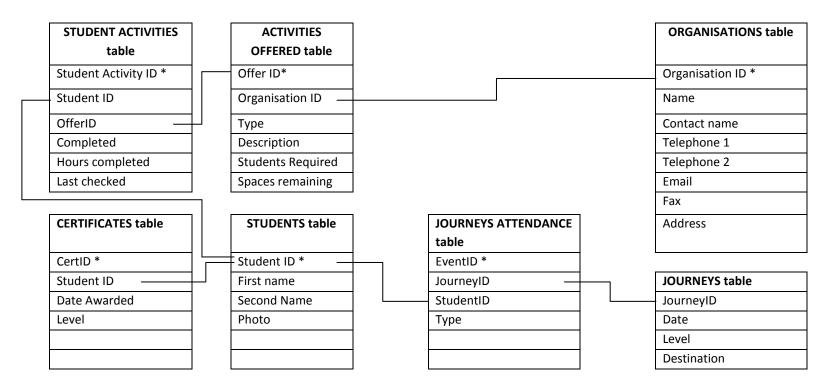
# **Criterion D: Product design—Overall structure**

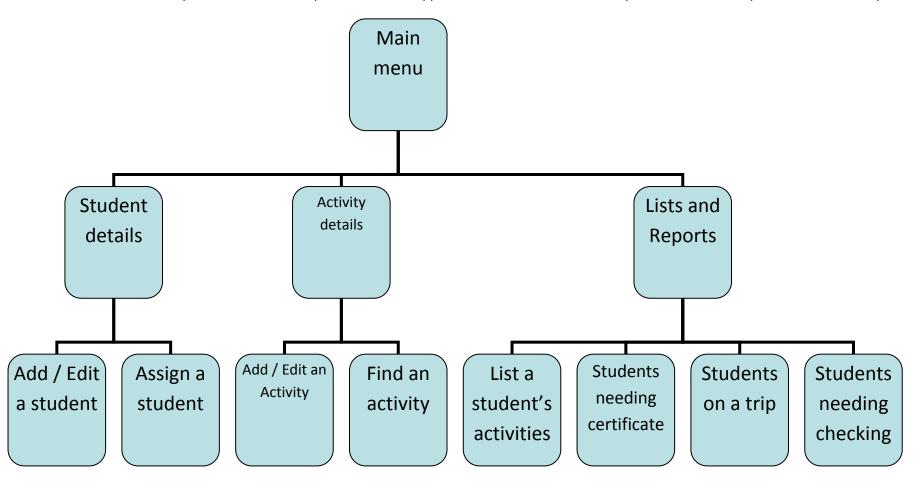
#### **Overall Structure of the database**

The table below shows the design for the database tables, fields, and the relationships between them. The primary keys are indicated with a \*. The Adventurous Journeys are stored in a separate table from the Activities because they have different requirements; students must undertake at least two journeys, whereas for other activities, the number of completed hours is what counts.



## Overall Structure of the Menu (Switchboard) system

This table shows the hierarchy of the switchboard system which will appear when the database is first opened. It does not represent the screen layout.



# **Internal structure**

The table below gives details of the tables, their data types, and validation rules. Primary keys are indicated by **PK**; foreign keys by **FK**.

#### STUDENTS table

Field name	Data type	Validation rule(s)	Default value	Indexed?	Required?
Student ID (PK)	AutoNumber		N/A	Υ	Υ
First name	Text		N/A	N	Υ
Second Name	Text		N/A	N	Υ
Photo	OLE Object (graphic)		N/A	N	N

#### **STUDENT ACTIVITIES table**

Field name	Data type	Validation rule(s)	Default Value	Indexed?	Required?
Student Activity ID (PK)	AutoNumber		N/A	Y	Y
Student ID (FK)	Number		N/A	Υ	Υ
OfferID (FK)	Number		N/A	Υ	Υ

Complete	Boolean		"No"	N	N/A
Hours completed	Number	Greater than or equal to zero	0	N	Υ
Last checked	Date / Time		null	N	N

## **ORGANISATIONS** table

ORGANISATIONS table	Data type	Validation rule(s)	Default Value	Indexed?	Required?
Organisation ID (PK)	AutoNumber		N/A	Υ	Υ
Name	Text		N/A	N	Υ
Contact name	Text		N/A	N	N
Telephone 1	Text		N/A	N	N
Telephone 2	Text		N/A	N	N
Email	Text		N/A	N	N
Fax	Text		N/A	N	N
Address	Text		N/A	N	N

