

USER SPECIFICATION

INTRODUCTION

Mr. Atchuthan Narayanan, Mr. Thamotharan Atchuthan and Mr. Ramesh Atchuthan are the partners in a firm called “VEEYEN MILLS”. This mill is situated in Grandpass. This mill was opened on the 6th of February in the year 1984. This mill is dealing in oils such as Coconut oil, Sesame oil and Pulses, which was manufactured in the mill itself. This mill also mills flour such as Kurakan flour, Orid flour and Rice flour. This mill has various machines, it takes 85-horse power to run these machines.

EXISTING SYSTEM

The existing system, the accountant writes down the sales of goods roughly on A4 papers. At the end of the day the accountant writes down the sales of goods on three accounts books and he calculates the profit and the loss of the day, he does this every day.

This is a very long process because he had to write the sales of goods in three accounting books, therefore it consumes a long time to finish the calculating and balancing.

DISADVANTAGES OF EXISTING SYSTEM

Presently the way of calculating the profit is done manually. This done by using calculators. This leads to some disadvantages. They are as follows:

Human Errors:- This is a common disadvantage, where they misplace the A4 papers which contain the record of sales of goods and also sometimes the accounts books. Also writing down wrong figures by mistake.

Wrong Calculations:- This is another disadvantage, where the calculations are done by using calculators or mentally. If there is a error in such calculation it could effect the proper calculation of profit and loss.

Expensive:- To buy accounts books, files, pens, A4 papers and etc.... this will cost more. Hence it is a expensive system. When they kept on buying accounts books, files, A4 papers and etc... for about 4 years, it costs them the cost of a computer. When they buy a computer, they can use it for a long period of time and they will spend a low cost on buying papers for the bubble jet printer and ink cartridges.

DESCRIPTION OF THE PROBLEM

At this firm, the system was running very smoothly. The Management of the **VEEYEN MILLS** prefers a computerized system, so that they can easily change and alter their accounts each time a new levy is introduced or when the price of goods increase. They prefer to have Billing systems computerized since it would be much easier for them to have accounting/balancing etc. done much faster and quicker on the computers rather than attending to them manually.

PROPOSED SYSTEM

In the proposed system, the accounting and balancing is done on a computer. That is they have to enter the codes of the items on the first column, which says "ITEM CODE" of the Excel spreadsheet. Then it will automatically show the description and it's unit price. Then you have to enter the quantity in the third column, which says "QUANTITY". Then it automatically calculates the price of the good with the G.S.T added and then displays the total on a colored space called "GRAND TOTAL".

ADVANTAGES OF PROPOSED SYSTEM

When these calculation are on a computerized base. Therefore this leads to some valuable Advantages.

FEWER ERRORS: - There will be fewer errors when done in a computerized system. If any error exists, it will be easy to alter it. That is, if the data entered is wrong then, you just have go to the cell, which has the wrong information and change it.

LESS HUMAN ERRORS: - There will be almost no human errors. That is like misplacing files. If and only if they DELETE the existing files.

NO WRONG CALCULATION: - Calculations are done automatically; so there will no wrong calculation. But if the data entered is wrong then the whole invoice will be wrong otherwise not.

LESS EXPENSIVE: -This system is less expensive because in this system you need not buy pens, account books, files and etc. In this system you just have to buy A4 papers for print outs and ink cartridges for the ink which is used in printouts.

ORGANISATION STRUCTURE

Partners:

- ▶ Atchuthan Narayanan
- ▶ Thamotharan Atchuthan
- ▶ Ramesh Atchuthan

Accountant:

- ▶ V.J. Bosco

Supervisor:

- ▶ Chamodran Vijaya Kumar

Laborers:

- ▶ Raja (Mechanical Assistance)
- ▶ Subamanium (Welder)
- ▶ Siva (Driver)
- ▶ Mohan
- ▶ Sasi
- ▶ Robin
- ▶ Ramesh
- ▶ Victor
- ▶ Maruthu
- ▶ Premarathana
- ▶ Selvam

PACKAGE USED

I prefer using the package Microsoft Excel out all the other packages like Microsoft Access, FoxPro, newly arrived packages and etc.... Microsoft Excel is a very well known package worldwide. Excel takes less time to learn than other newly arrived packages. Elders and youngsters understand this package. It is also fun to use Excel.

I prefer it because Microsoft is an accounting package. It is also a spreadsheet package. In Microsoft Excel, calculations are done easily because there is wide range of functions, which help in calculations.

