

ICT Coursework Specification

Identification of Problem

A video rental store has been letting out videos for 2 years. At the moment the records are kept on paper. These records include, videos rented out, videos back in, members details and account details. The problem is that paperwork has been known to get lost and there is no way of recovering these details. Also it takes a lot of time to rent out and return the videos and searching the records for overdue videos takes a lot of time.

Background

Letters video rental is a small time shop in Howe Green; it consists of 2 owners and the business is steady. It is open 8am to 8pm. It is also a general store and it sells the basics of milk, bread etc. There was a need in the village for video rental as the residents did not like going to Chelmsford and therefore the business is expanding.

Statement of Problem

Paperwork has been going missing gradually over the two years, at first this was not a problem but then they lost financial information, this has encouraged them to get a computer.

The Current System and problems with the current system

At the moment each member has a membership card, this membership card has their name and their member number on. When they go to hire out a video their number is put down on paper and the number of the hired video/DVD is put down beside their name.

The current paperwork system is not very good as it is untrustworthy i.e. in the last six months some essential financial information went missing. The paperwork system can also be hard to read as Mrs Smith has poor handwriting and when it comes to Mr Smith to read who's borrowed what it is very hard for him to read. The paperwork system is also very slow meaning if Mr Smith wants to check if there is a video in stock he has to search through lots of paperwork.

Detailed Requirements Specification

The system must

- Be able to keep a list of members and their details
- Be able to keep track of videos and DVDs in stock
- Be able to see what person has got what video
- Be able to track of how much money a person owes
- Be able to rent out and return videos quickly
- Be able to print out lists of overdue videos

Constraints – Hardware, Software and users IT knowledge and skills

The current computer system is a

AMD Athlon Xp 2000

80 Gb HDD

512ddr RAM

The system came with windows XP Home and Microsoft office XP

Professional the user will just need to know how to use Microsoft Access. To install Microsoft office the user will need about 500mb of space. The current computer should be sufficient to run Access.

The system inputs and outputs

The inputs are:

- Member Details – Member ID, Name, Address, Age, D.O.B
- Video Details – Video ID, Video Name, Age Rating
- Video - Where the user will type in the film and Microsoft Access will see if it is available, it will also say how many people have got it and who those people are
- Type in a video - And it will display a brief review
- Borrowing – video, member, date, days borrowed

The system outputs are:

- A report in the style of a receipt

Identify processing requirements

The system will have to do queries an example is looking for a member. The system will also have to add up bills. There will also be an administrative area where a person can access an area to add new films etc.

Work out the return date and how much the member has to pay

Work out if a video is overdue

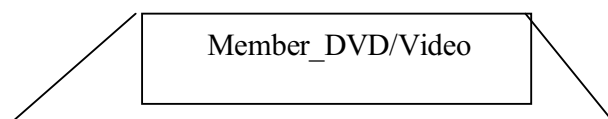
Produce letters to members with overdue videos

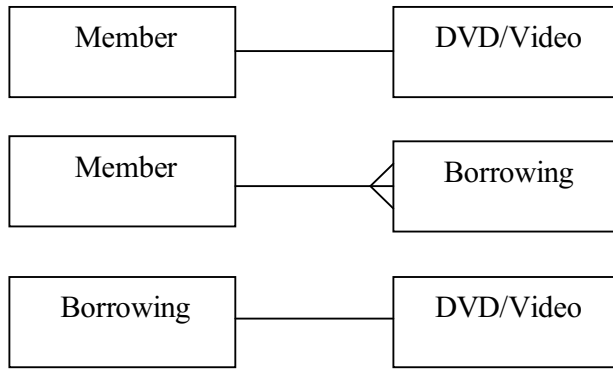
Identification of Entities

Entities that I will use on this project are

- Member
- DVD/Video
- Borrowing

Entity Relationships



Member Table

	Field Length	Field Type
First Name	20	Text
Surnames	20	Text
Age		Number
House Number/Name	20	Text
Street Name	20	Text
Town Name	20	Text
County	20	Text
Postal Code	7	Text
Member ID	6	Text

DVD/Video Table

	Field Length	Field Type
DVD Name	20	Text
DVD/Video ID	6	Text
Age Rating		Number
Genre	20	Text
Cost		Currency

Borrowing Table

Field Name	Field Length	Field Type
Member ID	Long Integer	Number
DVD ID	10	Text
Cost	Currency	Auto
Days Borrowed	Days Borrowed	10

Start-up Settings for Forms

The forms will be set so that the user can not access the bulk of the program, the toolbar will be designed with limited options on them. When the user starts up the program it will go straight to the main page.

