

Habib's Book rental system

Contents

- Project proposal
- Possible solutions
- Chosen solution
- System objectives
- Performance Criteria
- System objectives

Design

- Chosen software
- Resource requirements
- System flowchart
- Table design
- Entity relationship diagrams
- Data entry from designs
- Menu form designs
- Query designs
- Report designs
- Test plan

Implementation

- Implementation plan
- Implementation commentary

Testing

User guide

Evaluation

Project title is Habib's Books Rental System

Aim of project

My aim is to investigate and also to try and solve the information handling problems of Habib's books a small shop that rents books to membership only. The owner of shop wants me to design and set up a more efficient way of storing and handing books and membership. I would be including different ways of registering to Habib's books and also I would be making a better way that would be safer and better for the company. I would change things around that would make the company easy to use and a very flexible job for the staff.

Input

- Member details (member number, name, address, date of birth)
- Book details (book bar code, name of book)
- Loan details (book number, member detail, date book due back)

Processing

- Look up member details.
- Look up book details.
- Look up loan details
- Search for videos opposite
- Search for videos due in.
- Look up there pin code.

Output

- Member details.
- Book details
- Opposite book names.
- List of books due in
- Reminder of a letter about owning a book.

Problem Description

In my project I will try and aim to solve the information handling problems for Habib book rental system based on children's education.

Habib Book rental provides all education books and all other books students prefer. To be a member of Habib's books you would need to fill in an application form that provides all your personal details. Habib's books rental system has 162 members at the moment and 2,000 books in the store. Information about each book is added to the computer to avoid mistakes. A card is provided to every member that has his or her details.

If someone wants to borrow a book they take it from the shelf and give it to assistant so that they could get the barcode number, title of book, and also to stamp the due date. The member should give the card to the assistant so that the number could be taken. The member is asked to confirm date of birth and their pin code for security reasons, they would also have to sign a form for them taking a book out. The assistant would ask how long they would like to borrow it and stamp it on the book and also type it up in our files. If the security question is not answered wrong the assistant would not get the card back unless they bring proof so show themselves.

When the member returns the book the assistant would go to the computer and delete it from the books that should be bought back. In the book the date is crossed out and replaced in the shelf for the next member. If a book were not bought back a warning letter would be sent out 3 times to remind the member. At the end of the day the assistant would search the computer if any books that are overdue and send a reminder letter.

When someone wants to borrow a book and if it is out of store the assistant would tell the member when he or she could come and collect it.

The current problems that would lead to the following problems:

- Members losing their cards.
- The books are damaged.
- Books are in the wrong place.
- Staffs take a long time to help a customer.
- It takes a long time to send letters about overdue books.

Possible Solutions

Habib's book rental could employ someone to organise his record collection, check if the books are in the right place. This would make sure that the books are well organised. This won't really solve the problem because it does not change the system. The advantage for this is that it will be more organised and also good looking. On the other hand the disadvantage for this would be that Book Zone could not afford to pay another wage.

Another way of solving the problem is by using computers, which would be easier to store information and a quicker way of finding a member rather than looking around the box, which takes long. This program is very important to Book Zone and is the best way. The reason why I would say it is the best way is because it would solve Book Zone's problems. The disadvantage of this is that it is very expensive Book Zone might not be able to pay for it. I think that Book Zone would need a program such as spreadsheet and

shall have different software that you can search things very quickly, such as member details. Excel is a spreadsheet considerable power including database facility. However the relationship required would be difficult to implement in the time scale available. The final solution might also be difficult for the end user to understand and maintain. Access 2002 has all the capabilities required and is the preferred option for the end user. I have experience of using Access and some Visual Basic knowledge that can be used for enhanced customisation.

Access 2002 would be able to

- ✓ Create and edit tables
- ✓ Create and edit relationship
- ✓ Create forms and reports based on tables
- ✓ Create customized input screens and using Visual Basic facilitates searches and validation procedures

Chosen Solution

The best way to solve the information handling problems is by setting up a new system on a computer using software package. I would use a computer because I think it will be more accurate and easy to find things. I would also say that it will be more organised for the customers rather than doing it by hand.