Each Excel sheet is large. That is there are two hundred and fifty six (256) columns. These columns are defined as A,B,C,.....Z,AA,AB,AC,.....IV. There are sixty five thousand, five hundred and thirty six (65536) rows. These rows are defined as 1,2,3,4,.....65536. These rows and columns form a rectangular space called cells. There are 16777216 cells in one excel work sheet. And each cell can hold a statement or a name as long as 32 letters in it.

The benefits that I get using this package is that I can use Hyperlink which helps to connect two or more work sheets together that is family budget with expense's budget of the month. It is easier to calculate the in the Excel worksheet. I can

also create graphs, bar graphs, histograms, pie charts and etc...

I can protect my worksheets by creating passwords. I can also add clipart to make my finished worksheets look nicer.

I also used Microsoft Word to do all the typing.

HARDWARE AND SOFTWARE USED

The list of the hardware used are as follows:

Computer	:-	IBM (PC 300GL)
Clock Speed	:-	Mhz
Processor	:-	INTEL PENTIUM 3
Main Memory	:-	64MB Ram
Hard Disk Capacity	:-	8.4GB HD
Mouse	:-	Logitech Mouse
Printer	:-	Canon BJC-265SP

The list of the software used are as follows:

Operating System	:-	Windows 98
Application System	:-	Microsoft Excel "2000"
		Microsoft Word "2000"

MINIMIUM HARDWARE AND SOFTWARE REQUIRED

To run Microsoft Excel, it requires at least 121 Mega Byte Hard Disk space. A Clock Speed of 65Mhz. It needs a Main Memory of 16MB Ram and a monitor. These are the 1minimum requirements needed for to run Microsoft Excel.

Minimum requirements needed by Microsoft Excel

MB Hard Disk space	1.21GB
MB Ram	16 MB
Clock Speed	65 KHz
Intel	486 MMX
Monitor	16 Colors

DATA CAPTURE

I captured the relevant data in 3 main ways. They are as follows.

- 1) Going through the past Accounting books and Backup files.
- 2) Questioning the Accountant.

Going through the past Accounting books and Backup files

The accounting books contain details on the goods sold. These details are like the invoice number, quantity of the product sold and the grand total. The backup file contains an overall description of the goods sold for a day. The overall description contains informations like the invoice numbers of a day and grand totals of each invoice.

When I went through the accounting books. I found out that there were a lot of details missing. I suppose that they must be omitted because the quantity bought should have be less than two. Hence this gave a false record in the backup file.

An invoice of the firm VEEYEN MILLS.

Questioning the Accountant

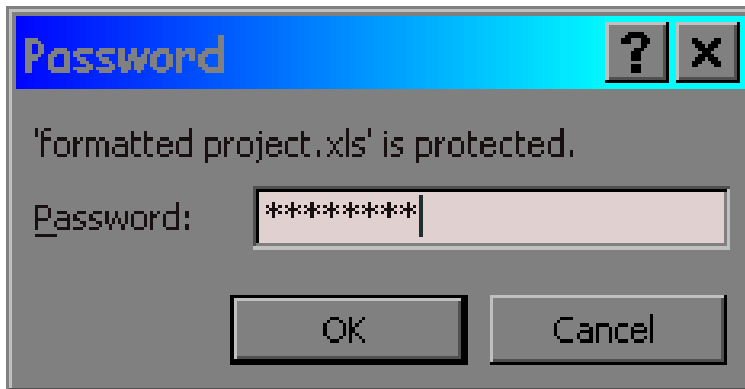
I asked the accountant some questions on the Invoicing System. A few important questions are:

- 1) How is your firm's invoicing system?
- 2) Is it going smooth or badly?
- 3) Could a computer help your firm's invoicing system?