Implementation

Implementation Log

Time Spent	Activity	What Next?
	tbl_member, tbl_DVD/Video created	tbl_borrowing
	tbl_borrowing and tbl_member_DVD/Video created	Create Forms
	Frm_main created	Another form is to be made
	frm_member created	Another form is to be made
	frm_borrowing created	The Last form is to be made
	frm_DVD/Video created	Make A report
	rpt_reciept report is made along with qry_reciept	Add records to tbl_member
	Added records to tbl_member	Add records to tbl_borrowing

Microsoft Access

File Edit View Insert Tools Window Help

Type a question for help

tbl_member : Table

Field Name	Data Type	Description
Member ID	AutoNumber	
First Name	Text	
Surname	Text	
Age	Number	
Date of birth	Date/Time	
House Number/Name	Text	
Street Name	Text	
Town Name	Text	
County	Text	
Postal Code	Text	

Field Properties

General Lookup

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 Specification Almost ... 2 ProjectGuide.doc - ... Microsoft Access NUM 11:17

This is tbl_member this table will hold the details of the members; the key field of the table is Member ID. The Field size for all text types is 20. Apart from Postal Code, the field size is 7 and its format is > this means all text entered will be in upper case.

Microsoft Access

File Edit View Insert Tools Window Help

Type a question for help

tbl_borrowing : Table

Field Name	Data Type	Description
Member ID	Number	
DVD ID	Number	
Cost	Currency	
Days Borrowed	Number	
Date Borrowed	Date/Time	
Due	Date/Time	

Field Properties

General Lookup

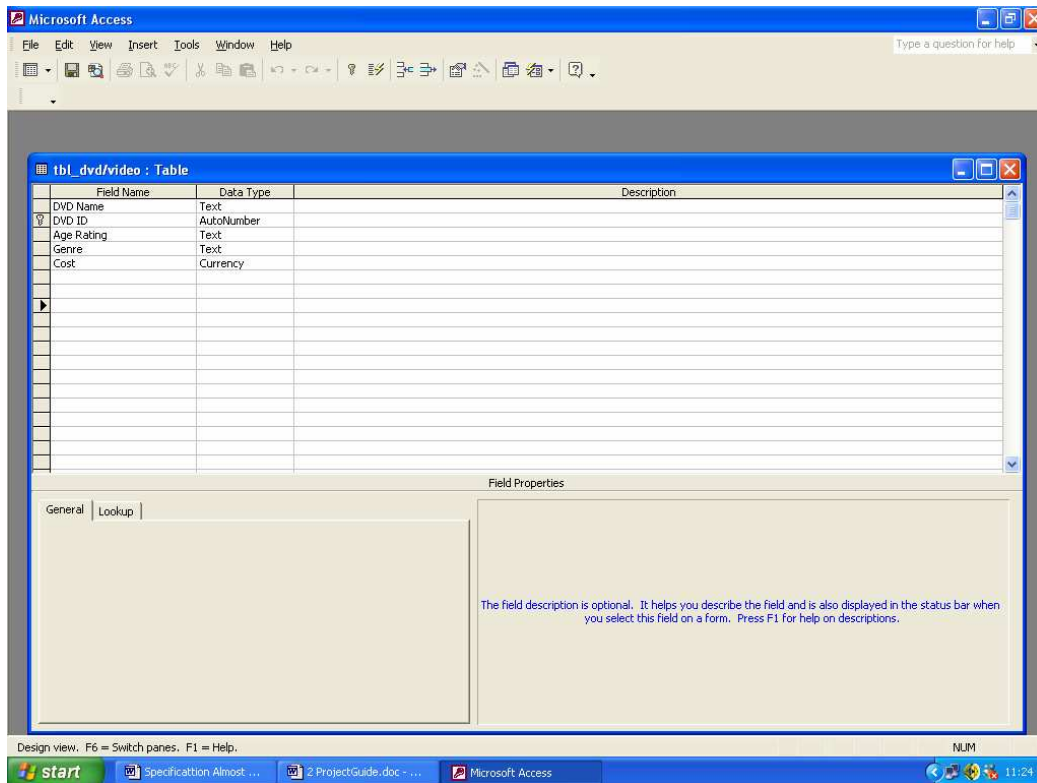
Field Size: Long Integer
Format: Auto
Decimal Places: 0
Input Mask: No
Caption: Yes (Duplicates OK)
Default Value: 0
Validation Rule: No
Validation Text: Yes (Duplicates OK)
Required: No
Indexed: Yes (Duplicates OK)

