### **Coursework Task**

## **Intermediate 2 Information Systems**

Valid for session 2008/2009 only

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### **Coursework Task**

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# Introduction

Organisation and conditions for assessment

### Organisation and conditions for assessment

The assessment is designed to test each candidate's ability to apply knowledge and understanding and practical skills, developed through study of the Database Systems and Using Information Units. The mark out of 30 should be submitted to the SQA unscaled. This will be combined with the examination mark out of 70 to establish the candidate's overall grade of award. This mark should also be used in preparation of estimate grades.

The notional design length for the assessment is 8 - 10 hours. However, a candidate may be allowed longer than this if required.

The assessment is to be undertaken under "open book" conditions, but under supervision by the tutor to ensure that the work submitted is the candidate's own work. The tutor may give the candidate hints and/or help if requested. Any such help should be reflected in the marks awarded. Once the task has been completed and marked, it should not be returned to the candidate for further work.

These instructions are designed to be used in conjunction with data files provided with the electronic distribution of the task. These can be downloaded from the SQA secure website.

The files to be downloaded should include:

- The 2008/2009 Int 2 IS Coursework Task
- Graphics for website
- TVs database
- Six Company Logos (Bright, PixelPerfect, PowerZ, TV2GO, Vision, Whyte)

Candidates are not required to spend time entering data into a database. Instead, the data should be prepared beforehand and provided to candidates by the centre.

To facilitate this, database files for Microsoft Access and FileMaker Pro have been provided for this task. The files contain or represent a number of tables with data entered. The appropriate file(s) should be made available to the candidates.

Centres using alternative relational database software can use the accompanying data files, which contain tab-delimited data required for the tables. The centre should set up tables as appropriate within the database software and import the data provided. The resulting database file should then be made available to the candidates.

### **Notes**

- Candidates should be given a copy of the marking grid before starting the task so that they are aware of the mark distribution for each part.
- It is essential that candidates use a relational database application for Part 2. Task 1 of Part 2 must be completed and the database design form handed in for marking before the completed database design form is issued.
- At the beginning of Part 2, candidates should be given the TVs database that contains the Models table. During the coursework, the candidate will have to create the Manufacturer table and link the two tables together.
- Task 4 of Part 2, asks the candidate to "Print out a copy of your design that shows the field types and validation check". This is to provide evidence that the correct field types have been used and all necessary validation checks implemented. Producing this **printout** is NOT part of the task and if a candidate has difficulty then the assessor should help them produce the printout without penalty.
  - o In FileMaker Pro, to get a printout of the design, candidates should adhere to the following instructions.
    - (1) Select the "Define" option from the File menu and then select the "Database" option from the sub-menu.
    - (2) Click on the Tables tab.
    - (3) Highlight both tables by clicking on the name of the first table then holding down the shift key and clicking on the other table.
    - (4) Click on the Print button.
  - In MS Access, to get a printout of the design, candidates should adhere to the following instructions.
    - (1) Select the "Analyze" option from the Tools menu and then select the "Documenter" option from the sub-menu.
    - (2) Select the table(s) required and then click Options button.
    - (3) Make sure that the following options are checked/selected:
      - Include for Table
        - Properties
        - Relationships
      - Include for Fields
        - Names, Data Types, Sizes and Properties
      - Include for Indexes
        - Names and Fields
    - (4) Click on OK
    - (5) The required table design is displayed on screen and can be printed.



- Task 7 of Part 2 requires a printout or hardcopy of the relationships.
  - o Printing Relationships in FileMaker 8.
    - (1) Select the "Define" option from the File menu and then select the "Database" option from the sub-menu.
    - (2) Click on the Relationships tab then click on the Print button.
  - o Printing Relationships in Access
    - (1) Open the Relationships window.
    - (2) Select the "Print Relationships" option from the File menu.

# **Section 1**

**Coursework Task** 

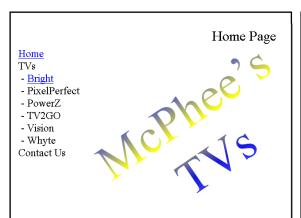
# **Intermediate 2 Information Systems Coursework Task 2008/2009**

#### Part 1

McPhee's is a company with many stores throughout the country selling televisions. Recently, with the introduction of LCD and Plasma televisions, many customers are replacing their old televisions with modern flat screen televisions. McPhee's stock televisions made by six different manufacturers: Bright, PixelPerfect, PowerZ, TV2GO, Vision and Whyte.

To try to obtain a greater share of the market, McPhee's would like to have a website developed that will give details of their best selling televisions. You have been asked to create a small sample website that will give McPhee's some idea of what the final website would look like. As it is only a sample, you do not need to create the entire website, just the home page and three other Web pages.

The four Web pages you have to create are shown below.