Spreadsheets are good for solving problems that have a lot of calculations and numbers. I think spreadsheet would be a problem because searching information does not need spreadsheet, so I think that it would not be very useful for me.

Well if I use a database package I think it will be better because databases allow you to in store a lot of information and it can do it very quickly. I have got an opinion of Stratford library and they have agreed what I think. The assistant in Stratford Library said that it would be a good idea because it will help you as well as the customers. He also said that it is very useful because you can add a lot of things, search very quickly, good for numbers and also he thinks that it will make it easier for the staff. To make sure I do the right decision I would interview people to see what they think, and also I would make a questionnaire to find people's opinions. I would say that Access would be the most suitable because:

Access 2002 would be able to

- ✓ Create and edit tables
- ✓ Create and edit relationship
- ✓ Create forms and reports based on tables
- ✓ Create customized input screens and using Visual Basic facilitates searches and validation procedures.
- ✓ Create queries to find specific data
- ✓ Create a menu driven system
- ✓ Implement security provision

System Objectives

The system must be able to perform the following tasks:

- Allow staff to add, delete, looked-up, edited and stored quickly and accurate things.
- Allow books to be taken stored and taken out quick and easy my members and also staff.
- Allow books to be searched to help the customer's problems.
- Produce a list showing when the book is due in.
- Make reminder letters quick and easy.
- Help staff do their job quick and easy with accurateness.
- Provide information when it is needed as quick as possible.

Performance Criteria

The following would be used to evaluate the success of the new system:

- It must take less than 45 seconds to find details about a member.
- It must take less than 35 seconds to edit, add, a member.
- It must have security passwords for member's personal information.
- It must remind staff at the end of the week to send letters to members who owe books, which is mail message.
- It must take under 1 minute to search for members who overdue the books back.
- It must take lees than 10 seconds to delete a member.
- It must be under 40 seconds to search for a book
- It must be under 1 minute to find what the member wants.
- On screen data entry forms must be clearly laid out to make a data entry.
- It must solve errors by itself, which might slower the computer.
- Member's details should be placed in a place where you must have a password.
- It should be possible to input new books, staff members, and customers in less than 30 seconds.
- It should be able to provide reports in less than 30 seconds in the following areas books borrowed, which staff let member borrow book, staff currently employed, books owned by the store, and also customer details.

Current Resources

Mr Dawson already has a computer with the following specification:

- Windows 98
- A Pentium II 200 MHz processor
- 14 Mb of RAM
- A 1 GB hard disk with 128 Mb of space
- A floppy drive
- A CDROM drive
- MS office 97 standard (Microsoft word, Excel, point and outlook express)

Mr Dawson is allowed to spend £999 on a new computer

Resource Requirements

Access 2002 will be used to set-up and run the new system for Book Zone. To install and use this software a computer with the following minimum specification is needed:

- A Pentium 75 MHz processor
- Windows 95 or later one.
- At least 24Mb RAM
- At least 161Mb of space
- CD ROM drive

Mr Dawson knows and told me that they could spend £999 on the new hardware and software. For Mr Dawson I would need to buy office 2000 Professional package, which has Access 97, which is £395. I have to memory from 20Mb to 24Mb, which is 70, and install it. Mr Dawson would have to buy a Laser printer to print information about books and also to send letters to the members and also has quality printing. This would cost 280.

When I go to school and library the Pc are the same, as the one Mr Dawson would have. I would add a printer but only 1 so everyone would collect his or her prints from there.



This computer is suitable for Mr Dawson that he could buy. The following computer below has

- ✓ 256 Ram and 120 GB hard drive
- ✓ TV tuner and remote control
- ✓ Multi format dual layer DVD re writer
- ✓ Microsoft windows XP home edition EM 175 17 inch CRT
- ✓ Integrated Intel extreme graphics.



The following printer would be suitable because it has the following below:

- ✓ Up to 5760 x 1440 dpi resolution
- ✓ Up to 15 pages per 40 seconds
- ✓ 5 integrated digital camera and card readers
- ✓ Edge to edge printing
- ✓ Up to 6 colour printing
- ✓ Print direction to CD facility
- ✓ USB 1.1 USB 2.0 high speed connectivity window

Choice of Software

The databases packages that I could use to set up the new system with pinpoint and Access 2002. These packages are on my school computers and in the library that is normally go which is Stratford library and have the same features.