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

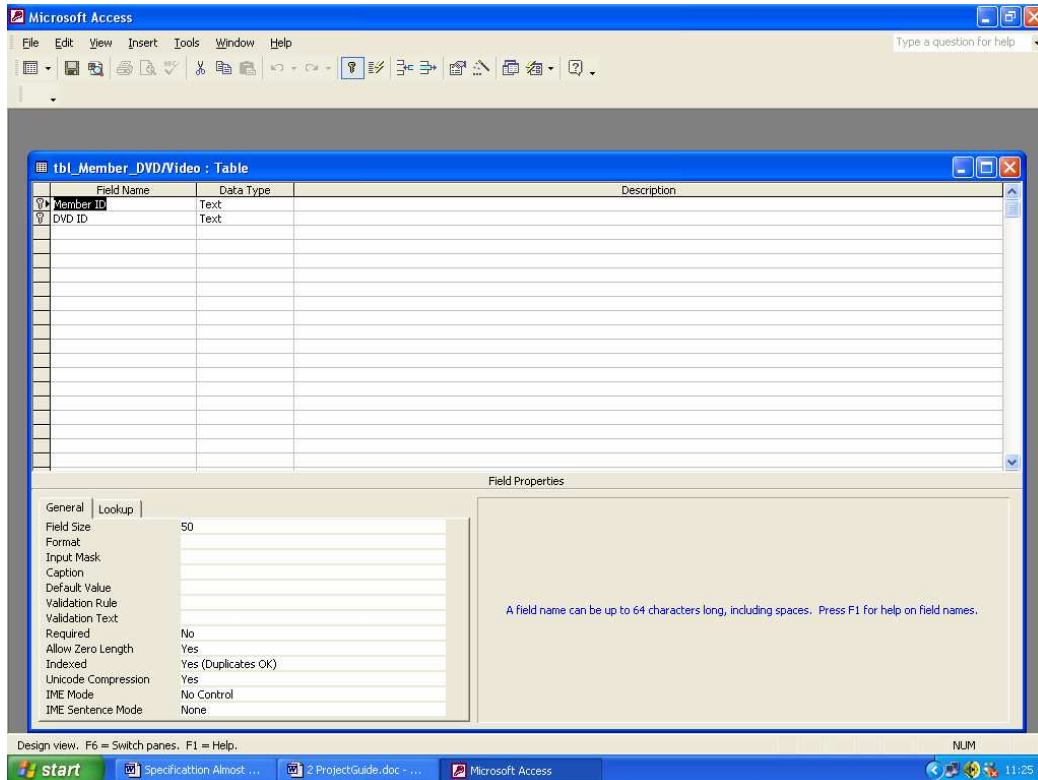
Design view. F6 = Switch panes. F1 = Help.

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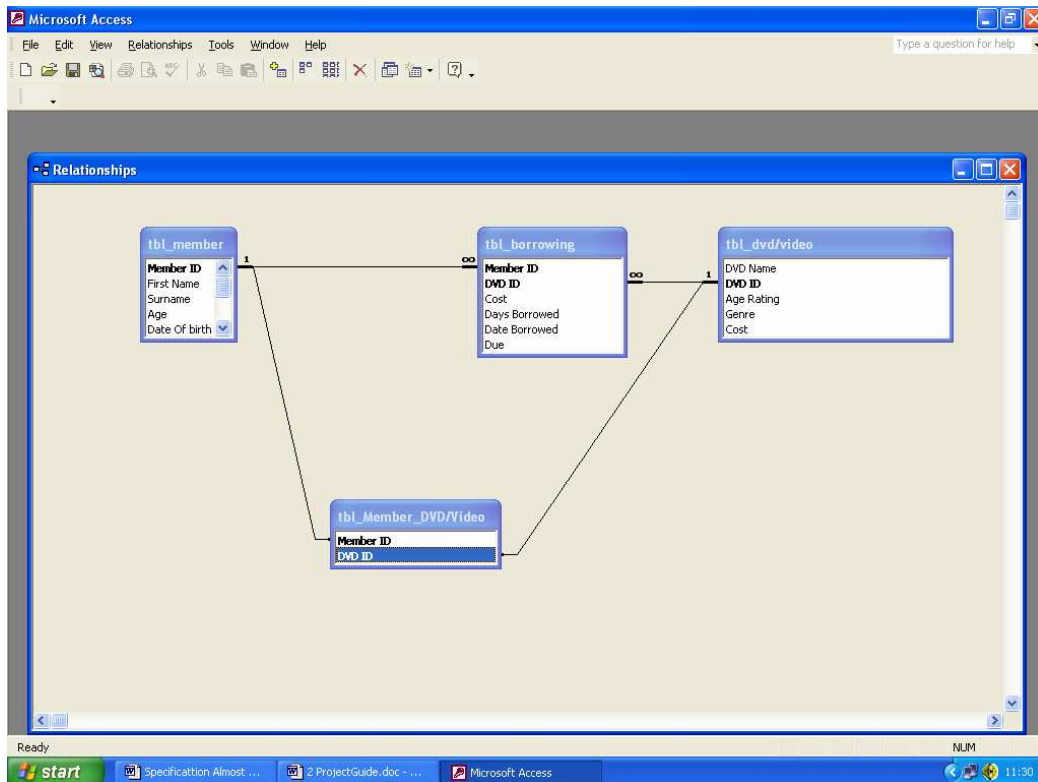
This is tbl_borrowing, all the details of what people have borrowed will be held in this table. It has two key fields DVD ID and Member ID



This is tbl_dvd/video it will hold all the information of the DVD's i.e. name, age rating etc. The key field is DVD ID



This is tbl_member_dvd/video this is a link table, the key fields a Member ID and DVD ID



This is my relationships window, it shows the relationships between the tables, it also shows that referential integrity has been enforced.