#### **Notes:**

- o The home page is the opening page.
- On all pages, clicking on "Home" in the navigation bar will take the user to the home page.
- On all pages, clicking on "Bright" in the navigation bar will take the user to the Bright main page.
- When either the television or the model number on the Bright main page is clicked, it will take the user to the details about that television.
- O The remainder of the links in the navigation bar do not need to be implemented as it is only a sample website.

### What you have to do

Your assessor will give you access to a *Web authoring* application and a copy of the graphics required for the website. You have to create the sample website shown on the previous page.

When carrying out the following tasks, pay particular attention to the data objects, operations and formatting functions that you use.

	Tasks	Evidence Required
1 a)	Using the files provided by your assessor, create the website shown on the previous page ensuring that:  O The home page is the opening page. On all pages, clicking on "Home" in the navigation bar will take the user to the home page. On all pages, clicking on "Bright" in the navigation bar will take the user to the Bright main page. O When either the television or the model number on the Bright main page is clicked, it will take the user to the details about that television.  You should make sure that you format all the objects in the website so they match the ones shown on the previous page as closely as possible.	Printout of website
b)	Insert your name at the bottom of all Web pages and print out a copy of your website.	

(8 marks)

You have to evaluate the suitability of the Web authoring application you used to produce the website. Your assessor will give you a pro-forma that you should complete using the instructions below.

	Tasks	Evidence Required
2 a)	Identify <b>three</b> different <b>types</b> of data object used in the creation of the website.	
b)	Choose <b>one</b> of the data objects you identified above and describe <b>two</b> operations that the application allowed you to carry out on that object in the creation of the website.	Evaluation of application to create the website.
c)	Evaluate the online help of the application used to create the website. Your evaluation should include details of <b>two</b> features of the online help.	

(6 marks)

#### Part 2

Customers frequently ask technical questions like "Which televisions have at least 3 HDMI connections?" or "Which televisions are HD Ready?". Staff in McPhee's stores, are unable to remember details like this, so it has been decided to create a database of the different television manufacturers and the models they make.

Information about the television models has already been entered into a database. A sample record is shown below.

Model	BR1576819
Price (£)	139.99
Company	Bright
TV type	LCD
Screen size (inches)	15
EPG (days)	0
HD ready	No
Resolution	768
Contrast ratio	400
Brightness (cd/m2)	250
Sound system	Virtual Surround Sound
Audio output (watts)	4
No Scart sockets	1
S-Video	No
Component video	No
No HDMI connections	0
DVI connection	No
Power On (watts)	19
Power Standby (watts)	0.7

Information about each television manufacturing company has still be added. The name of each company is unique and therefore suitable to use as a primary key. McPhee's would like the following information added:

Company	Founded	Profit (£m)	Logo	Warranty (years)	Manufacturing Country	Finance
Bright	22/05/1975	1045	PRIGHT	5	United Kingdom	18 months
PixelPerfect	02/10/2005	22	Political Tentros	5	United Kingdom	24 months
PowerZ	17/11/1988	356	2	2	Japan	24 months
TV2GO	30/12/1999	77	TV2GO	1	USA	None
Vision	02/02/2002	6	STATE AND A STATE OF THE STATE	1	USA	None
Whyte	19/07/1982	14		5	Russia	18 months

• The warranty attribute can only take the values 1, 2 or 5.

### What you have to do:

	Tasks	Evidence Required
1.	Your assessor will give you a blank database design form. Complete the form by filling in each of the field types and any validation that would be carried out for the information shown in the table above.	Completed Database Design Form

You must hand in your database design form to your assessor before going any further.

### What you have to do (continued):

Your assessor will have given you the completed database design form.

	Tasks	Evidence Required
2.	Using the completed database design form issued by your assessor and a relational database application, create a table called <b>Manufacturer</b> that can be used to store the information about each of the television manufacturing companies.  (Note: Your assessor will have provided you with the database	
3.	file called TVs which contains the Models table.)  The Warranty (years) field of the Manufacturer table can only contain the values 1, 2 or 5. Alter the table so that the Warranty (years) field can only accept these values.	Printout of Manufacturer table design showing field types and validation check.
4.	Print out a copy of your design that shows the field types and validation check. (If you are unsure how to do this, your assessor will be able to help you.)	
5.	Enter all the data into your Manufacturer table, taking care to ensure the data is entered as shown below. Your assessor will give you an electronic copy of the six logos; one for each company.	

