

**AS ICT Coursework Project**  
**ICT3**

**Job Applications -**  
**Enricé's Tapas Bar**

**By**

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## **Specification**

### **Introduction**

Enricé is the manager of Enricé's Tapas Bar. The local business is successful. The staff turnover per annum in his business is high because Enricé does not pay very high wages.

### **Current system in detail**

If anyone is interested about getting a job at of Enricé's Tapas Bar are given an application form. The applicants either fill in the paper copy, or enter their details on the office computer. The applications are sorted by job application and then sorted by application date. Then these are stored in a filing cabinet. When a vacancy becomes available, he gets the most recent applications and writes a letter to them, depending on the job type. Successful applicants are sent a letter stating start date and time. Unsuccessful applicants are sent a letter, thanking them for interest in the job they have applied for. This process is time consuming and inefficient.

### **Statement of problem**

I need to set up a system for Enricé's Tapas Bar which deals with application forms filled in by anyone who is interested for Enricé's Tapas Bar. This means that for Enricé can deal with applicants more quickly by selecting from a dropdown menu the job they require, entering their details and mail merging the appropriate letter.

### **User requirements**

The following tasks are to be completed in order to make the system work:

- For convenience, create website so applicants can enter their details and submit them to Enricé via the Internet.
- Create a dropdown menu for Enricé to select a job from a list.
- Enter applicant's details onto a database.
- Validate and verify data entered onto the database.
- Type up a letter, one for successful applicants and one for unsuccessful applicants, thanking them for their interest. Two more letters are needed, one for unsuccessful applicants after the interview and one for unsuccessful applicants after the interview, but they will be contacted at a later date.
- Mail merge applicant's details onto the letter (start dates, etc). The mail merged letter has to be saved automatically.
- The database must be able to calculate weekly wages from the number of hours applicants like to work and the hourly rate of pay.
- Provide interview times, with notes.
- Use macros to save letters to an archive folder.
- Modify tool bars.
- The system needs to be robust by password protection, save back up copies onto a stand-alone computer and functions restricted by macros.

## Users IT skill level

The system must be simple to use, but they must have sufficient knowledge of language to be able to input data correctly.

## Input

The following types of data need to be entered onto the database:

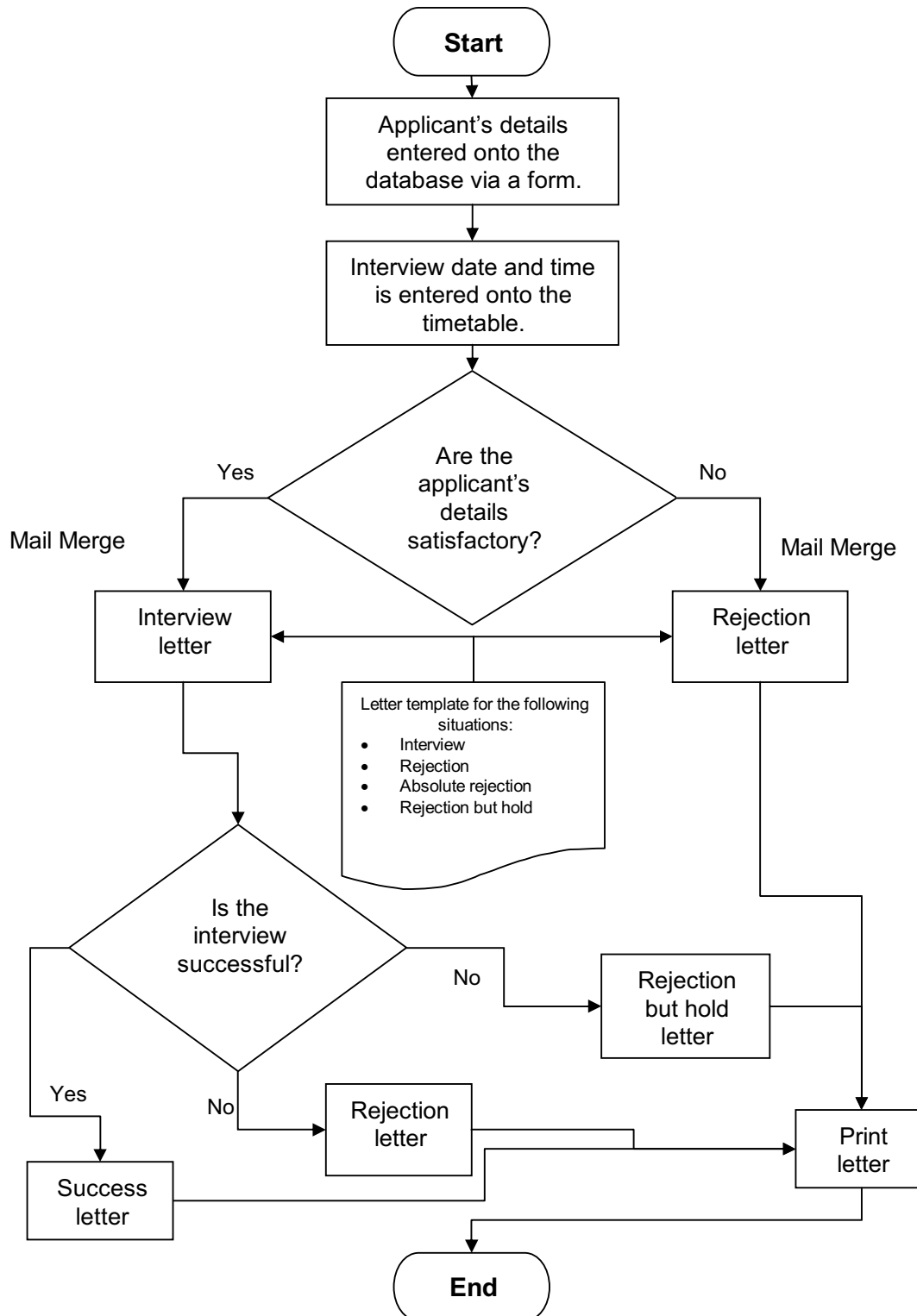
Field Name	Type of Data	Validation	Example
Title	Text	Dropdown list	Mr, Mrs, etc.
First Name	Text	N/A	John
Surname	Text	N/A	Bob
Address 1	Alphanumeric	N/A	50 Marlborough Gardens
Address 2	Text	N/A	Hedge End
Address 3	Text	N/A	Southampton
Postcode	Alphanumeric	Check if there are 7 characters in a form of TTNN NTT.	SO30 4HY
Phone Number Home	Numeric	11 digits in a form of 0NN NNNNNNNN or 0NNNN NNNNNN	02380 795139 or 01489 795139
Phone Number Work or Mobile	Numeric	11 digits in a form of 0NN NNNNNNNN or 0NNNN NNNNNN	02380 795139 or 01489 795139
Age	Numeric	2 digits in a form of NN.	18
Date of Birth	Numeric	DD/MM/YYYY, from 1/1/37 to 1/1/89.	12/11/86
National Insurance Number	Alphanumeric	TT NN NN NN T	KJ 23 15 46 Y
Post Applied	Text	Dropdown list	Master Chef
Previous Jobs	Alphanumeric	N/A	Shelf stacker, etc.
GCSE Qualifications 1	Text	N/A	Maths B
GCSE Qualifications 2	Text	N/A	Double Science AA
GCSE Qualifications 3	Text	N/A	Maths B
GCSE Qualifications 4	Text	N/A	Double Science AA
GCSE Qualifications 5	Text	N/A	English Language A
GCSE Qualifications 6	Text	N/A	PE C
GCSE Qualifications 7	Text	N/A	Maths B
GCSE Qualifications 8	Text	N/A	Double Science AA
GCSE Qualifications 9	Text	N/A	English Language A
GCSE Qualifications 10	Text	N/A	PE C
GCSE Qualifications 11	Text	N/A	Maths B
GCSE Qualifications 12	Text	N/A	Double Science AA