#### **ACTIVITIES OFFERED table**

Field Name	Data type	Validation rule(s)	Default	Indexed	Required?
			Value		
Offer ID (PK)	AutoNumber		N/A	Υ	Υ
Organisation ID (FK)	Number		N/A	Υ	Y
Туре	Text	Lookup from: Skill, Service, Physical Recreation	N/A	N	Υ
Description	Text		N/A	N	Υ
Students Required	Number	Greater than zero	1	N	Y
Spaces remaining	Calculated field	Greater than or equal to zero	0	N	Y

#### JOURNEYS table

Field name	Data type	Validation rule(s)	Default Value	Indexed	Required?
Journey ID (PK)	AutoNumber		N/A	Υ	Υ
Date	Text		N/A	N	Υ
Level	Text	Lookup from: Bronze, Silver, Gold	N/A	N	Υ

Destination	Test	N/A	Ν	Υ

#### **JOURNEY ATTENDANCE table**

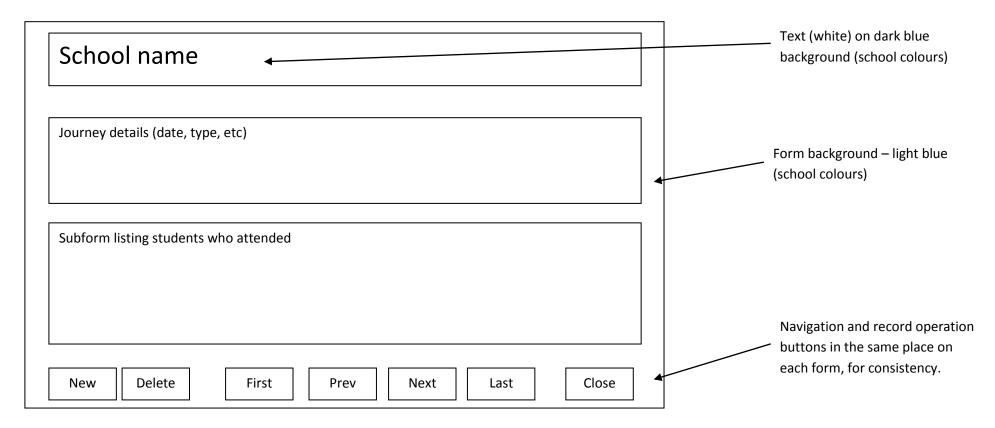
Field name	Data type	Validation rule(s)	Default value	Indexed	Required?
Event ID (PK)	AutoNumber		N/A	Υ	Υ
Journey ID (FK)	Number		N/A	Υ	Υ
Student ID (FK)	Number		N/A	Υ	Υ
Туре	Text	Lookup from: Practice, Final	N/A	N	Υ

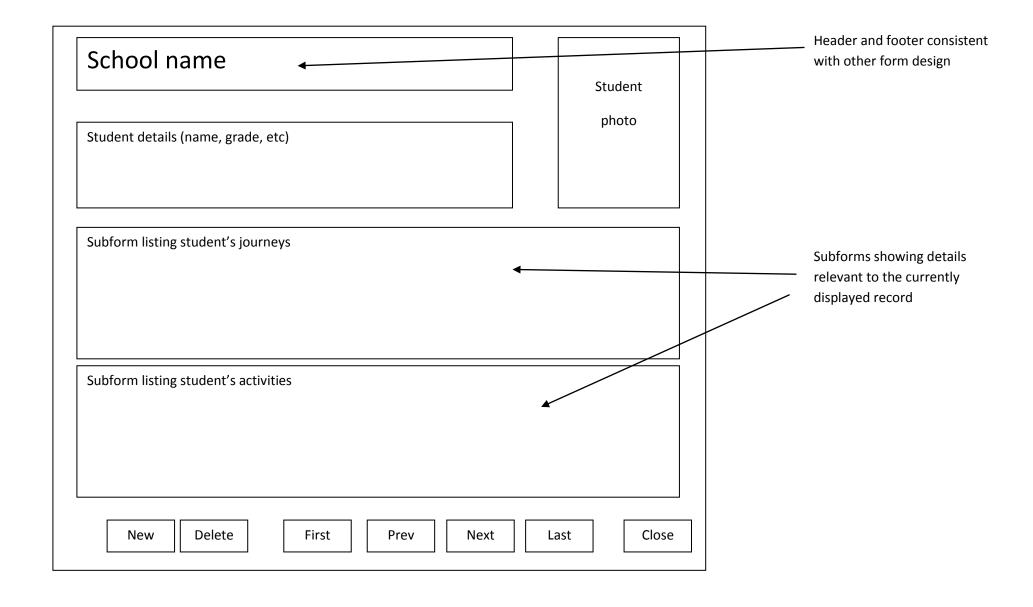
#### **CERTIFICATES table**

Field name	Data type	Validation rule(s)	Default value	Indexed	Required?
Cert ID (PK)	AutoNumber		N/A	Υ	Υ
Student ID (FK)	Number		N/A	Υ	Υ
Date awarded	Date / Time	Default value: null	N/A	N	N
Level	Text	Lookup from: Bronze, Silver, Gold	N/A	N	Υ