Company	Founded	Profit (£m)	Logo	Warranty (years)	Manufacturing Country	Finance
Bright	22/05/1975	1045	URIGHT	5	United Kingdom	18 months
PixelPerfect	02/10/2005	22	Tanipas	5	United Kingdom	24 months
PowerZ	17/11/1988	356	2	2	Japan	24 months
TV2GO	30/12/1999	77	TV2GO	1	USA	None
Vision	02/02/2002	6	which wilds a spin on the control of	1	USA	None
Whyte	19/07/1982	14		5	Russia	18 months

### What you have to do (continued):

6.	Create a simple report/layout to display the entire contents of the Manufacturer table.  Produce a printout using this report/layout ensuring that your name and all field names can be clearly seen on the printout.	Printout of Manufacturer table report/layout.
7.	Link the <b>Manufacturer</b> table to the <b>Models</b> table using the <b>Company</b> field.  Print out a copy of the relationship window showing the link between the tables.	Printout/screendump of the relationship window showing the link between the tables.
8.	Mr. Hassan is only interested in buying televisions that are made in the United Kingdom. He is looking for a television that has a screen size of at least 37 inches but not more than 42 inches.  Produce a printout of a report/layout showing all the televisions made in the United Kingdom that have a screen size of at least 37 inches but not more than 42 inches.  The printout should show: The fields – Company, Manufacturing Country, Model, Price (£), Resolution, Screen Size (inches) and HD Ready.  The Price (£) field should be shown in currency format.  All details on the report/layout must be clearly visible.	Printout of the televisions made in the United Kingdom with a screen size of at least 37 inches but not more than 42 inches using a report/layout as specified in 8.
9.	Meagan enjoys the full cinema experience when watching television. McPhee's has recommended that she go for a television with a 1080 resolution and either a Virtual Surround Sound system or a ProLogic II sound system. Meagan would like a list of televisions that are most suitable.  Provide Meagan with a list of all televisions that have a 1080 resolution and either a ProLogic II sound system or a Virtual Surround Sound system. The list of televisions should be in order of <b>Price</b> (£) starting with the cheapest. If two or more televisions have the same price then they should be in order of <b>Screen Size</b> (inches) starting with the highest.  The printout should show: The fields – Model, Sound System, Resolution, Price (£) and Screen Size (inches).	Printout of all 1080 resolution televisions with either a ProLogic II or Virtual Surround Sound system in order of Price (£) and Screen Size (inches)

(16 marks)

Collect all your printouts in the order they were asked for. Ensure that your name is clearly visible on all printouts. Hand all printouts to your assessor.

# **Section 2**

**Marking Information** 

## **Marking Grid**

Name	Date
1 1002220	

	Торіс	Possible Marks	Marks Gained	Comment
	Four Web pages created	1,0		
	Text inserted and formatted as	2,1,0		
	specified			
Create website	Pictures inserted and formatted	2,1,0		
	as specified			
	All hyperlinks/hotspots created	3,2,1,0		
	and working as specified			
	Identification of three different	2,1,0		
	types of object			
Evaluate	Description of two operations	2,1,0		
application	provided to produce chosen			
аррисации	object			
	Evaluation of features of the	2,1,0		
	online help			
Design of	Field Types	2,1,0		
Manufacturer	Validation	1,0		
table		·		
	Creation of table	2,1,0		
	Restricted Choice Field	1,0		
Creation of	Accurate entry of Manufacturer	1,0		
Manufacturer	data			
table	Creation and printout of	1,0		
	Layout/Report			
	Linking of Manufacturer and	1,0		
	Models table			
	Report/Layout showing:			
	Correct fields shown and all	1,0		
Complex	information clearly visible	1.0		
search	Price (£) in currency format	1,0		
	Select televisions made in the	2,1,0		
	UK between 37 and 42 inches			
	inclusive			
	I a		Г	
	Select televisions with 1080	3,2,1,0		
Complex	resolution with either ProLogic			
search and sort	II or Virtual Surround Sound			
	system in order of Price and			
	Screen Size	L	<u> </u>	
0 11			Г	
Overall total		30		

# Appendix 1

**Detailed Marking Instructions** 

# **CONFIDENTIAL** – not to be issued to candidates Detailed Marking Guidelines

The following guidelines assume that all work was carried out by the candidate on their own (or with the assistance of open book materials). Any assistance by the assessor should be reflected in a reduction of the number of marks awarded.

#### PART 1

PART I			
	Four Web pages created	1,0	Four page website created – 1 mark
	Text inserted and formatted as specified	2,1,0	<ul> <li>Text inserted and formatted:         <ul> <li>Page title text right aligned on all pages</li> <li>TV details displayed in tables</li> <li>Manufacturers names indented in navigation bar</li> </ul> </li> <li>All 3 bullets satisfied – 2 marks         <ul> <li>Any 2 bullets satisfied – 1 mark</li> <li>Otherwise – 0 marks</li> </ul> </li> </ul>
Create website	Pictures inserted and formatted as specified	2,1,0	Pictures inserted and formatted:  • All 6 graphics inserted and positioned as shown  • All graphics scaled as shown (exact size not necessary)  Both bullets satisfied – 2 marks Any 1 bullet satisfied – 1 mark Otherwise – 0 marks
	All hyperlinks/hotspots created and working as specified	3,2,1,0	Hyperlinks/hotspots created and working correctly:  • Home link works on all pages • Bright link works on all pages • Both TV pictures link to TV details • Both TV model numbers link to TV details.  All 4 bullets satisfied – 3 marks Any 3 bullets satisfied – 2 marks Any 2 bullets satisfied – 1 mark Otherwise – 0 marks
	Printout	0	No marks are awarded for taking the printout. If printouts are not included then no evidence for the above would be available and so 0 marks for the work till now would be awarded.