Pinpoint has the following:

- Data can be saved in file formats and used in other applications.
- Graphs and charts can be made quickly.
- You can design question sheets very easy and quick.
- You can search very quickly.

Access 2002 has the following:

- Create and edit table
- Create and edit relationships
- Create reports and forms based on tables
- Create customised input screens and using visual basic facilitate searches and validation procedures
- Create quires to find specific data
- Crate a menu driven system

Overall I would say that Access 2002 would be the best package to use system because it will allow me to create queries to find specific data. Pinpoint does not have this. I think that the staff would be better with Access 97 because it has got more features that they could use. The Habib's books staffs have not got a lot of experience for computers so I think Access 2002 would be easier. Mr Dawson has up to £ 999 to spend, which shows that he can afford it. One advantage is that Access 2002 should not take long to set up. To set up the new system Mr Dawson would need to change his computer around and add new things.

Resource Requirements

Software there are two types of software these is application software and operating systems. Application software is programs that are designed to do a task on the computer e.g. databases, word processors spreadsheets etc. A database can be used to store, sort, and search and retrieve information. You can also make database forms, database reports and Macros with your information. Quick rentals can use it to store customer details, also video or Book details etc. Word processors could be used to write letters to the customer etc. there are many features available on word and one very useful one is spell check. This is where the computer underlines spelling and grammar mistakes you make in a document. When you see a word underlined you go to spell check in the tools bar. Then you will get suggestions to your mistake and you choose one, which will correct the mistake. A spreadsheet can be used to calculate complex calculations. It involves you typing in formulae and numbers to get answers. The spreadsheet can also show numbers in the form of graphs.

I'm going to use a database for my system, I will be using a relational database using the software: Microsoft Access. I could use Microsoft works but that is a flat file database and I need to have lots of information on my database. I can't use a spreadsheet as that is a program for calculations and I need to make query forms etc. Operating systems basically keep the smooth running of your computer and it also controls basic inputs and outputs like the movement of the mouse. Running many tasks at the same requires the processing power to split up and powering each task. Balances between tasks have to take place and this requires a lot of time. They also handle input and output and make sure that each of these things does what they are meant to.

Access 2002 will be used to set-up and run the new system for Habib's books. To install and use this software a computer with the following minimum specification is needed:

- A Pentium 75 MHz processor
- Windows 95 or later one.
- At least 24Mb RAM
- At least 161Mb of space
- CD_ROM drive

Mr Dawson so far has on his computer the following:

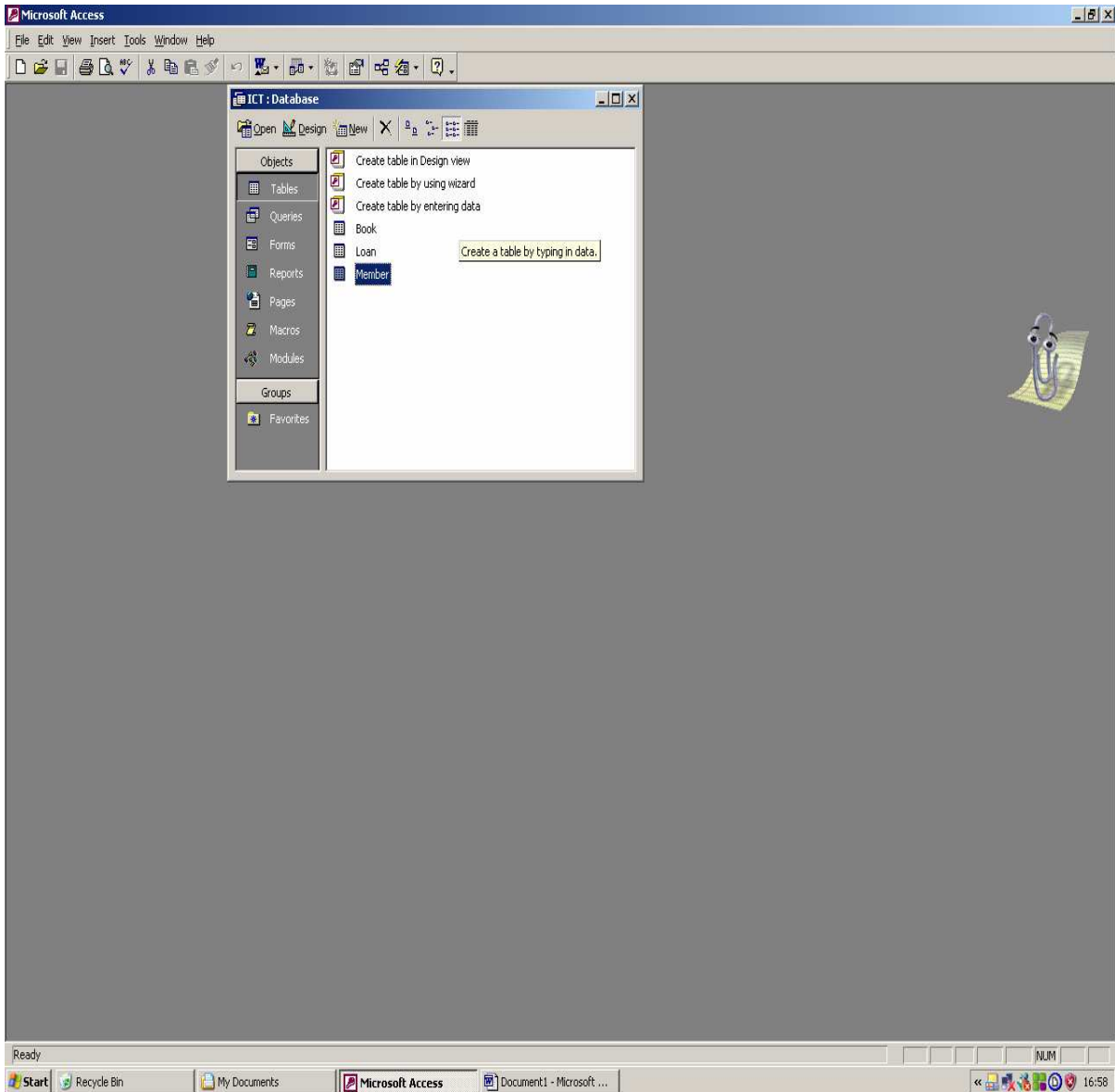
- A Pentium II 200 MHz processor
- Windows 95
- MS office 97 standard (Microsoft word, Excel, Point and Outlook express)
- 20 Mb RAM
- A 1 Gb hard disk with 821 Mb of free space
- A CD-ROM
- A floppy disk drive

Mr Dawson knows and told me that they could spend £999 on the new hardware and software. For Mr Dawson I would need to buy office 2000 Professional package, which has Access 2002, which is £126.20. I have to buy memory from 20Mb to 24Mb, which is 78.60, and install it. Mr Dawson would have to buy a Laser printer to print information about books and also to send letters to the members and also has quality printing. This would cost £81.89. According to this there would be round about £600.00 left for the computer.

When I go to school library the PC are the same, as the one Mr Dawson would have. I would add a printer but only 1 so everyone would collect his or her prints from there. I would buy laser printer because it lasts long and also you do no keep have to changing the ink.

Table Designs

Design view of Tables



As you can see I have created my member, who is details about each member, I have done book, which is information on the book such as name of book, and also I have done the loan, which is date of loan.

Book Table

Microsoft Access

File Edit View Insert Tools Window Help

ICT : Database

Book : Table

Field Name	Data Type	Description
Bar code number	Number	
Title	Text	
Date due	Number	
Type of book	Text	

Field Properties

General Lookup

Display Control: Combo Box

Row Source Type: Value List

Row Source: "Horror";"story";"fiction";"Non fiction"

Bound Column: 1

Column Count: 1

Column Heads: No

Column Widths:

List Rows: 8

List Width: Auto

Limit To List: No

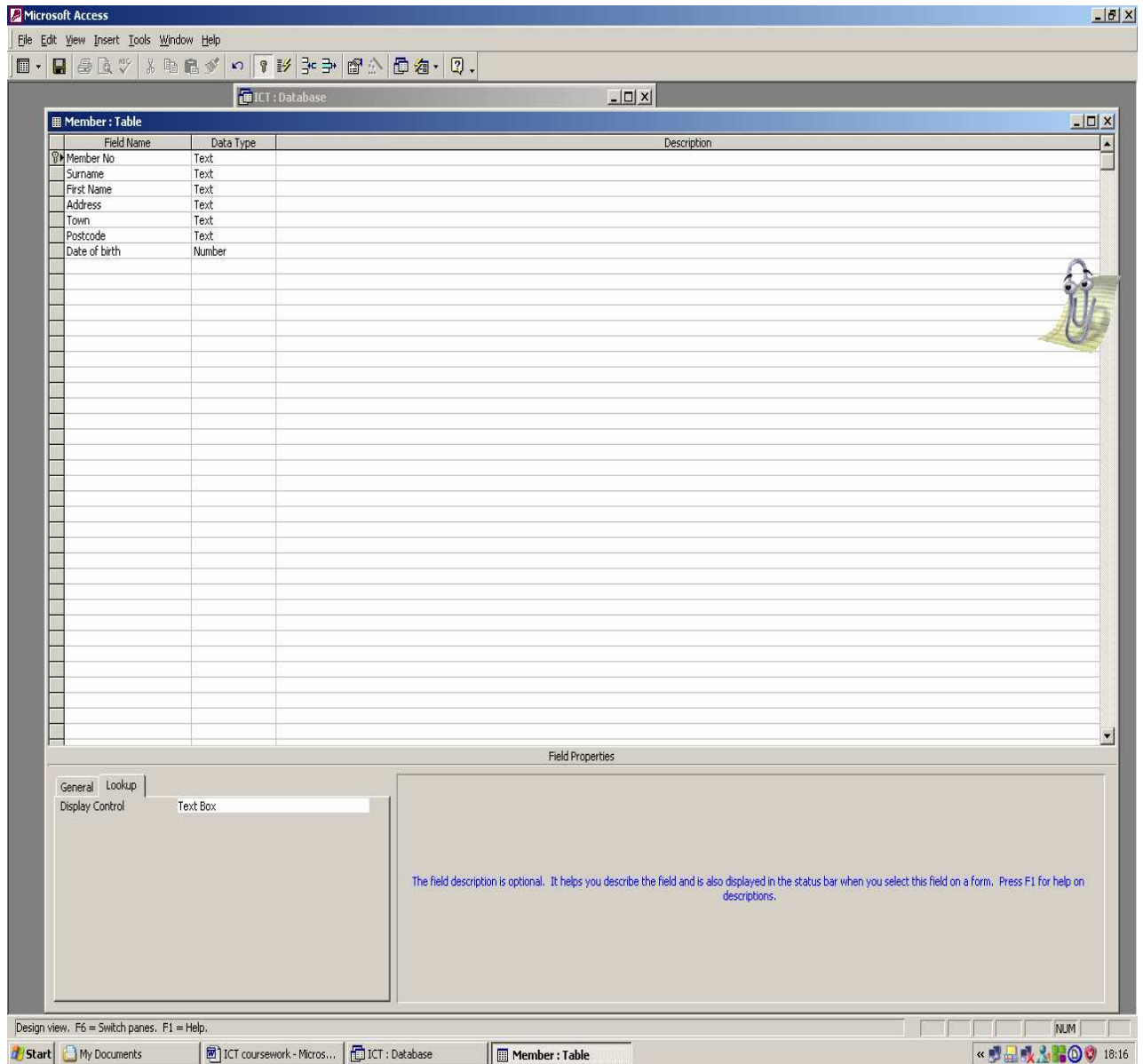
A field name can be up to 64 characters long, including spaces. Press F1 for help on field names.

Design view. F6 = Switch panes. F1 = Help.