GCSE Qualifications 13	Text	N/A	English Language A
A Level or equivalent Qualifications 1	Text	N/A	PE C
A Level or equivalent Qualifications 2	Text	N/A	Graphics A
A Level or equivalent Qualifications 3	Text	N/A	Information Technology A
A Level or equivalent Qualifications 4	Text	N/A	Graphics A
A Level or equivalent Qualifications 5	Text	N/A	Information Technology A
A Level or equivalent Qualifications 6	Text	N/A	PE C
Degree or equivalent Qualifications	Text	N/A	Maths 1
Higher Degree or equivalent Qualifications	Text	N/A	PE 2:2
Qualifications 1	Text	N/A	Maths B
Qualifications 2	Text	N/A	Graphics A
Qualifications 3	Text	N/A	Information Technology A*
Job Applied	Text	Dropdown list	Chef, etc.
Date of Application	Date/Time	DD/MM/YYYY, from today.	28/11/2002
Interview	Boolean	Yes/No	Yes
Date of Interview	Date/Time	DD/MM/YYYY, from today.	28/11/2002
Offer Job	Boolean	Yes/No	Yes
Start Date	Date/Time	DD/MM/YYYY, from today.	28/11/2002
Start Time	Date/Time	DD/MM/YYYY, from today.	28/11/2002
Working Hours per Week	Date/Time	N/A	20 hours
Hourly Wage	Currency	£NNN.NN form.	£8.50

The details listed above are needed because when the application form is completed, Enricé will need to contact them by phone to arrange a job interview at a certain date and time, send letters, depending if they are successful. He then asks them when they are working on certain days per week, know how many wages they earn hourly and weekly and National Insurance number to confirm that each person is unique. Qualifications are required to a minimum of GCSE standard because they will need to communicate to customers well, for example, depending on which post is applied for. The details also identify who they really are.

## Processing

The following processes are needed in order to make the whole system work:



## **Output**

The system should select one of the applicants and mail merge their details onto the letter by using a data source stored onto a database in MS Access and a prepared letter, with specific fields inserted into the letter. The following letters are sent to the applicants, depending on how successful they were on each stage of the application process:

- Interview letter
- Absolute success letter
- Absolute rejection letter
- Rejection letter, but applicants will be contacted at a later date.

The mail merged letters will be printed. These tasks will be carried out by macros, which they must perform a variety of tasks:

- Selecting data from one of the applicants by using parameter query.
- Mail merge the data selected.
- Print the mail-merged letter.

The system should be also to print sheets of paper, so the interviewer can write notes about the applicant. Application forms must be printed because the applicant can fill in the form their details for application purposes.

On screen in every file in the system, the interface should be the same as possible. The toolbars will be at the bottom of the screen and they will include names of function and pictures on buttons, to make the system simple to use.

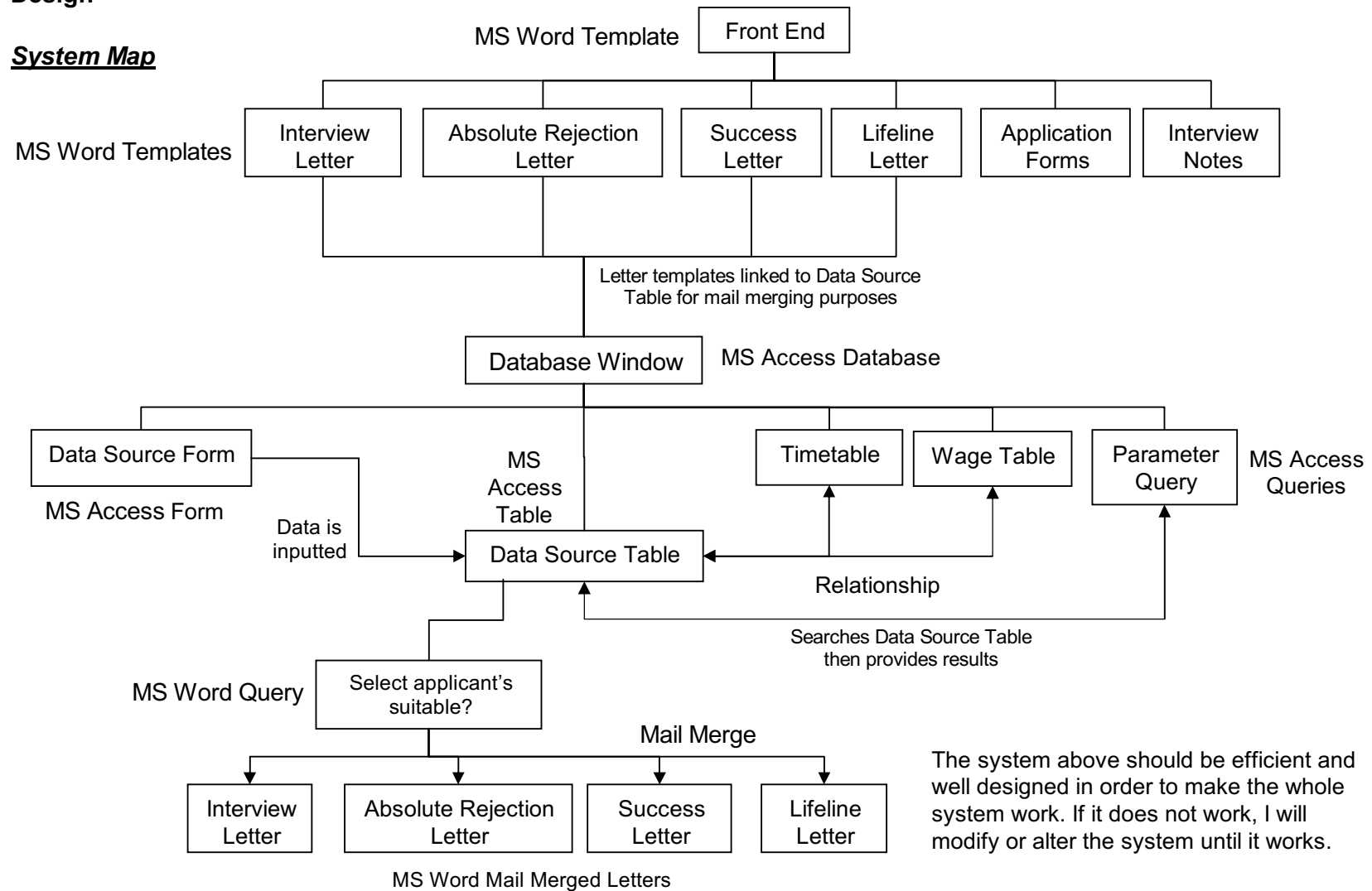
## **Software Selection**

I will use MS Word because I can type up letters and mail merge data onto the letter, depending on successful the applicants are. Insert merge fields, auto text, change the colour, style and size of the font, password protect my documents and modify and create toolbars and functions. Execute macros to perform tasks, I have recorded, very quickly, create website to let applicants to enter their details in their own time and draw tables and hide them, which can be used to set the layout of the top half of the letters.