Microsoft Access

File Edit View Insert Format Records Tools Window Help

Type a question for help

tbl_member : Table

	Member ID	First Name	Surname	Age	Date Of birth	House Number/Name	Street Name	Town Name	County	Post
+	146	Sandrine	Cavanagh	57	27/05/1947	65	Walter Scott Rd	Chelmsford	Essex	CM3 9
+	147	Martka	Griffith	58	05/08/1946	Griffin House	Croxeth Road	Chelmsford	Essex	CM3 9
+	148	Aaron	Yuill	58	09/09/1946	64	Cumberland Str	Chelmsford	Essex	CM3 9
+	149	Robert	Cranvey	59	04/10/1945	454	Concert Street	Chelmsford	Essex	CM3 9
+	150	Patrick	Drake	60	19/05/1944	65	Cockspure Stre	Chelmsford	Essex	CM3 9
+	151	Bradley	Tredgett	62	16/05/1942	254	Abbey Road	Chelmsford	Essex	CM3 9
+	152	Iain	Mound	65	13/05/1939	569	Camedon Stree	Chelmsford	Essex	CM3 9
+	153	Bradley							Essex	CM3 9
+	154	Rosamund							Essex	CM3 9
+	155	Nicola							Essex	CM3 9
+	156	Robyn							Essex	CM3 9
+	157	Rebecca							Essex	CM3 9
+	158	Bob							Essex	CM3 9
+	160	david		0						
*	(AutoNumber)			0						

Record: 46 of 46

Datasheet View

start Specification Almost ... 2 ProjectGuide.doc ... Microsoft Access Microsoft Access Help 11:43

This is tbl_member this is showing that the data has been entered but is also showing erroneous data being rejected.

Microsoft Access - [tbl_dvd/video : Table]

File Edit View Insert Format Records Tools Window Help

Type a question for help

	DVD Name	DVD ID	Age Rating	Genre	Cost
+	The gold rush	323	12	Television	£3.00
+	Grease	331	12	Animation	£3.00
+	The great dictat	332	12	Classics	£3.00
+	Greenfingers	334	U	Horror	£3.00
+	Hamlet	338	18	Westerns	£3.00
+	Hard rain	342	12	Comedy	£3.00
+	Heartbreakers	346	15	Outlet	£3.00
+	Hearts in Atlant	347	18	Television	£3.00
+	Hollow man	355	12	Animation	£3.00
+	Hollywood hom	356	12	Classics	£3.00
+	The hours	358	15	Horror	£3.00
+	I dreamed of Af	362	PG	Westerns	£3.00
+	The ice storm	366	U	Comedy	£3.00
+	An ideal husbar	367	U	Drama	£3.00
+	The In crowd	370	18	Outlet	£3.00
+	In dreams	371	18	Television	£3.00
+	The insider	380	18	Classics	£3.00
+	The inspectors	382	15	Horror	£3.00
+	Jackie Brown	390	15	Comedy	£3.00
+	Jacob's ladder	391	12	Drama	£3.00
+	Jaws	394	PG	Outlet	£3.00
+	Jaws 2	395	12	Television	£3.00
+	Jurassic Park	403	18	Animation	£3.00
+	Jurassic Park II	404	18	Classics	£3.00
+	Just the ticket	406	12	Horror	£3.00
+	Kangaroo Jack	410	15	Westerns	£3.00
+	Killing me softy	414	15	Comedy	£3.00
+	Kingpin	415	15	Drama	£3.00
+	K-PAX	418	15	Outlet	£3.00

Record: 1 of 253

Datasheet View

start Specification Almost ... 2 ProjectGuide.doc ... Microsoft Access - [tbl... Microsoft Access Help 11:45

This is tbl_dvd/video in datasheet view it shows all the data that has been entered

Testing

Module Testing Forms

The screenshot shows the Microsoft Access application window titled "Microsoft Access - [frm_main : Form]". The menu bar includes File, Edit, View, Insert, Format, Records, Tools, Window, and Help. The toolbar contains various icons for editing and formatting. The status bar at the bottom indicates "Form View" and "NUM".

The form itself has a title bar "Howe Green Video Rental Store" in a grey header. The main area has a blue background. In the center, there are three stacked buttons: "Members", "Borrowing", and "DVD/Videos".

