or B) which are allocated.
- ?   Each network should use UTP cabling. A nominal figure of €200 should be allowed for this, per store.
- ?   Extra ports should be left free on each hub on the individual shop networks to enable the addition of extra computers, and to enable the roving managers to plug onto the shop network when they come to call.
- ?   Each shop LAN should be self sufficient.
- ?   Each shop server should have a modem to enable connection to the head-office network.

? One printer category A per shop LAN should be provided, either self-networked or connected to shop server.
? Shop server NOS should facilitate secure logons and enable routing of email and internet traffic to/from head-office network.
? Each shop workstation receives software bundle A

Head Office

Head-office requirements:

Figure 5

Employee	Items Required:			Category
	Computer	**Software**	**Printer**	
1	A	A	Shared B	*General Office*
2	A	A	Shared B	*General Office*
3	A	A	Shared B	*General Office*
4	A	A	Shared B	*General Office*
5	B, C	D	A	*Manager*
6	B	D	A	*Assistant Manager*
7	B	B	D	*Promotions*
8	C	A	Shared B	*Roving Manager*
9	C	A	Shared B	*Roving Manager*
10	C	A	Shared B	*Roving Manager*
11	C	A	Shared B	*Roving Manager*
12	A	C	C	*Accounts Dept*
13	A	C	C	*Accounts Dept*

Budget

A budget of €75,000 has been allocated.

Brief specification of requirements

For each person employed by Mulligan Retail Limited you must list what hardware and software they will receive, and its cost. 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.

This should be presented in addition to the requirements listed in the Initial Discussion Document.

Acronyms:

No new acronyms have been used, but to assist explanations have been provided here:

Figure 6

LAN	Local Area Network
UTP	Unshielded Twisted-Pair
MIS	Management Information System
GSM	
POS	Point Of Sale
NOS	Network Operating System
DUN	Dial-up Networking
NIC	Network Interface Card
OS	Operating System

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 changes to the specifications given here may be required. You may be notified of these either verbally in class *or* by e-mail *or* both.