I will also use MS Access because it is easier to view all data entered onto the database and use unique field to link tables. If there is more than one, input data more efficiently by using a form, set up table by designing them, and validate data by using complex functions, calculations can be performed, set fields which are required and modify and create toolbars and functions. I can also password protect documents, as stated above. I did not choose MS Word because I cannot validate data, link tables via relationships and perform calculations.

## Design

### System Map





The whole system works by each of the letter templates linked to the data source, in order to mail merge applicants' details onto the letter. Then the letter is printed and then saved as a new document in an archive folder .

The interview timetable and wage information can be obtained easily and conveniently because the Interview timetable and the Wage table are linked to the Data Source table as relationships. The parameter query searches data associated with a particular job position. Then the results are shown after a job positioned has been entered into the search box.

Finally, the application form, interview notes and letter templates are opened from the front end. These tasks are operated by macros. When each of the letter templates is opened, the data source opens as well.

### **Table design**

Field	Data type	Length	Required (Y or N)	Default value	Validation	Input Mask
Title	Text	50	Y	N/A	Dropdown list	N/A
First Name	Text	100	Y	N/A	N/A	N/A
Surname	Text	100	Y	N/A	N/A	N/A
Address 1	Text	255	Y	N/A	N/A	N/A
Address 2	Text	255	Y	N/A	N/A	N/A
Address 3	Text	255	Y	N/A	N/A	N/A
Postcode	Text	8	Y	N/A	N/A	#### ##
Phone Number Home	Text	12	Y	N/A	N/A	(#####) #####
Phone Number Work or Mobile	Text	12	N	N/A	N/A	N/A
Age	Numeric	N/A	Y	N/A	>=18 And <=65	N/A
Date of Birth	Numeric	N/A	Y	N/A	>= 1/1/1938 And 1/1/1985	###/###/####
National Insurance Number	Text	50	Y	N/A	N/A	## ## ## ## #
Post Applied	Text	50	Y	N/A	Dropdown list	N/A
Previous Jobs	Text	255	N	N/A	N/A	N/A
GCSE Qualifications 1	Text	100	Y	N/A	N/A	N/A
GCSE Qualifications 2	Text	100	Y	N/A	N/A	N/A
GCSE Qualifications 3	Text	100	Y	N/A	N/A	N/A
GCSE Qualifications 4	Text	100	Y	N/A	N/A	N/A
GCSE Qualifications 5	Text	100	Y	N/A	N/A	N/A
GCSE Qualifications 6	Text	100	Y	N/A	N/A	N/A
GCSE Qualifications 7	Text	100	N	N/A	N/A	N/A
GCSE Qualifications 8	Text	100	N	N/A	N/A	N/A
GCSE Qualifications 9	Text	100	N	N/A	N/A	N/A
GCSE Qualifications 10	Text	100	N	N/A	N/A	N/A
GCSE Qualifications 11	Text	100	N	N/A	N/A	N/A

GCSE Qualifications 12	Text	100	N	N/A	N/A	N/A
GCSE Qualifications 13	Text	100	N	N/A	N/A	N/A
A Level or equivalent Qualifications 1	Text	100	N	N/A	N/A	N/A
A Level or equivalent Qualifications 2	Text	100	N	N/A	N/A	N/A
A Level or equivalent Qualifications 3	Text	100	N	N/A	N/A	N/A
A Level or equivalent Qualifications 4	Text	100	N	N/A	N/A	N/A
A Level or equivalent Qualifications 5	Text	100	N	N/A	N/A	N/A
A Level or equivalent Qualifications 6	Text	100	N	N/A	N/A	N/A
Degree or equivalent Qualifications	Text	100	N	N/A	N/A	N/A
Higher Degree or equivalent Qualifications	Text	100	N	N/A	N/A	N/A
Qualifications 1	Text	100	N	N/A	N/A	N/A
Qualifications 2	Text	100	N	N/A	N/A	N/A
Qualifications 3	Text	100	N	N/A	N/A	N/A
Job Applied	Text	50	Y	N/A	Dropdown list	N/A
Date of Application	Date/Time	N/A	Y	N/A	>=#01/01/2001# And <=Now()	###/###/####
Interview	Boolean	N/A	Y	N/A	Dropdown list	N/A
Date of Interview	Date/Time	N/A	N	N/A	>=#01/01/2001# And <=#01/01/2030	###/###/####
Offer Job	Boolean	N/A	N	N/A	Dropdown list	N/A
Start Date	Date/Time	N/A	N	N/A	>=#01/01/2001# And <=#01/01/2030	###/###/####
Start Time	Date/Time	N/A	N	N/A	N/A	##.##

Working Hours per Week	Number	N/A	N	0	(>=4 And <=40) Or Is Null	N/A
Hourly Wage	Currency	N/A	N	0	(>=3.9) Or Is Null	N/A

### **Timetable Design**

Field	Data type	Length	Required (Y or N)	Default value	Validation	Input Mask
Title	Text	50	Y	N/A	Dropdown list	N/A
First Name	Text	100	Y	N/A	N/A	N/A
Surname	Text	100	Y	N/A	N/A	N/A
Post Applied	Text	50	Y	N/A	Dropdown list	N/A
National Insurance Number	Text	50	Y	N/A	N/A	## ## ## ## #
Interview	Boolean	N/A	Y	N/A	Dropdown list	N/A
Date of Interview	Date/Time	N/A	N	N/A	>=#01/01/2001# And <=#01/01/2030	###/###/####

### **Total Wage Table Design**

Field	Data type	Length	Required (Y or N)	Default value	Validation	Input Mask
Title	Text	50	Y	N/A	Dropdown list	N/A
First Name	Text	100	Y	N/A	N/A	N/A
Surname	Text	100	Y	N/A	N/A	N/A
Post Applied	Text	50	Y	N/A	Dropdown list	N/A
National Insurance Number	Text	50	Y	N/A	N/A	## ## ## ## #
Hourly Wage	Currency	N/A	N	0	(>=3.9) Or Is Null	N/A
Working Hours per Week	Number	N/A	N	0	(>=4 And <=40) Or Is Null	N/A
Total	Currency	N/A	N	0	N/A	N/A

### **Letter design**

Hand drawn plans of the letters, as stated in 'Output', are on separate pieces of paper. The data source is a database stored in MS Access, which I can select certain parts of the applicant's data and mail merge it onto the following letters:

- Interview
- Success
- Rejection
- Rejection but hold

In order to mail merge certain bits of data successfully on each of the letters above, the following letters:

#### **On all of the letters**

- Title
- First
- Last
- Address 1
- Address 2
- Address 3
- Post Code
- Post Applied

#### **Interview**

- Date of Interview

#### **Success**

- Working Hours per Week
- Hourly Wage
- Start date
- Start time

The system must select certain applicants by using parameter query. The query must be simple to use, but the user must have sufficient spelling skills. This is because the search can only show records of certain applicants with certain jobs applied if the spelling of the job title is correct.