At the bottom of the window, the Windows taskbar is visible, showing the Start button and several open applications: "Specification Almost ...", "2 ProjectGuide.doc - ...", "Microsoft Access - [fr...", and "Microsoft Access Help". The system clock shows "11:52".

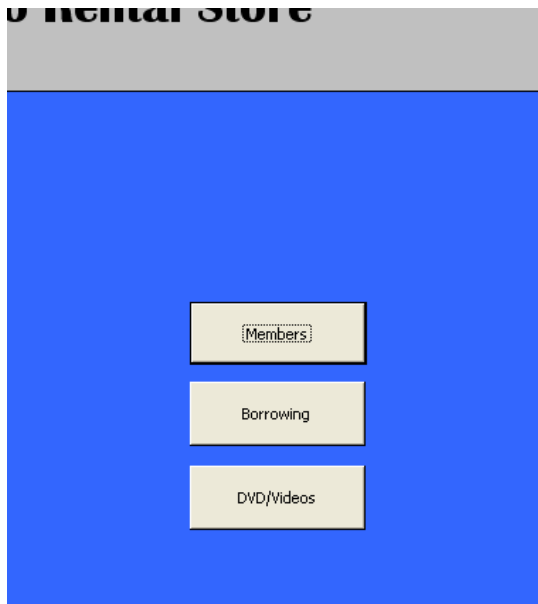
This is the main form, the first button of the form goes to the members form

The buttons at the bottom of the page allow the user to go through the different record, add record and delete records.

The next button goes to the borrowing form.

This is the borrowing form, this is where you would enter the information for letting out DVD/Videos

This shows that the navigational buttons work, it also shows that the drop down boxes have been used to add a new record the other buttons include Add record, Delete record and the usual navigational buttons .