Start My Documents ICT coursework - Micros... Dial-up Connection ICT : Database Book : Table NUM 17:58

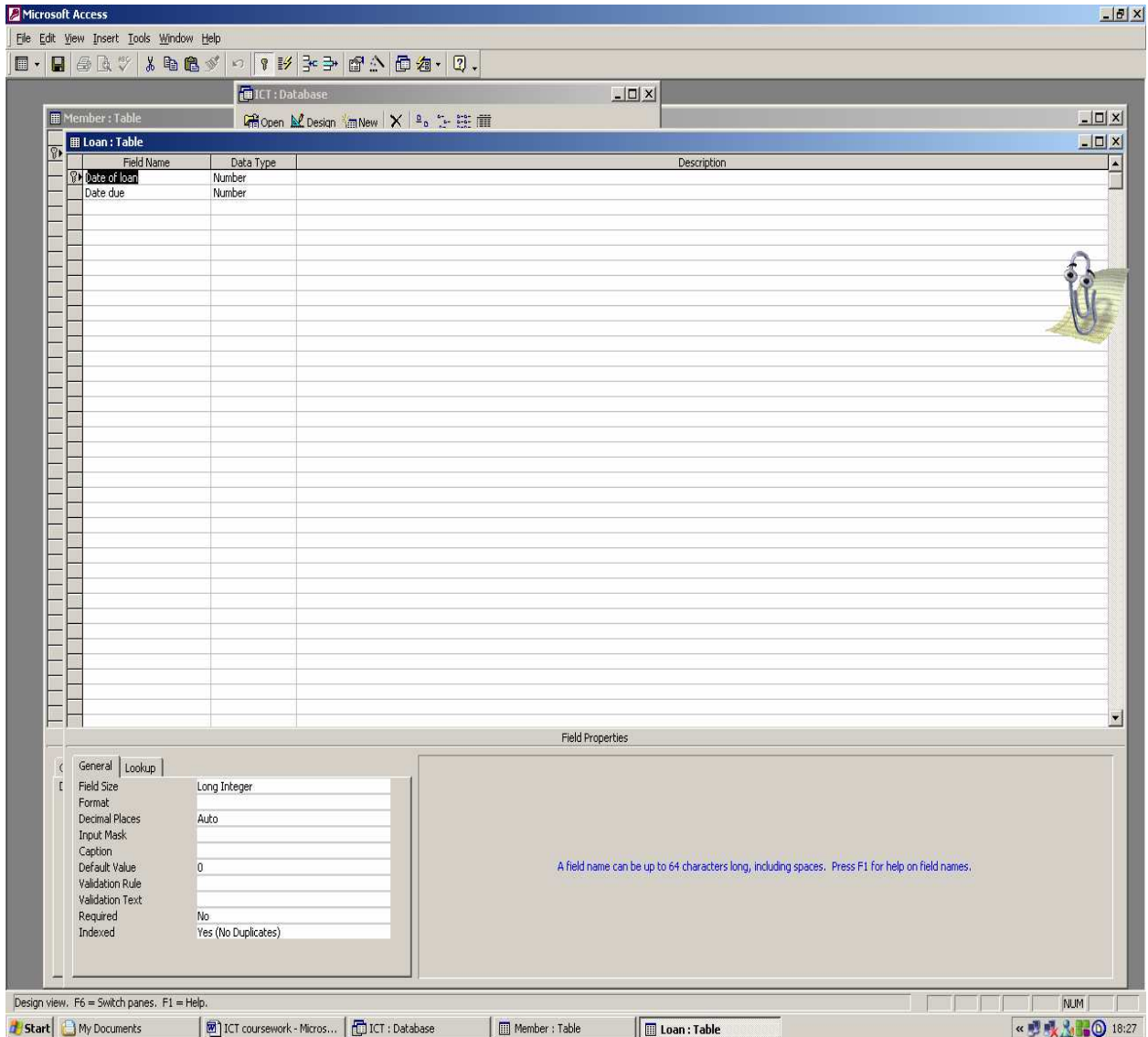
This shows my table for Books as you can see I have done a key field and also when you want to look at types of books they are already there. This table has been created for books only which means that there is information only on books.

Member Table



This shows my table for Members. As you can see I have done a key field and also when you want to look at types of areas they are already there. This table has been created for Members only which means that there is information only on Members.

Loan Table



This table is done for rental system, which shows the date of book due in and etc. this is very useful to the staff and me because it shows when they would have to pay by and bring the books back.