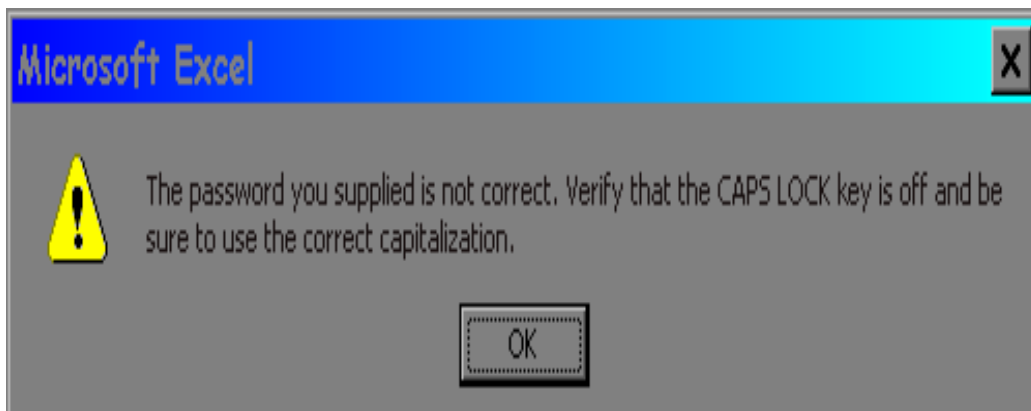
His answer to the first question was "well, the invoicing system is going well". His face expression was dull. His answer to the second question was "No, it is O.K". His face expression was dull. His answer to the third question was "yes, a computer would help the firm's invoicing system, to make it fast and easy". His face expression showed that he was glad.

DESCRIPTION OF OUTPUTS

PASSWORD SCREEN



INVALID PASSWORD: This screen below will be shown when an invalid password is entered. Hence only authorized users can use the system.



MAIN MENU has some command buttons which makes us easy to use.



When you click **VIEW INVOICE**, it automatically goes to the invoicing section.

When you click **VIEW ITEM CODES**, it automatically goes to the item coding section.

When you click **VIEW BACKUP**, it automatically goes to the backup section.

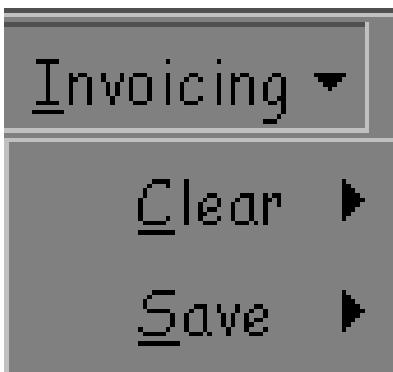
When you click **QUIT**, it automatically goes to the system and returns to windows.

CUSTOMIZE TOOLSBAR

As you enter the system have a customize toolbar with some facilities like Invoicing, Backup, Codes, Online help and Exit commands.



Invoicing option menu



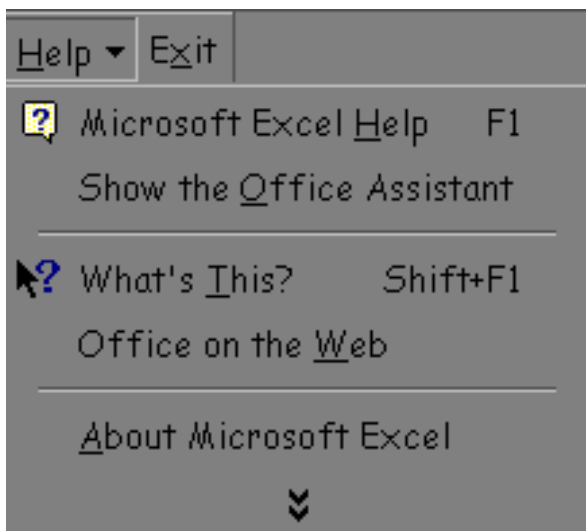
Codes option menu. When you click on codes option you directly go to coding section.



Backup option menu. When you click on backup option you directly go to backup section.



Help option menu.



Exit option menu. When you click on exit option you quit the system and go to windows.



INVOICING SECTION

A blank invoice

VEEYEN MILLS				
INVOICE				
INVOICE NUMBER		Date	Time	
		25-Mar-2000	3:24:25 PM	
Item Code	Description	Quantity	Unit Price	Total Price
0000			Rs -	Rs -
0000			Rs -	Rs -
0000			Rs -	Rs -
0000			Rs -	Rs -
0000			Rs -	Rs -
0000			Rs -	Rs -
0000			Rs -	Rs -
0000			Rs -	Rs -
0000			Rs -	Rs -
0000			Rs -	Rs -
0000			Rs -	Rs -
0000			Rs -	Rs -
0000			Rs -	Rs -
0000			Rs -	Rs -
0000			Rs -	Rs -
0000			Rs -	Rs -
0000			Rs -	Rs -
0000			Rs -	Rs -
			Total	Rs -
			G.S.T	12.5%
			G.S.T Value	Rs -
			Grand Total	Rs -