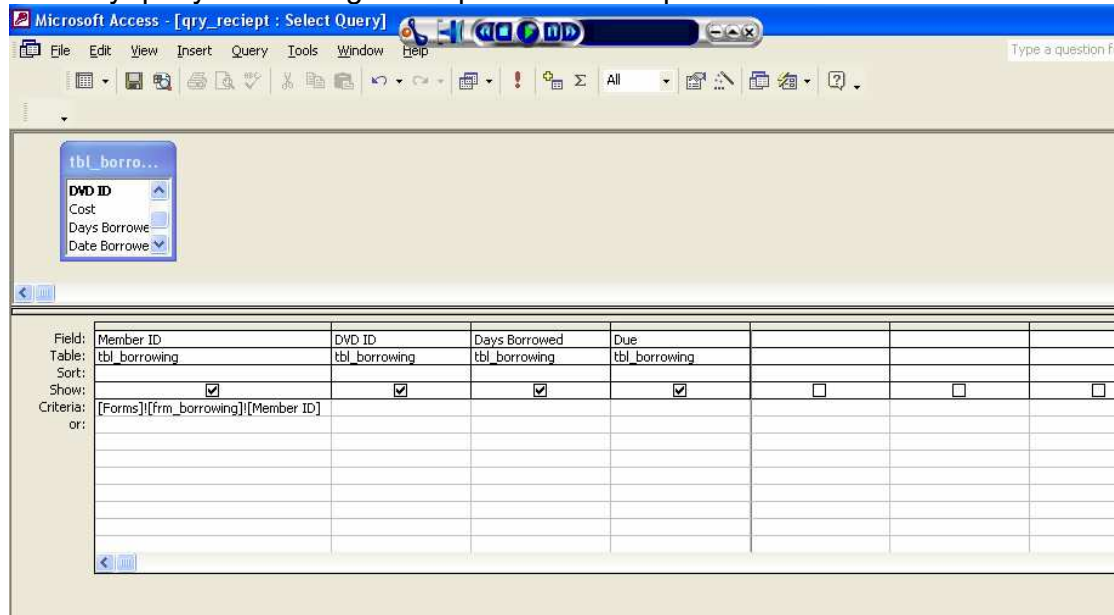


The last button is DVD/Videos button this button takes you to this screen

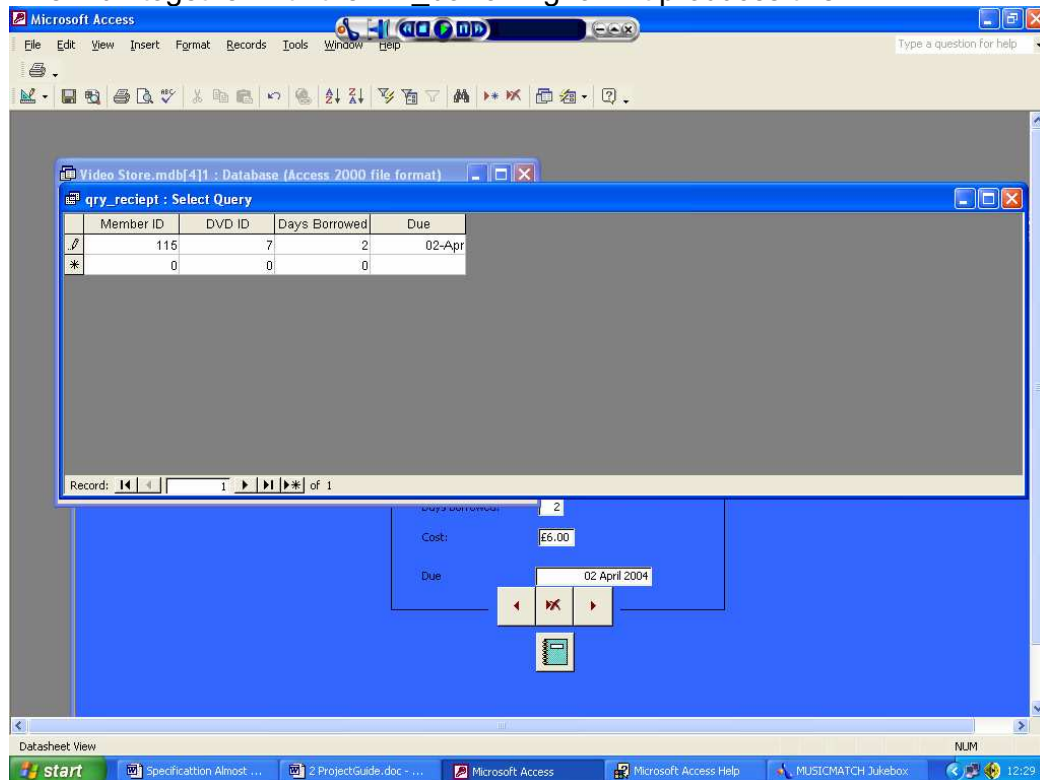
This is where you add a Film details into the database, the buttons on this form include functions such as add record, delete record, and navigate through records.

Queries

The only query that have got is to produce a receipt for the customer

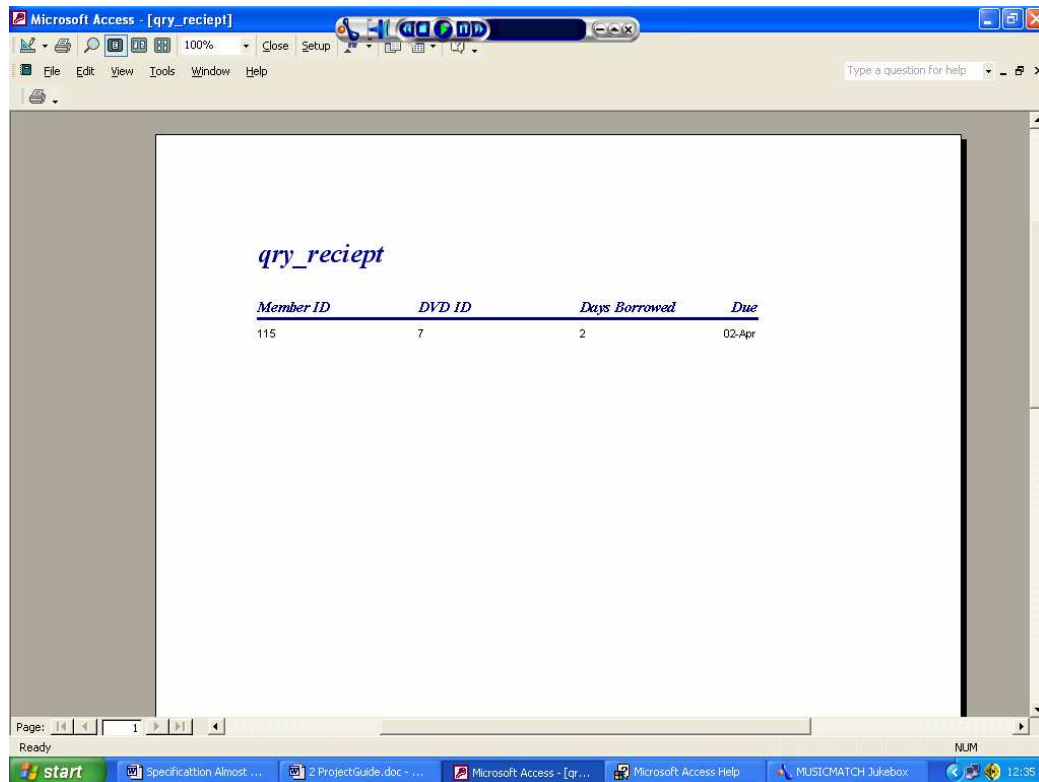


when run together with the frm_borrowing form it produces this



It shows the data that has been entered in the borrowing form.