The toolbar design should be simple to use. The toolbar will have the following functions:

- Parameter query
- Mail merge to new document
- Save new document as
- Print mail merged document

These functions will be used because the user can still do the mail -merging, save and printing tasks without the system being modified or altered unauthorised. Only Enricé is allowed to alter or modify the system.

On the envelopes, provided with each letter template, the sender's address is positioned on the top left underneath 'If unde livered, please return to'. The recipient's address is positioned in the middle of the envelope. Since the envelope is a template, the recipient's address consists of mail merge fields.

### **Menu design**

The menu design will consist of restricted normal functions, by using password protection. The users can only use the following functions provided:

#### **Letter Templates**

- Assistant Chef
- Master Chef
- Bar Staff
- Bouncer
- Washer-up
- Cleaner
- Waiter(ess)
- View Data
- Previous Record
- Go to Record
- Next Record
- Mail Merge and Print

#### **Welcome to Enricé's Tapas Bar**

- Interview Letter
- Success Letter
- Rejection Letter
- Lifeline Letter
- Job Application Form
- Interview Notes

#### **Enricé's Tapas Bar Application Form**

- Print Form

#### **Enricé's Tapas Bar Interview Notes**

- Print Interview Notes

## Macro design

Job Position macros:

- Assistant Chef
- Master Chef
- Bar Staff
- Bouncer
- Washer-up
- Cleaner
- Waiter(ess)

Job Position macro	
Procedure	Description
1	Find record containing 'Assistant Chef', for example, under 'Post_Applied'
2	Mail merge letter to new document
3	Mail merged letter as new document as 'Form Letters'.

They all have the same function procedures. These macros must be able to mail merge individual records, even though more than one person as applied for the same job position. This is crucial if Enricé wants to send letters to individuals who applied for the same job position.

Automation macros, in each of the letter templates, job application form template and front end file:

- Interview letter
- Success Letter
- Rejection Letter
- Lifeline Letter
- 'Welcome to Enricé's Tapas Bar'
- Enricé's Tapas Bar Application Form

Automation macro	
Procedure	Description
1	Message box appears, confirming the file has opened
2	Closes all toolbars automatically
3	Message box appears, confirming that the file has opened.

This is because Enricé wants to restrict all functions except the ones provided. This means that the user cannot use other functions to alter and/or modify the files, except Enricé, as he has the authority to do so.

Open file macros in 'Welcome to Enricé's Tapas Bar':

- Interview letter
- Success Letter
- Rejection Letter
- Lifeline Letter
- Application Form

Open file macro	
Procedure	Description
1	Goes to 'File' then 'Open'
2	Selects H: drive, 'My Work' then 'Course Work'
3	Opens file

These macros can open the letter templates quickly without going to 'File', clicking 'Open', selecting the appropriate folder and then the file. This means that the user can use the job application system more efficiently.

Mail merge macro:

This macro makes the system work more efficiently by reducing the procedures the user has to go through. This reduces the probability of making a mistake, which is time consuming to correct.

Mail merge macro	
Procedure	Description
1	Mail merges active record
2	Prints the mail merged letter as new document
3	Message box appears, confirming that the letter has printed out.
4	'Save As' box appears.
5	Message box appears, confirming that the letter has been saved.

Query set macro

- Assistant Chef
- Master Chef
- Bar Staff
- Bouncer
- Washer-up
- Cleaner
- Waiter(ess)

Query set macro (Job Position macros – redesigned)	
Procedure	Description
1	Sets query option to 'bouncer', for example
2	Message box appears, confirming that the query is set for that job position
3	If an error occurs, the message box appears, confirming that the job position contains no records

This is because if there are limitations of 'Job Position' macro, this macro can limit the search of a job post to a number of applicants who have applied for that job. This is because the user can search the applicant more easily as the query narrows the search of an applicant.

Previous/Next record macro:

After the user has mail merged a record, the next record can be selected by using these macros. Aided with 'Show Fields and Values', the user can check if the current record has already mail merged already.

Previous/Next record macro	
Procedure	Description
1	Goes to previous/next record
2	If an error occurs, the message box appears, confirming that the job position has no records or the user cannot go to previous record

Show Fields and Values macro:

The user can view in advance the mail merged record before mail merging the record for real. This is because they can check if the current record has already been mail merged.

Show Fields and Values macro	
Procedure	Description
1	Toggles the viewing of mail merge codes
2	If an error occurs, the message box appears, confirming that the job position has no records



Print Form/Interview Notes macro:

The user can print application forms/interview notes quickly and conveniently when needed. This saves the users time and effort, reducing stress for them.

Print Form/Interview Notes macro	
Procedure	Description
1	Prints application form/interview notes.
2	Message box appears, confirming that 5 copies of application form/interview notes is printing

All designs are on separate sheets.

### Test Plan

Test No	What is being tested?	How is it being tested?	Expected outcome	Actual outcome	Corrective action	Print-out reference

These headings above will be used because I need to know the expected and actual outcome of the tests I conduct, so I can correct anything, if necessary. I will know how many tests I did before I solve any problems I will come across, know what factor I am currently testing and know how I conducted each of the tests. I will also know if I have met the user requirements.

### Example

Test No	What is being tested?	How is it being tested?	Expected outcome	Actual outcome	Corrective action	Print-out reference
1	Validation of Date of Birth	Typing in 20/08/1970	Data is accepted	Data is not accepted. Data has to be Null as well as a date.	Change validation rule from ( $\geq$ 1/1/1938 And $\leq$ 1/1/1985) And Is Null to $\geq$ 01/01/38 And $\leq$ 01/01/85	On separate piece(s) of paper

The following features will be tested:

- Macros:
  - In letter, job application form and front end templates:
    - Automation:
      - AutoOpen
      - AutoClose
  - In letter templates
    - Query set (Selecting Job Position):
      - Assistant Chef
      - Master Chef
      - Bar Staff
      - Bouncer
      - Washer-up
      - Cleaner
      - Waiter(ess)
    - Mail merge
    - Previous record
    - Next record

- Show Fields and Values
- In Enricé's Tapas Bar - Application Form
  - Print Form
- In Enricé's Tapas Bar – Interview Notes
  - Interview Notes
- In Welcome to Enricé's Tapas Bar (Front End)
  - Interview Letter
  - Absolute Success Letter
  - Absolute Rejection Letter
  - Lifeline Letter
  - Job Application Form
  - Interview Notes
- In Enricé's Tapas Bar Database
  - Autoexec
  - Data Source
  - Enricé's Tapas Bar Parameter Query
  - Enricé's Tapas Bar Timetable
  - Enricé's Tapas Bar Total Wage
  - Data Source Form
  - Save Record (In Data Source Form only)
- Validation of the following fields:
  - Title
  - Date of Birth
  - Age
  - Post Applied
  - Date of Application
  - Interview
  - Date of Interview
  - Offer Job
  - Start Date
  - Working Hours per Week
  - Hourly Wage
- Format of the following fields:
  - Post Code
  - Phone Number Home
  - Phone Number Work or Mobile
  - Date of Birth
  - Age
  - National Insurance Number
  - Date of Application
  - Date of Interview
  - Start Date
  - Start Time
  - Working Hours per Week
  - Hourly Wage
- Input mask for the following fields:
  - Post Code
  - Phone Number Home
  - Phone Number Work or Mobile
  - Date of Birth
  - National Insurance Number

- Date of Application
- Date of Interview
- Start Date
- Start Time
- Password protection in the following files:
  - Enricé's Tapas Bar - Interview letter
  - Enricé's Tapas Bar - Success Letter
  - Enricé's Tapas Bar - Rejection Letter
  - Enricé's Tapas Bar - Lifeline Letter
  - Enricé's Tapas Bar - Application Form
  - Enricé's Tapas Bar – Interview Notes
  - 'Welcome to Enricé's Tapas Bar' (Front End)

The macros will be tested, by creating the macro then executing them. Then record the result of the outcome and compare them to the expected outcome. If necessary, correct the macros by changing the codes.

