ENTITY RELATIONSHIP DIAGRAM

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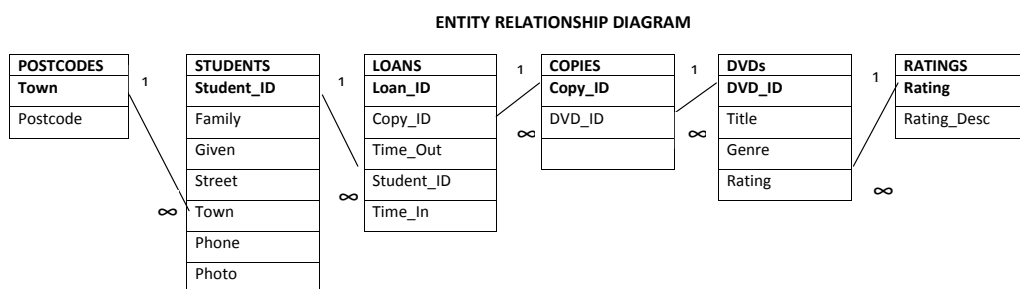| POSTCODES		STUDENTS		LOANS		COPIES		DVDs		RATINGS
Town		**Student_ID**		**Loan_ID**		**Copy_ID**		**DVD_ID**		**Rating**
Postcode		Family		Copy_ID		DVD_ID		Title		Rating_Desc
		Given		Time_Out				Genre		
		Street		Student_ID				Rating		
		Town		Time_In						
		Phone								
		Photo								

ERD provides clear information about the structure of the database.

TABLES SHOWING FIELDS & DATA TYPES

Table: **STUDENTS**

Field name	Data type	Description	Other information
Student_ID	Number	Uniquely identifies student	Primary key
Family	Text	Family name	
Given	Text	Given name	
Street	Text	Street address	
Town	Text	Town	
Phone	Text	Contact phone no	
Photo	OLE object	Photo of student	

Table: **DVDs**

Field name	Data type	Description	Other information
DVD_ID	AutoNumber	Uniquely identifies DVD	Primary key. AutoNumber needed to minimise data input
Title	Text	Title of DVD	
Genre	Text	Category of DVD	
Rating	Text	Coded censorship rating	Validation rule needed "G" Or "PG" Or "M" Or "MA" Or "R" (to minimise incorrect input) Default to "G" – as most DVDs have "G" rating

Table: **POSTCODES**

Field name	Data type	Other information	Other information
Town	Text	Uniquely identifies town	Key field
Postcode	Text	Doesn't need calculations	Input mask 0000 needed as postcodes are 4 digits

Table: **LOANS**

Field name	Data type	Other information	Other information
Loan_ID	AutoNumber	Uniquely identifies the loan	Primary key. AutoNumber needed to minimise data input
Copy_ID	Number	ID of copy on loan	Foreign key from COPIES
Time_Out	Date/Time	Date of borrowing	Default to today's date to minimise data input
Student_ID	Number	ID of student borrowing	Foreign key from STUDENTS
Time_In	Date/Time	Date of return	

Table: **COPIES**

Field name	Data type	Other information	Other information
Copy_ID	AutoNumber	Uniquely identifies a copy	Primary key. AutoNumber needed to minimise data input
DVD_ID	Number	Corresponding DVD	

Table: **RATINGS**

Field name	Data type	Other information	Other information
Rating	Text	Censorship code	Validation rule needed "G" Or "PG" Or "M" Or "MA" Or "R" (will minimise incorrect input)
Rating_Desc	Text	Explains the rating letter	Validation rule needed "General" Or "Parental Guidance" Or "15+over" Or "Mature Audiences" Or "Restricted" (will minimise incorrect input)

PROPOSED QUERIES

Query name	Purpose	Additional Information
qryallDVDs	Provide base query for Report DVD Listing	Tables needed: RATINGS, DVDs, COPIES Search: none

Query name	Purpose	Additional Information
qryloans	Provide base query for subfrmloans	Tables needed: DVDs, COPIES, LOANS, STUDENTS. A search will be needed to find records where the Time_In field is empty

Query name	Purpose	Additional Information
qryMemberDetails	Provide base query for frmMemberEdit	Tables needed: STUDENTS, POSTCODES. There will need to be a sort first by Family then by Given

Query name	Purpose	Additional Information
qryMovieDetails	Provide base query for frmMovieEdit	This will need to include all fields from DVDs. There will need to be a sort on Title

Query name	Purpose	Additional Information
qryOverdues	Provide base query for Overdues Report	Tables needed: DVDs, COPIES, LOANS, STUDENTS. The full name of the student can be included by concatenating Given & Family. A search will be needed to find DVDs due back <today and Time_In empty.

Query name	Purpose	Additional Information
qryReturnDetails	Provide base query for frmReturnVideo	Tables needed: LOANS, DVDs, COPIES (to link)

Query name	Purpose	Additional Information
qrysearchGenre	Provide base query for report "All DVDs about.."	Tables needed: DVDs, COPIES. If a parameter search is used then the user can specify the search text

PROPOSED FORMS

Form name	Outline
frmlookuplist	To show loans relating to a selected student
frmMainMenu	To provide a user-friendly interface to access all forms and reports
frmMakeLoan	To allow creation of a new loan
frmMemberEdit	To add a new student or update details of a current student
frmMovieEdit	To add a new DVD or update information about a current DVD
frmPostcodes	To enter a new postcode
frmReturnVideo	To allow return of a DVD and cancellation of the loan
subformLoans	To display a student's loans on each student form

PROPOSED REPORTS

Report name	Outline
All DVDs about	Based on qrysearchGenre
DVD Listing	Based on qryallDVDs lists all DVDs
Overdues	Based on qryOverdues

MACROS NEEDED

Macro name	Outline
mcrautoexec	Open Main Menu on startup
mcrClearSearch	Clear search box after search has been performed
mcrClosePostcodes	Close postcode form
mcrFindCopy	Finds the details of the DVD copy that is returned
mcrFindMember	Find student record when user enters last name
mcrFindMovie	Find DVD record when title is entered
mcrLastRecord	Attach to button on any form to go to the previous record
mcrLookupLoan	Open loan form for current student
mcrmessage	Display a message box with information for the user
mcrNewReturnsRecord	Open a new record when the DVD return form opens
mcrOpenLookupList	Open a form to look up a student loan
mcrOpenMakeLoans	Open form to make a loan
mcrNextRecord	Attach to button on any form to go to the next record

Information gives very clear information about the internal structure of the database.

TESTS REQUIRED

Test Type	Nature of test	Example
Relationships created correctly	Data is added to one table that cascades into another	A new DVD is added and lent to a student. New data has been added to loans as expected
Forms work as expected	Data is added and changed using the forms. All buttons are tested	A new loan is added via the student Loan form. The loan can be accessed via the lookup list. The item is returned via the Returns form and no longer appears on the student loans form.
Queries run	Click on queries in database object list.	The parameter query brings up an input text box. If the word 'food ' is input then all DVDs listed have the genre food.
Reports load	Click on reports in database object list. Check reports run from Main Menu	Overdues loads as expected
Macros run	Click on macros in database object list to ensure they run as expected	mcrmessage brings up credits

The testing regime is appropriate for the product.

Summary

This criterion was awarded 6 marks.

The record of tasks is comprehensive and gives a very clear indication of how the product was developed, as well as providing further evidence of consultation between the student and the client to support the information in criterion A.

The diagrams providing information about the structure of the product are exemplary, demonstrate a high level of complexity and ingenuity (criterion C), and would provide any future developers of the product with the information to extend it (criterion D).