Report



This is the report that has been produced from the above query.

Test Number	Purpose Of Test	Test Data Used	Expected Outcome	Actual Outcome
1	To check that the system opens correctly	None	The database should open up with limited toolbars	See screenshot 1
2	To Check Navigation Between Forms	None	To see If the navigational buttons work	See pages 10 - 13 screenshots
3	To check that surname allows only 20 characters Also Check 19 to see if it fits (below the	Pansonsbycarrutherssmith	It should only let 20 syllables through	See Screenshot 2

	boundary) And 20 to check it does allow 20. And 21 Just of the boundary			
4	To Check the validation rule in the gender field of the member table			
5	To check that the auto number in the member Id field works correctly	Enters 10 Numbers	The member ID should be 114 to 124	This was the case the autonumber automatically entered the members ID's
6	To check that the return date calculations for the date of return of the video works correctly	Borrow A Video from 31 st March for 2 days	The box should say 2 nd April	See Screenshot 3
7	To check that the cost calculation works correctly	Borrow Video for 5 Days at £3.00 a day	The box should say £15.00	
8	To check the system closed Correctly	None	When the welcome form is closed the whole system should close	My prediction was correct

Screenshot 1

Microsoft Access - [frm_main : Form]

File Edit Insert Records Window Help

Type a question for help

Howe Green Video Rental Store

Members

Borrowing

DVD/Videos

Form View

NUM

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12:47

Screenshot 2

Microsoft Access - [frm_member : Form]

File Edit Insert Records Window Help

Howe Green Video Rental S

Member ID: 114

First Name: PonsonbyCarruthers

Surname: Adams

Age: 16

Date Of birth: 22/08/1988

House Number/Name: 522

Street Name: Hilmor

Town Name: Chelmsford

County: Essex

Postal Code: CM3 6EW

Navigation buttons: Back, Forward, Search, etc.

Screenshot 3

m_borrowing : Form]

Records Window Help

Type a qu

31 March 2004

Member ID: 117

Name: Samantha

DVD Name: Amistad

Days Borrowed: 2

Cost: £6.00

Due: 02 April 2004

Navigation buttons: Previous, Next, Search, Cancel, Back, Forward

Calendar icon

Screenshot 4

m_borrowing : Form]

Records Window Help

Type a qu

31 March 2004

Member ID: 115

Name: Rosanna

DVD Name: Absolute power

Days Borrowed: 5

Cost: £15.00

Due: 05 April 2004

Navigation buttons: Previous, Next, Search, Cancel, Back, Forward

Calendar icon

Evaluation

The original user requirements are

- Be able to keep a list of members and their details
- Be able to keep track of videos and DVDs in stock
- Be able to see what person has got what video
- Be able to track of how much money a person owes
- Be able to rent out and return videos quickly
- Be able to print out lists of overdue videos

Meeting objectives

Be able to keep a list of members and their details

This was one achieved through creating the members form, this form allows the user to add/delete members, and also give you details on where they live and how old they are.

Microsoft Access - [frm_member : Form]

File Edit View Insert Format Records Tools Window Help

Tahoma 8 B I U

Howe Green Video Rental Store

Member ID: 114

First Name: Zoe

Surname: Adams

Age: 16

Date Of birth: 22/06/1988

House Number/Name: 522

Street Name: Hilnor

Town Name: Chelmsford

County: Essex

Postal Code: CM3 6EW

Member ID	DVD ID	Cost	Days Bor	Date Borrowed	Due
114		£0.00			

Form View

Start Novell-delivered Applicati... Written Bit - Microsoft W... Video Store : Database (... frm_member : Form

12:08

Be able to keep track of Videos and DVD's in stock

This was done through the DVD/Video form, this form allows the user to ADD/Delete videos in the database and also view information about the video, i.e. Age Rating, Genre

Microsoft Access - [frm_dvd/video : Form]

File Edit View Insert Format Records Tools Window Help

Type a question for help

Tahoma 8

Howe Green Video Rental Store

DVD\Video

DVD Name: About Schmidt

DVD/Video ID: 6

Age Rating: 15

Genre: Comedy

Cost: £3.00

Navigation buttons: Back, Previous, Next, Forward

Form View NUM

start Specification Almost ... 2 ProjectGuide.doc ... Microsoft Access - [fr... Microsoft Access Help MUSICMATCH Jukebox 12:21

Be able to see what person has got what video

This achieved along side with the members form, when you select different members a table will show you what DVD's they have, and when they are due etc.