The validations will be tested, by typing up the validation rule then type in test data to see if the validation rule works. The result will be recorded and compared to the expected outcome. If necessary, correct the validation rules by changing the symbols and characters.

The formats will be tested, by typing up the format code then type in test data to see if it works. The result will be recorded and compared to the expected outcome. If necessary, correct the format codes by changing the characters.

The input masks will be tested, by typing up the input mask then type in test data to see if it works. The result will be recorded and compared to the expected outcome. If necessary, correct the input mask by changing the characters.

Password protection features will be tested, by typing in a password to protect the file. Then the results will be recorded and compared to the expected outcome. If necessary, change the method of password protection for certain files, which certain macros may not work if the file is fully protected.

## Implementation

I have included the following features in the system in order to make it robust as possible:

- Validation for the following fields in data source and form:
  - Title
  - Date of Birth
  - Age
  - Post Applied
  - Date of Application
  - Interview
  - Date of Interview
  - Offer Job
  - Start Date
  - Working Hours per Week
  - Hourly Wage
- Format of the following fields:
  - Post Code
  - Phone Number Home
  - Phone Number Work or Mobile
  - Date of Birth
  - Age
  - National Insurance Number
  - Date of Application
  - Date of Interview
  - Start Date
  - Start Time
  - Working Hours per Week
  - Hourly Wage
- Input mask for the following fields:
  - Post Code
  - Phone Number Home
  - Phone Number Work or Mobile
  - Date of Birth
  - National Insurance Number
  - Date of Application
  - Date of Interview
  - Start Date
  - Start Time
- Password protection in the following files:
  - Enricé's Tapas Bar - Interview letter
  - Enricé's Tapas Bar - Success Letter
  - Enricé's Tapas Bar - Rejection Letter
  - Enricé's Tapas Bar - Lifeline Letter
  - Enricé's Tapas Bar - Application Form
  - Enricé's Tapas Bar – Interview Notes
  - 'Welcome to Enricé's Tapas Bar' (Front End)

- Macros:
  - In letter, job application form and front end templates:
    - Automation:
      - AutoOpen
      - AutoClose
    - Query set (Selecting Job Position):
      - Assistant Chef
      - Master Chef
      - Bar Staff
      - Bouncer
      - Washer-up
      - Cleaner
      - Waiter(ess)
    - Mail merge
    - Previous record
    - Next record
    - Show Fields and Values
    - Print Form/Interview Notes (In Enricé's Tapas Bar - Application Form and Interview Notes Only)
    - Open Files:
      - Interview Letter
      - Absolute Success Letter
      - Absolute Rejection Letter
      - Lifeline Letter
      - Job Application Form
      - Interview Notes
  - In Enricé's Tapas Bar Database
    - Autoexec
    - Data Source
    - Enricé's Tapas Bar Parameter Query
    - Enricé's Tapas Bar Timetable
    - Enricé's Tapas Bar Total Wage
    - Data Source Form
    - Save Record (In Data Source Form only)
- Calculating total wage in MS Access in Total field (only in Enricé's Tapas Bar Total Wage query)

These features are included because in order for the system to be robust, users cannot delete, alter or modify data, letter templates and job application form templates, as these are password protected. Only Enricé has the authority to perform any changes of the system. They cannot input the wrong type of data into the wrong fields in the data source and the input masks help the users to enter the right type of data into the right field. They can only use the functions I have provided above, from query set to print form macros. The macros above will perform tasks quickly and conveniently.

The details of how these advanced features are on separate sheets.

## Test Plan

Test No	What is being tested?	How is it being tested?	Expected outcome	Actual outcome	Corrective action	Printout reference
1	Validation of Date of Birth	Typing in 20/08/1970	Data is accepted	Data is not accepted. Data has to be Null as well as a date.	Change validation rule from (>= 1/1/1938 And <= 1/1/1985) And Is Null to >= 01/01/38 And <= 01/01/85	On separate piece(s) of paper
2	Validation of Date of Birth	Typing in 21/01/1969	Data is accepted	Data is accepted	N/A	On separate piece(s) of paper
3	Validation of Date of Birth	Typing in 21/10/1936	Data is not accepted	Data is not accepted	N/A	On separate piece(s) of paper
4	Validation of Date of Birth	Typing in 21/10/1986	Data is not accepted	Data is not accepted	N/A	On separate piece(s) of paper
5	Validation of Hourly Wage	Typing in £5.00	Data is accepted	Data is not accepted	Change validation rule from >= £3.90 to >= 3.9	On separate piece(s) of paper
6	Validation of Hourly Wage	Typing in £12.00	Data is accepted	Data is accepted	N/A	On separate piece(s) of paper
7	Validation of Hourly Wage	Typing in random characters	Data is not accepted	Data is not accepted	N/A	On separate piece(s) of paper.
8	Validation of Hourly Wage	Typing in £2.30	Data is not accepted	Data is not accepted	N/A	On separate piece(s) of paper
9	Validation of Hourly Wage	Leaving the field blank	Data is accepted	Data is not accepted. The data cannot be Null.	Change validation rule from >= 3.9 to (>= 3.9) Or Is Null	On separate piece(s) of paper
10	Validation of Hourly Wage	Leaving the field blank	Data is accepted	Data is accepted	N/A	On separate piece(s) of paper