#### **Form Design**

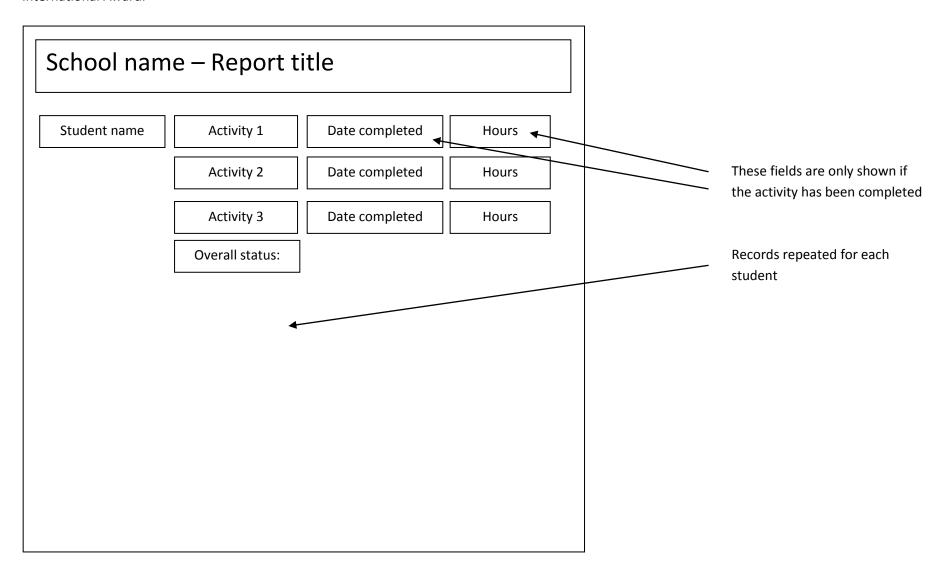
The sketches below show the layout of most forms in the system. Although the exact fields displayed will vary from form to form, the layout will be kept as consistent as possible across forms, in order to improve usability.





## Report design

The sketch below shows the layout of the "Student status" report which lists students, the activities they are undertaking, and the status of their International Award.



# List of resources and techniques

Resources	Details
School logo	This will be supplied by Mr Cole as a JPG image.
Sample data (student, activity, organization details)	This will be supplied by Mr Cole as a computer printout from his current spreadsheet.

Techniques	Details
Three or more related tables	Seven related tables are needed to store the data required by Mr Cole
Subforms	These will be used in the Student information form to list all activities and trips a student has undertaken. They will also be used in the Organisations form to list activities belonging to that organization.
Complex queries	The queries to list students and acitivities will require a combination of Parameter queries and multi-table queries
Use of graphics fields	The student photo field is a graphic field
Proficient use of techniques to enable easy navigation such as menus or buttons	The main switchboard will allow easy navigation, and each Form will have a set of buttons for record navigation and manipulation.

Proficient design of reports and/or forms	The forms will be customized to have a consistent appearance and a look and feel which
	incorporates the school colours and logo.
Data validation (basic technique)	Validation rules, input masks, lookups, and properties such as "Required" are used throughout
	the database
Three data types (basic technique)	Data types used are: AutoNumber, Number, Text, Boolean, OLE Object (graphic), and Date/Time.
Use of graphics(basic technique)	The forms, reports, and switchboard will incorporate the school logo. In the student form the
	student photo, if available, will be displayed.

# **Test plan**

Test item	Test data	Part of system tested	Expected outcome	Actual outcome	Comments	Ref in product
Cover page testing -	REQUIRED ELEMENT FO	R CRITERION G				
Web pages load from the cover page in three different locations	File naming to ensure home page is called Index.htm	Links on cover page are relative	Loads as required from 3 different locations	ОК		
Product testing	<u> </u>		<u>I</u>		<u>I</u>	
Database tables	Valid and invalid data for each field	Tables, validation rules, input masks	(depends on data entered)	OK	A few small errors in validation rules were corrected	
Queries	Criteria (various)	Queries	Records matching criteria are shown; those not matching are not shown.	OK		
Forms	Navigate records, try deleting and adding new records	Forms	All records in a table should be navigable. Adding and deleting records should be reflected in the underlying tables	OK		
Reports	Run the report	Reports	Ensure the formatting is correct and all records are included	OK		

# Agreement of client

I confirm that the requirement specification meets my needs and the designs above are appropriate for the creation of the product.

Mr Cole

(Client)