Save

Print

Clear

To Main Menu

A filled invoice

VEEYEN MILLS				
INVOICE				
INVOICE NUMBER		7	Date	Time
			25-Mar-2000	3:55:05 PM
Item Code	Description	Quantity	Unit Price	Total Price
0001	1 Tin of Gingelly Oil	1	Rs 2,800.00	Rs 2,800.00
0002	1 Tin of Mee Oil	1	Rs 2,000.00	Rs 2,000.00
0003	1 Tin of Caster Oil	1	Rs 3,000.00	Rs 3,000.00
0004	1 Tin of Margos Oil	1	Rs 2,750.00	Rs 2,750.00
0005	1 Tin of Cocount Oil	1	Rs 625.00	Rs 625.00
0006	1 Bottle of Gingelly Oil	1	Rs 130.00	Rs 130.00
0007	1 Bottle of Mee Oil	1	Rs 90.00	Rs 90.00
0008	1 Bottle of Caster Oil	1	Rs 140.00	Rs 140.00
0009	1 Bottle of Margos Oil	1	Rs 125.00	Rs 125.00
0010	1 Bottle of Coconut Oil	1	Rs 28.00	Rs 28.00
0011	1 Kg of Gingelly Oil	1	Rs 185.00	Rs 185.00
0012	1 Kg of Mee Oil	1	Rs 130.00	Rs 130.00
0013	1 Kg of Caster Oil	1	Rs 200.00	Rs 200.00
0014	1 Kg of Margos Oil	1	Rs 180.00	Rs 180.00
0015	1 Kg of Cocount Oil	1	Rs 42.00	Rs 42.00
0016	1 Kg of Orrid Flour	1	Rs 75.00	Rs 75.00
0017	1 Kg of Kurakan Flour	1	Rs 40.00	Rs 40.00
0018	1 Kg of Rice Flour	1	Rs 45.00	Rs 45.00
			Total	Rs 12,585.00
			G.S.T	12.5%
			G.S.T Value	Rs 1,573.13
			Grand Total	Rs 14,158.13

Save

Print

Clear

To Main Menu

This has real time processing. They are the date and the time.

When you click **SAVE**, it automatically saves the data to the backup.

When you click **PRINT**, it automatically prints the invoice.

When you click **CLEAR**, it automatically clears the invoice for a different customer.

When you click **TO MAIN MENU**, it automatically goes to the main menu.

CODING SECTION

Item Code	Description	Unit Price				
0000		Rs -				
0001	1 Tin of Gingelly Oil	Rs 2,800.00				
0002	1 Tin of Mee Oil	Rs 2,000.00				
0003	1 Tin of Caster Oil	Rs 3,000.00				
0004	1 Tin of Margos Oil	Rs 2,750.00				
0005	1 Tin of Cocount Oil	Rs 625.00				
0006	1 Bottle of Gingelly Oil	Rs 130.00				
0007	1 Bottle of Mee Oil	Rs 90.00				
0008	1 Bottle of Caster Oil	Rs 140.00				
0009	1 Bottle of Margos Oil	Rs 125.00				
0010	1 Bottle of Coconut Oil	Rs 28.00				
0011	1 Kg of Gingelly Oil	Rs 185.00				
0012	1 Kg of Mee Oil	Rs 130.00				
0013	1 Kg of Caster Oil	Rs 200.00				
0014	1 Kg of Margos Oil	Rs 180.00				
0015	1 Kg of Cocount Oil	Rs 42.00				
0016	1 Kg of Orrid Flour	Rs 75.00				
0017	1 Kg of Kurakan Flour	Rs 40.00				
0018	1 Kg of Rice Flour	Rs 45.00				
0019	1 Bag of Orrid Flour	Rs 5,000.00				
0020	1 Bag of Kurakan Flour	Rs 2,680.00				
0021	1 Bag of Rice Flour	Rs 3,015.00				
0022	50 Kg of Poonac	Rs 300.00				
0023	50 Kg of Husk	Rs 325.00				

To Main Menu

In the coding section you have to enter the **CODE**, the **NAME** and the **UNIT PRICE**.

When you click **TO MAIN MENU**, it automatically goes to the main menu.