11	Validation of Working Hours	Leaving the field blank	Data is accepted	Data is not accepted. The data cannot be Null.	Change validation rule from $\geq 4$ And $\leq 40$ to ( $\geq 4$ And $\leq 40$ ) Or Is Null	On separate piece(s) of paper
12	Validation of Working Hours	Typing in 25	Data is accepted	Data is accepted	N/A	On separate piece(s) of paper
13	Validation of Working Hours	Typing in 74	Data is not accepted	Data is not accepted	N/A	On separate piece(s) of paper
14	Validation of Working Hours	Typing in 2	Data is not accepted	Data is not accepted	N/A	On separate piece(s) of paper
15	Validation of Working Hours	Typing in random characters	Data is not accepted	Data is not accepted	N/A	On separate piece(s) of paper
16	Validation of Title	Typing in random characters	Data is not accepted	Data is accepted	Type in validation rule "Mr" Or "Mrs" Or "Miss" Or "Ms"	On separate piece(s) of paper
17	Validation of Title	Typing in random characters	Data is not accepted	Data is not accepted	N/A	On separate piece(s) of paper
18	Validation of Title	Selecting a value from the dropdown list.	Data is accepted	Data is accepted	N/A	On separate piece(s) of paper
19	Validation of Post Code	Typing in random characters	Not possible	Not possible	N/A	On separate piece(s) of paper
20	Validation of Post Code	Leaving the field partly blank.	Data is not accepted	Data is not accepted	N/A	On separate piece(s) of paper
21	Validation of Phone Number Home	Typing in random characters	Not possible	Not possible	N/A	On separate piece(s) of paper
22	Validation of Phone Number Home	Leaving the field partly blank.	Data is not accepted	Data is not accepted	N/A	On separate piece(s) of paper
23	Validation of Phone Number Work	Typing in random characters	Not possible	Not possible	N/A	On separate piece(s) of paper
24	Validation of Phone Number Work	Leaving the field partly blank.	Data is not accepted	Data is not accepted	N/A	On separate piece(s) of paper
25	Validation of Age	Typing in any age under 18	Data is not accepted	Data is accepted	Type in validation rule $\geq 18$ And $\leq 65$	On separate piece(s) of paper



26	Validation of Age	Typing in any age under 18	Data is not accepted	Data is not accepted	N/A	On separate piece(s) of paper
27	Validation of Age	Typing in any age over 65	Data is not accepted	Data is not accepted	N/A	On separate piece(s) of paper
28	Validation of Age	Typing in random characters	Data is not accepted	Data is not accepted	N/A	On separate piece(s) of paper
29	Validation of National Insurance Number	Typing in random characters	Not possible	Not possible	N/A	On separate piece(s) of paper
30	Validation of National Insurance Number	Leaving the field partly blank.	Data is not accepted	Data is not accepted	N/A	On separate piece(s) of paper
31	Validation of National Insurance Number	Typed in national insurance number.	Data is accepted	Data is not accepted	N/A	On separate piece(s) of paper
32	Validation of Post Applied	Typing in random characters	Data is not accepted	Data is accepted	Type in validation rule "Master Chef" Or "Assistant Chef" Or "Bar Staff" Or "Waiter(ess)" Or "Washer-up" Or "Cleaner" Or "Bouncer"	On separate piece(s) of paper
33	Validation of Post Applied	Typing in random characters	Data is not accepted	Data is not accepted	N/A	On separate piece(s) of paper
34	Validation of Post Applied	Select value from dropdown list	Data is accepted	Data is accepted	N/A	On separate piece(s) of paper
35	Validation of Date of Application	Typing in random characters	Not possible	Not possible	N/A	On separate piece(s) of paper
36	Validation of Date of Application	Typing in extreme dates	Data is not accepted	Data is accepted	Typing in validation rule >= 01/01/2001 And Now()	On separate piece(s) of paper
37	Validation of Date of Application	Typing in extreme dates	Data is not accepted	Data is not accepted	N/A	On separate piece(s) of paper

38	Validation of Date of Interview	Typing in extreme dates	Data is not accepted	Data is accepted	Typing in validation rule >= 01/01/2001 And <= 01/01/2030	On separate piece(s) of paper
39	Validation of Date of Interview	Typing in extreme dates	Data is not accepted	Data is not accepted	N/A	On separate piece(s) of paper
40	Validation of Interview	Typing in extreme data	Data is not accepted	Data is not accepted	N/A	On separate piece(s) of paper
41	Validation of Interview	Typing in extreme data	Data is not accepted	Data is not accepted	N/A	On separate piece(s) of paper
42	Validation of Interview	Selecting Yes	Data is accepted	Data is accepted	N/A	On separate piece(s) of paper
43	Validation of Interview	Selecting No	Data is accepted	Data is accepted	N/A	On separate piece(s) of paper
44	Validation of Offer Job	Typing in extreme data	Data is not accepted	Data is not accepted	N/A	On separate piece(s) of paper
45	Validation of Offer Job	Typing in extreme data	Data is not accepted	Data is not accepted	N/A	On separate piece(s) of paper
46	Validation of Offer Job	Selecting Yes	Data is accepted	Data is accepted	N/A	On separate piece(s) of paper
47	Validation of Offer Job	Selecting No	Data is accepted	Data is accepted	N/A	On separate piece(s) of paper
48	Assistant Chef Macro (Job Position macros)	Mail merging records containing 'Assistant Chef'	Mail merges records containing 'Assistant Chef'	It does.	N/A	On separate piece(s) of paper
49	Assistant Chef Macro (Job Position macros)	Mail merging individual records containing 'Assistant Chef'	Mail merges individual records containing 'Assistant Chef'	It does not	Change macro design completely	On separate piece(s) of paper
50	Job Position Macro in document protection in 'Forms' mode	Set query to 'Bouncer'	Sets it	It does not as it refers to a protected area of the document	Change mode to 'Tracked Changes'	On separate piece(s) of paper

51	Job Position Macro in document protection in 'Tracked Changes' mode	Set query to 'Bouncer'	Sets it	Sets it	N/A	On separate piece(s) of paper
52	Mail merge Macro in document protection in 'Forms' mode	Mail merge record	It does	It does not as it refers to a protected area of the document	Change mode to 'Tracked Changes'	On separate piece(s) of paper
53	Mail merge Macro in document protection in 'Tracked Changes' mode	Mail merge record	It does	It does but the screen shows and prints highlighted changes	Change macro design	On separate piece(s) of paper
54	Mail merge Macro in document protection in 'Tracked Changes' mode	Mail merge record	It does	It does without showing and printing highlighted changes	N/A	On separate piece(s) of paper
55	Show Fields and Values macro	View merged data before mail merging data on the letter	It does	It does	N/A	On separate piece(s) of paper
56	Show Fields and Values macro in document protection in 'Tracked Changes' mode	View merged data before mail merging data on the letter	It does	It does but the screen shows highlighted changes	N/A	On separate piece(s) of paper
57	Show Fields and Values Macro in document protection in 'Tracked Changes' mode	View merged data before mail merging data on the letter	It does	It does without showing highlighted changes	N/A	On separate piece(s) of paper
58	Previous Macro	Goes to previous record	It does	It does	N/A	On separate piece(s) of paper
59	Previous Macro (When record No. is at 1)	Goes to previous record	It doesn't	It doesn't, but error message appears	Change macro command	On separate piece(s) of paper

60	Previous Macro (When record No. is at 1)	Goes to previous record	It doesn't	It doesn't, but error message appears, informing that the user cannot go to previous record	N/A	On separate piece(s) of paper
61	Previous Macro (When a job position contains no records)	Goes to previous record	It doesn't	It doesn't, but error message appears	Change macro command	On separate piece(s) of paper
62	Previous Macro (When a job position contains no records)	Goes to previous record	It doesn't	It doesn't, but error message appears, informing that the user cannot go to previous record	N/A	On separate piece(s) of paper
63	Next Macro	Goes to next record	It does	It does	N/A	On separate piece(s) of paper
64	Interview Letter Macro (Open File macros)	Opening file, e.g. "Enrice's Tapas Bar - Interview Letter"	Opens file	Opens file	N/A	On separate piece(s) of paper
65	Automation macros	Auto close toolbars when the file is open	Toolbars close	It does not	Change macro design	On separate piece(s) of paper
66	Automation macros	Auto close toolbars when the file is open	Toolbars close	Toolbars close	N/A	On separate piece(s) of paper
67	Automation macros	Auto open toolbars when the file is open	Toolbars open	It does not	Change macro design	On separate piece(s) of paper
68	Automation macros	Auto open toolbars when the file is open	Toolbars open	Toolbars open	N/A	On separate piece(s) of paper
69	Password protect feature on 'tracked changes' mode	Deleting parts of the document and typing random characters	Prevents changes	Changes parts of the document and tracks changes	Change mode to 'Forms	On separate piece(s) of paper