Microsoft Access - [frm_member : Form]

File Edit View Insert Format Records Tools Window Help

Tahoma 8 B I U

Howe Green Video Rental Store

Member ID: 114

First Name: Zoe

Surname: Adams

Age: 16

Date Of birth: 22/08/1998

House Number/Name: 522

Street Name: Hillnor

Town Name: Chelmsford

County: Essex

Postal Code: CM3 6EW

Member ID	DVD ID	Cost	Days Bor	Date Borrowed	Due
114		£0.00			

Form View

Start Novell-delivered Applicati... Written Bit - Microsoft W... Video Store : Database (... frm_member : Form

12:08

Be able to track how much money a person owes

The table will show you how much each DVD costs and from this you can add up what they owe. But this could take time.

Microsoft Access - [frm_member : Form]

File Edit View Insert Format Records Tools Window Help

Tahoma 8

Howe Green Video Rental Store

Member ID: 114

First Name: Zoe

Surname: Adams

Age: 16

Date Of birth: 22/08/1988

House Number/Name: 522

Street Name: Hillmor

Town Name: Chelmsford

County: Essex

Postal Code: CM3 6EW

Member ID	DVD ID	Cost	Days Bor	Date Borrowed	Due
114		£0.00			

Form View

Start Novell-delivered Applicati... Written Bit - Microsoft W... Video Store : Database (... frm_member : Form

12:08

Be able to rent out and return videos quickly

This has been achieved, the borrowing form has been made as user friendly as possible, the user has to select the members ID and the Video they wish to borrow then the amount of days, and the computer will work out the rest, this is a very quick system. The only bad thing about this is that the current system only allows the user to hire out one video at the time.

m_borrowing : Form]

Records Window Help

31 March 2004

Member ID: 115

Name: Rosanna

DVD Name: Absolute power

Days Borrowed: 5

Cost: £15.00

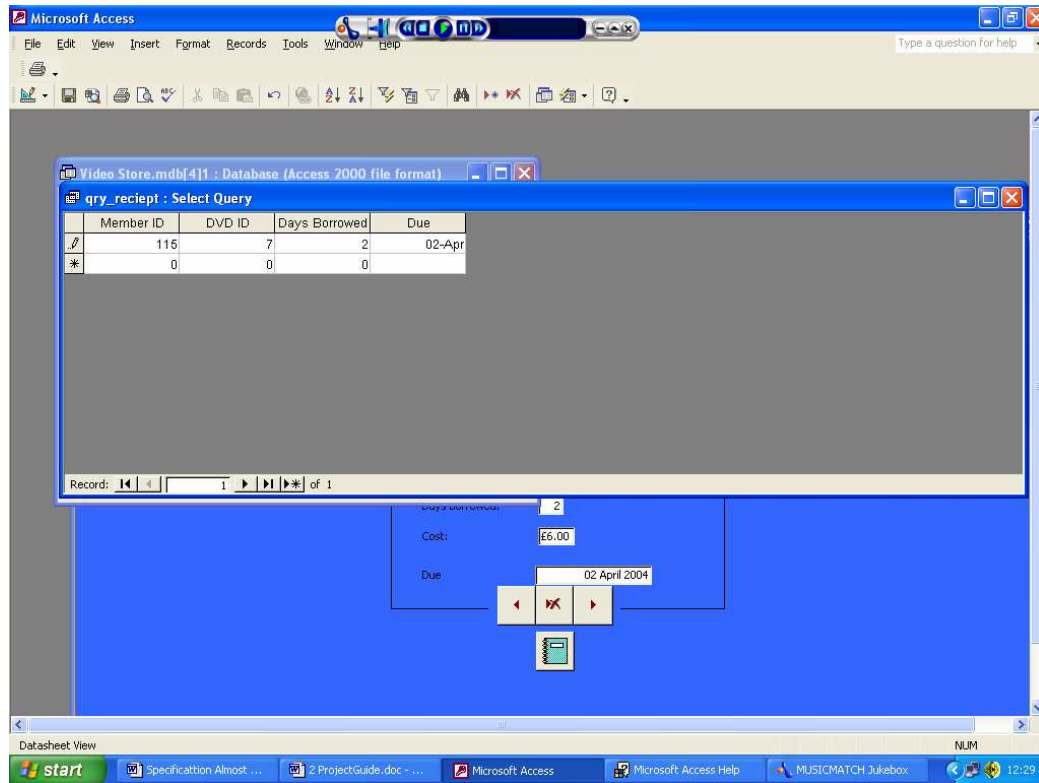
Due: 15 April 2004

Navigation buttons: Previous, Next, First, Last, Search, Cancel, OK

Calendar icon

Be able to print out a list of overdue videos

This can be done by looking at the videos hired out and the videos over due can be worked out from this. This could have been made easier for the user but it has not.



Enhancements

The first main enhancement I would make is being able to hire out more than one video at a time, as this a serious limitation. This is do -able. Another enhancement that I would make is making it easier to see what is over d ue and how much the person owes, this would make the system much more stress free for the user as at the end of the day the last thing the user wants to do is to work out if a video is overdue or not or how much a person owes, if this was all computerised there would be less room for error.