Backup section

Invoice No	Date	Total Amount				
7	March 25, 2000	Rs 14,158.13				
6	March 24, 2000	Rs 8,732.25				
5	March 24, 2000	Rs 72,537.75				
4	March 23, 2000	Rs 40,531.50				
3	March 23, 2000	Rs 62,859.38				
2	March 22, 2000	Rs 13,149.00				
1	March 22, 2000	Rs 14,158.13				

To Main Menu

In the backup section you can give the backup information in easier ways. This is done by using the function called

SUBTOTALS.

The backup information shown below is subtotaled according to the date and with the invoice number.

Invoice No	Date	Total Amount				
7	March 25, 2000	Rs 14,158.13				
6	March 24, 2000	Rs 8,732.25				
5	March 24, 2000	Rs 72,537.75				
	March 24, 2000 Total	Rs 81,270.00				
4	March 23, 2000	Rs 40,531.50				
3	March 23, 2000	Rs 62,859.38				
	March 23, 2000 Total	Rs 103,390.88				
2	March 22, 2000	Rs 13,149.00				
1	March 22, 2000	Rs 14,158.13				
	March 22, 2000 Total	Rs 27,307.13				
	Grand Total	Rs 211,968.00				

To Main Menu

The backup information shown below is subtotaled according to the date, without the invoice numbers expect for the current day and it doesn't show the total of the current day.

Invoice No	Date	Total Amount				
7	March 25, 2000	Rs 14,158.13				
	March 24, 2000 Total	Rs 81,270.00	<i>To Main Menu</i>			
	March 23, 2000 Total	Rs 103,390.88				
	March 22, 2000 Total	Rs 27,307.13				
	Grand Total	Rs 211,968.00				

The backup information shown below is subtotaled with the grand total and only with the current day invoice.

Invoice No	Date	Total Amount				
7	March 25, 2000	Rs 14,158.13				
	Grand Total	Rs 211,968.00	<i>To Main Menu</i>			

The backup information shown below is subtotaled according to the date.

Date	Total Amount				
March 25, 2000	Rs 14,158.13				
March 24, 2000 Total	Rs 81,270.00	To Main Menu			
March 23, 2000 Total	Rs 103,390.88				
March 22, 2000 Total	Rs 27,307.13				
Grand Total	Rs 211,968.00				

FUNCTIONS USED

Vertical Lookup Function

The shorten form of this function is VLOOKUP. This function is very useful in invoicing. It is because VLOOKUP function's purpose is to refer data and display it on the same sheet or in another sheet but not in another workbook. You have to enter 3 values to make this function work. They are:

- 1) Lookup Value
- 2) Table Array
- 3) Column Index Number

Lookup Value

Lookup value is the value to be found in the first column of the table, and can be a value, a reference, or a text string.

Table Array

Table array is a table of text, numbers, or logical value, in which data is retrieved. Table array can be a reference to a range or a range name.

Column Index Number

Column index number is the column number of the table array from which the matching values should be returned. The first column of values in the table is column1.

Here is an idea of the VLOOKUP function when entering the values for the function.

VLOOKUP

Lookup_value: a8 = "0001"

Table_array: codes = {"0001", "1 Tin of Gin

Col_index_num: 1 = 1

Range_lookup: = logical

Searches for a value in the leftmost column of a table, and then returns a value in the same row from a column you specify. By default, the table must be sorted in an ascending order.

Lookup_value is the value to be found in the first column of the table, and can be a value, a reference, or a text string.

Formula result = Rs 141,582.25

OK Cancel

Now Function

I have done the **DATE** and the **TIME** in real time processing that is using NOW function. This real time processing is very useful in my invoicing system because you need not spent time to enter the date and time.

The command given is **=NOW()**.

Macros

I have used macros to print invoice, to clear invoice, to save the relevant details and to go and to return to main menu from backup section, coding section and invoice section.