70	Password protect feature on 'forms' mode	Deleting parts of the document and typing random characters	Prevents changes	Prevents changes	N/A	On separate piece(s) of paper
71	Interview Letter Macro (Open File macros) in password protect feature on 'forms' mode	Opening file, e.g. "Enrice's Tapas Bar - Interview Letter"	Opens file	Opens file	N/A	On separate piece(s) of paper
72	Job position macro	Setting query options to certain job position	If there are no records, it doesn't set it	It doesn't due to there are no records on some of the letters, but there is no information to tell the user about it	Change macro command	On separate piece(s) of paper
73	Job position macro	Setting query options to certain job position	If there are no records, it doesn't set it and message appears	It doesn't and message appears	N/A	On separate piece(s) of paper
74	Job position macro	Setting query options to certain job position	It does	It does but no message appears to tell the user that they have set it	Change macro command	On separate piece(s) of paper
75	Job position macro	Setting query options to certain job position	It does	It does but message appears to tell the user that they have set it	N/A	On separate piece(s) of paper
76	Submit button in online job application form	Saving details onto H: drive	It does	It doesn't	Abandon design	On separate piece(s) of paper
77	Print Form Macro	Print application form	It does	It does	N/A	On separate piece(s) of paper
78	Automation Macro (In MS Access)	Automatically open toolbars, with provided functions, open the Data Source Form and inform the user the database has opened when the file opens.	It does	It does not	Change macro command by typing in Autoexec	On separate piece(s) of paper

79	Automation Macro (In MS Access)	Automatically open toolbars, with provided functions, open the Data Source Form and inform the user the database has opened when the file opens.	It does	It does	N/A	On separate piece(s) of paper
80	Open File Macros (In MS Access)	Open files inside the database in read-only mode except Data Source Form	It does	It does	N/A	On separate piece(s) of paper
81	Save Record Macro	Save records	It does	It does	N/A	On separate piece(s) of paper
82	Print Interview Notes Macro	Print Interview Notes	It does	It does	N/A	On separate piece(s) of paper

## User Guide

The details of explaining how to use the system created are on a separate booklet. The user guide contains the following:

- Front cover
- Contents
- Introduction
- System Requirements
- How to:
  - Install the software
  - Link the letter templates to the data base
  - Open files from the front end
  - Input and delete data
  - Find records of applicant's by job position
  - Mail merge applicant's details onto letters
  - Print details and application forms
- Output of data in the following ways:
  - On screen
  - On paper
- Troubleshooting

This is because to state what actions the software performs. If the user wants help about a certain problem, they can solve it by following instructions under troubleshooting, and find the information of performing certain actions clear, as instructions of individual actions are on separate pages. Find out if their computer has sufficient performance in order to run the program under system requirements. It provides information about on which pages each of the actions are on, to help users find the page of an action. Finally, it has a front cover to make the user guide look professional.

## Evaluation

### About the User Requirements

The following user requirements have been achieved:

- Created dropdown menu for job posts by typing creating a field 'Post Applied', selected 'Combo Box' and then selected 'Value List'. Then typed "Master Chef";"Assistant Chef";"Bar Staff";"Cleaner";"Waiter(ess)";"Washer -up";"Bouncer". When the dropdown menu is selected, the list of job posts appears.
- Enter applicant's details onto a database via a form. Then the data is transferred to the table after a record is saved.
- Validate and verify data entered onto the database by typing in formulas and messages. The formulas ensure that correct data is accepted or otherwise a message appears, informing that irreverent data has been entered. The message also states the correct type of data needed to be entered.
- Typed up a letter, one for successful applicants and one for unsuccessful applicants, thanking them for their interest. Another two letters are needed, one for unsuccessful applicants after the interview, thanking them for their interest, and one unsuccessful applicants after the interview but they will be contacted at a later date for further information. Each of the letters for each role has been created by typing the outcome of Enricé's decision in an appropriate language. Fields have been included in each of the letters to make it personal and for convenience, so the user does not have to type in applicants' details again and again.
- Mail merge applicant's details onto the letter (start dates, etc). The mail merged letter has to be saved automatically. This action is done by creating macros (see Appendix 4 - Mail Merge Macro, Appendix 5 - Previous Record Macro, Appendix 6 - Next Record Macro and Appendix 7 - Query Set Macro), which can aid the user to select certain applicant and mail merge their details. Then the mail merged letter is printed automatically. The message box will appear, informing the user that the letter will be printed.
- The database can calculate weekly wages from the number of hours applicants like to work and the hourly rate of pay automatically. This problem has been solved by typing 'Total: [Data Source].[Working Hours per Week]\*[Hourly Wage]' in the new column in the design part of 'Enrice's Tapas Bar Total Wage'. Then the box, which represents 'Show', has been ticked in order for the total amount of wage for each employee to show on the screen and on paper when it is printed.
- Provide interview times, with notes. Interview times are included, once the applicant has confirmed the time they are available for an interview. Interview notes are printed pressing a button in the Enricé's Tapas Bar Interview Notes file. The notes contain any extra information the applicant needs.
- Use macros to save letters to an archive folder. This requirement is solved by including a save procedure in the Mail Merge Macro (see Appendix 4 - Mail Merge Macro). After the letter has been printed, 'Save As' box appears, so the user can save the mail merged letter into an archive folder. Once the letter has been saved, the message box appears, confirming that the mail merged letter has been saved.
- Modify tool bars. This has been achieved by creating toolbars with provided functions so the user can use these functions for convenience while the files are password protected



- The system needs to be robust by password protection, save back up copies onto a stand-alone computer and functions restricted by macros. The system is robust because the files are password protected fully, except letter templates as they do not work (see Test 52 to 54 - Mail Merge Macro in Protection Mode), automation macros restrict functions by closing unneeded toolbars automatically and actual copies of the system are saved onto CD-RW and onto a ISP server as attachments for maximum protection, in case of a virus outbreak as it could corrupt important files.

The only user requirement not achieved is creating an online application form because of the complexity of setting up a website, linking it to the server and linking the server to a specific folder on the computer.

### **Accuracy of the system**

The system created can mail merge applicant's details onto letters, depending on situations. The mail-merged letter is saved automatically, but the user can type in the 'File Name' box the applicant's name and then save the letter as the applicant's name.

Individual records of applicant's can be selected by setting the query to a certain job position and then using the Previous/Next record and Show Fields and Values macros ensures the right applicant is selected.

The toolbars close automatically when the files open and the message box appears confirming that the file has opened, but the toolbar with provided functions open to let the user to carry out the tasks quickly and conveniently. The tasks are mail merge applicants' details letters print mail -merged letters, view details before mail merging, selecting a job position, printing application forms and interview notes and opening files from the front end.

In the data source in MS Access, message box appears confirming that the database has opened and then the toolbars open. The form opens automatically and the message box appears confirming that the form has opened. The toolbars contains the following tasks; opening data tables and queries in read -only mode. Input data via a form, searching records and saving records. When a file in MS Access opens, a message box opens confirming that the file has opened.

The toolbars open automatically when the file closes, for example, Enricé's Tapas Bar – Interview Letter. Then the toolbar with functions provided closes. Before the file closes, message box appears, saying 'Goodbye' to the user. In MS Access, when the database closes, the toolbars with provided functions closes.

Executing the Print Application Form/Interview Notes macro prints application forms/interview notes.

Individual files can be opened from the front end by executing Open File macros.

Application Form, Interview Notes and the front -end files are fully protected by passwords.

The database can calculate the total wage of each employee by multiplying the number of hours the employee works and the amount of pay the employee receives each hour.

Certain data can be viewed by opening queries or using parameter query to search particular records, depending on the information requested. All of the data of each applicant can be viewed by opening the data source table. Applicant's details can be inputted onto an electronic form in MS Access. When the Query macro is executed,

the search dialogue box appears, so the user can type in a particular job position required.

The letter templates cannot be protected fully because the mail merge function and the macros do not work. The database also cannot be protected fully because of the complexity of MS Access functions. Instead, the files in the database are hidden to provide protection of records against modification and/or alteration.

The website for the application form cannot be created due to the complexity of HTML and connecting the website to a server.

### **Changes to the original system**

The design of the system was changed in the following ways; the toolbars in the database has been added because of security reasons. This prevents the user from opening the tables and queries to modify and/or alter data. The functions on the toolbar which open tables and queries in read-only mode for complete protection of the data.

A form was created because of security reasons above, provide an easy interface for the user to input data into the database and to ensure the only way to input data into the database is by entering applicant's details onto the form.

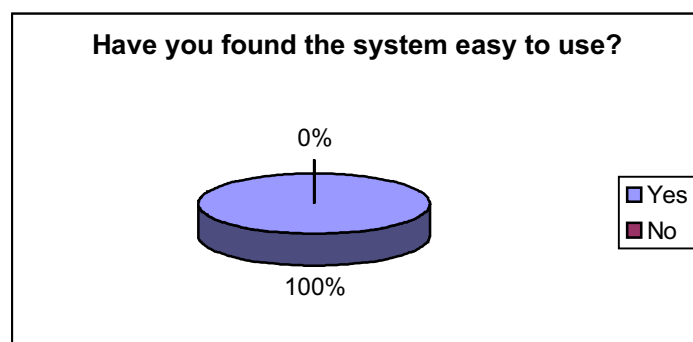
In order to select an individual applicant, the design of original Job Position macro had to be abandoned. Instead, designs Previous and Next macros and Query macros were taken into account and have been created to solve the problem. This is because an individual applicant's details can be mail-merged onto the letter instead of mail merging all of the applicant's details from the database onto multiple letters.

The user requirements stated that interview notes had to be printed out for interview purposes. The file has been created and a print macro has been created to solve the problem encountered.

The user requirements also stated that the timetable was needed to track which interviews were already conducted and to see if there are any future interviews. Creating the query table for the purpose in MS Access has solved the problem.

### **Users Comment and Results about the System**

The pie chart on the right enforces the fact that the system is very easy to use. This is because of clear symbols to inform them which file is which, message boxes to inform the user the file is opened or closed and to inform them that they have executed a particular action. The user comments below suggest this:



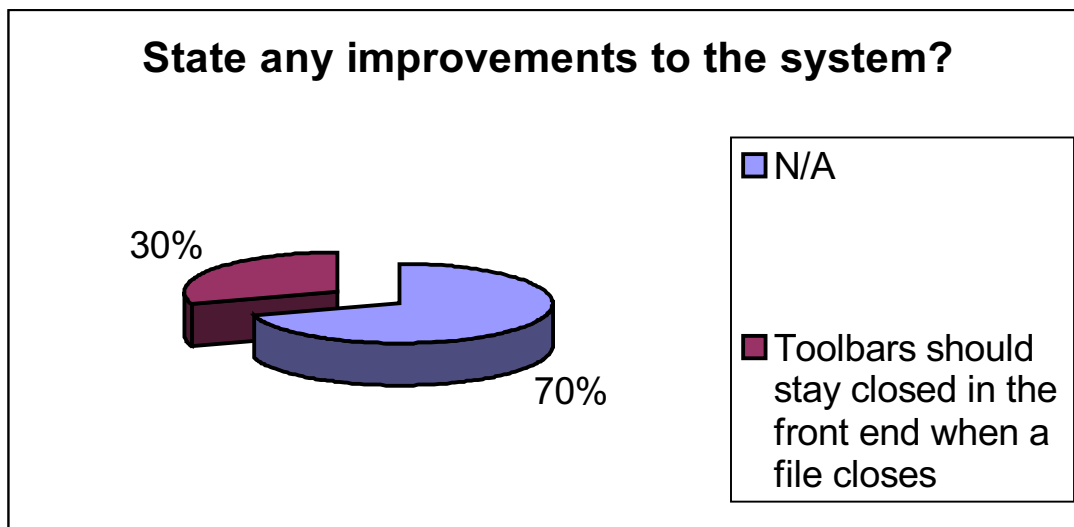
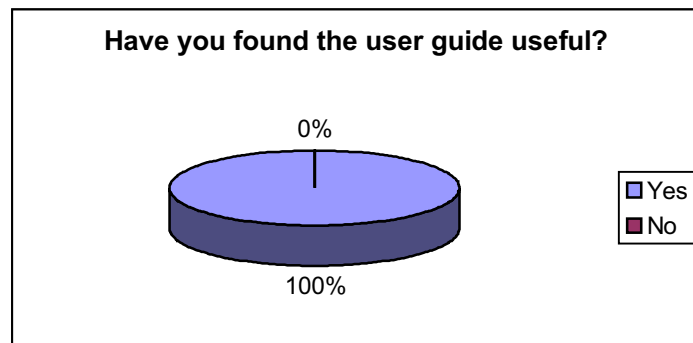
User A – 'Clear symbols and easy to understand.'

User B – 'Clear symbols, not much that you can press to go wrong.'

User C – 'Clear information and very detailed.'

User D – 'Clear and easy to understand.'

The users' comments above and the pie chart on the right suggest that the user guide about the system is easy to understand and use. This is because the user guide contains comprehensive information about how to use the function of the system, what the outputs should look like on screen and paper and trouble shooting information in case the system goes wrong for the user.



30% of the users of the system suggested an improvement to the system; toolbars should stay closed when a file has closed. This is because the letter templates could be vulnerable to alteration or modification. This problem could be solved by modifying Auto Close macros in the following files, to ensure that the toolbars stay closed in the front end; Absolute Rejection Letter, Absolute Success Letter, Interview Letter, Lifeline Letter, Job Application Form and Interview Notes.

### **Improvements to the System**

The system could be improved by protecting the letter templates and the database completely by using VBA and password protecting the PC, since the system is designed to be used on a stand alone PC.

The limitations of the system are the system can be altered by a determined hacker, no matter how well the system is protected in any way.