The Marco To Print Invoice

Sub Copy()

Range("A1:E28").Select

ActiveWindow.SelectedSheets.PrintOut Copies:=1

ActiveWindow.LargeScroll Down:=-1

ActiveWindow.ScrollRow = 3

Range("C4").Select

End Sub

The Marco To Clear Invoice

Sub Clear()

Range("C4,A8:A24,C8:C25").Select

Range("C8").Activate

Selection.ClearContents

ActiveWindow.ScrollRow = 1

Range("A8").Select

ActiveCell.FormulaR1C1 = "0000"

Range("A9").Select

ActiveCell.FormulaR1C1 = "0000"

Range("A10").Select

ActiveCell.FormulaR1C1 = "0000"

Range("A8:A10").Select

Selection.AutoFill Destination:=Range("A8:A24"), Type:=xlFillDefault

Range("A8:A24").Select

Selection.AutoFill Destination:=Range("A8:A25"), Type:=xlFillDefault

Range("A8:A25").Select

ActiveWindow.ScrollRow = 1

```
Range("C4").Select  
End Sub
```

The Marco To Save Related Details

```
Sub save()  
    Range("C4").Select  
    Selection.Copy  
    Sheets("Backup").Select  
    Range("A2").Select  
    ActiveSheet.Paste  
    ActiveCell.Offset(0, 1).Range("A1").Select  
    Sheets("Invoice").Select  
    Range("D5").Select  
    Application.CutCopyMode = False  
    Selection.Copy  
    Sheets("Backup").Select  
    Selection.PasteSpecial Paste:=xlValues, Operation:=xlNone,  
SkipBlanks:= _  
        False, Transpose:=False  
    Application.CutCopyMode = False  
    Selection.NumberFormat = "mmmm d, yyyy"  
    With Selection  
        .HorizontalAlignment = xlRight  
        .VerticalAlignment = xlBottom  
        .WrapText = False  
        .Orientation = 0  
        .AddIndent = False  
        .ShrinkToFit = False  
        .MergeCells = False  
    End With  
    ActiveCell.Offset(0, 1).Range("A1").Select  
    Sheets("Invoice").Select
```

```

ActiveWindow.ScrollRow = 11
Range("E30").Select
Selection.Copy
Sheets("Backup").Select
Selection.PasteSpecial Paste:=xlValues, Operation:=xlNone,
SkipBlanks:= _
    False, Transpose:=False
Application.CutCopyMode = False
Selection.NumberFormat = " _($* #,##0.00_);_($* (#,##0.00);_($* ""-
""??_);_(@_)"
ActiveCell.Offset(0, -2).Range("A1").Select
Selection.EntireRow.Insert
ActiveCell.Range("A1:C4").Select
Selection.Borders(xlDiagonalDown).LineStyle = xlNone
Selection.Borders(xlDiagonalUp).LineStyle = xlNone
With Selection.Borders(xlEdgeLeft)
    .LineStyle = xlContinuous
    .Weight = xlThin
    .ColorIndex = xlAutomatic
End With
With Selection.Borders(xlEdgeTop)
    .LineStyle = xlContinuous
    .Weight = xlThin
    .ColorIndex = xlAutomatic
End With
With Selection.Borders(xlEdgeBottom)
    .LineStyle = xlContinuous
    .Weight = xlThin
    .ColorIndex = xlAutomatic
End With
With Selection.Borders(xlEdgeRight)

```

```

        .LineStyle = xlContinuous
        .Weight = xlThin
        .ColorIndex = xlAutomatic
    End With
    With Selection.Borders(xlInsideVertical)
        .LineStyle = xlContinuous
        .Weight = xlThin
        .ColorIndex = xlAutomatic
    End With
    With Selection.Borders(xlInsideHorizontal)
        .LineStyle = xlContinuous
        .Weight = xlThin
        .ColorIndex = xlAutomatic
    End With
    ActiveCell.Select
End Sub

```

The Marco To Go To Invoice

```

Sub viewInvoice()
    Sheets("Invoice").Select
End Sub

```

The Marco To Go To Codes Section

```

Sub viewcodes()
    Sheets("codes").Select
End Sub

```

The Marco To Go To Backup Section

```

Sub viewbackup()
    Sheets("Backup").Select
End Sub

```

The Marco To Return To Main Menu From The Invoice

```
Sub intomm()  
    Sheets("Main Menu").Select  
End Sub
```

The Marco To Return To Main Menu From The Codes Section

```
Sub cotomm()  
    Sheets("Main Menu").Select  
End Sub
```

The Marco To Main Menu Form The Backup Section

```
Sub butomm()  
    Sheets("Main Menu").Select  
End Sub
```

EVALUATION OF MAN/MACHINE INTERFACE

This system is 100% efficiency, easy and helps any user who has a little knowledge on computer or to the ones who don't have any thing at all. I say it because I have created a main menu which guides the user to go to the invoice, to the codes section and to the backup section. This is done by macros. Hence this saves time when doing the billing system on a computer using excel other than writing on bill books and accounts books