	Identification of three different types of object	2,1,0	2 marks for 3 different types of objects 1 mark for 2 different types of objects 0 marks for 1 type of object that could be used in the production of the website. e.g. table, navigation bar, hyperlink, hotspot, text, graphics.
Evaluate Application (Serif WebPlus 9)	Description of two operations provided to produce chosen object	2,1,0	2 marks for 2 suitable operations carried out on 1 object in the website. e.g. Serif Webplus 9 allows graphics to be inserted, scaled and rotated so that the television and McPhee's logo can be included in the website. Serif WebPlus 9 allows a navigation bar to be inserted on the master page so that it doesn't have to be created on every page. The text in the navigation bar can be altered to hyperlinks so that links to the Home and Bright pages can be created. Similarly for hotspot, table or text.
	Evaluation of features of the online help	2,1,0	2 marks for 2 suitable features of the online help. e.g. Serif WebPlus 9 has a screenshot of all menus and toolbars so that you can simply click on the icon that you wish to know more about. Serif WebPlus 9 has a searchable online help. As you type in the word you are searching for, it predicts the word you are typing and scrolls through the list to that word.

### PART 2

	Field Types	2,1,0	All field types correct – 2 marks <=2 mistakes – 1 mark >2 mistakes – 0 marks
Design of Manufacturer table	Validation	1,0	Warranty (years) field – Restricted choice (1,2 or 5) Candidates may try to put more validation in e.g. the country as a restricted choice or the Company field as a presence check. These should be ignored without penalty.
	Creation of table	2,1,0	Accurate creation of table fields and field types as specified without any help – 2 marks.  Some advice given – 1 mark.
	Restricted Choice Field	1,0	Warranty field set to restricted choice 1, 2 or 5 – 1 mark.
Creation of Manufacturer table	Accurate entry of Manufacturer data	1,0	Accurate inclusion of all manufacturer data – 1 mark.  >3 mistakes – 0 marks  Case and alignment of text should not be penalised.
	Create and printout of Layout/Report	1,0	Report created/printed without any help - 1 mark.
	Linking of Manufacturer and Model tables	1,0	Tables linked without teacher help – 1 mark. Teacher help required – 0 marks.
	Deposit/Lessesst charries		
	Report/Layout showing:  Correct fields shown and all information clearly visible	1,0	Only specified fields are included and all clearly seen – 1 mark.
Complex Search	Price (£) field set to currency format	1,0	Price $(\mathfrak{L})$ field set to currency format – 1 mark.
	Select televisions made in UK between 37 and 42 inches inclusive.	2,1,0	Complex search – 2 marks Only simple search – 1 mark. Otherwise 0 marks.
Complex Search and Sort	Select televisions with 1080 resolution and either ProLogic II or Virtual Surround Sound system in order of Price and Screen Size.	3,2,1,0	Complex search and complex sort – 3 marks.  Simple search and complex sort – 2 marks,  Complex search and simple sort – 2 marks,  Simple sort and simple search – 1 mark, otherwise 0 marks.

Task 8 - Mr Hassan

Company	Manufacturing Country	Model	Price	Resolution	Screen Size (inches)	HD Ready
Bright	United Kingdom	BR371080169	£799.99	1080	37	Yes
Bright	United Kingdom	BR371080170	£799.99	1080	37	Yes
Bright	United Kingdom	BR37768135	£549.99	768	37	Yes
Bright	United Kingdom	BR37768175	£599.99	768	37	Yes
Bright	United Kingdom	BR421080220	£899.99	1080	42	Yes
Bright	United Kingdom	BR42768207	£749.99	768	42	Yes
Bright	United Kingdom	BR42768310	£749.99	768	42	Yes
PixelPerfect	United Kingdom	PP37768108	£799.99	768	37	Yes
PixelPerfect	United Kingdom	PP401080197	£1,099.99	1080	40	Yes
PixelPerfect	United Kingdom	PP4010801978	£1,099.99	1080	40	Yes
PixelPerfect	United Kingdom	PP401080208	£1,049.99	1080	40	Yes
PixelPerfect	United Kingdom	PP401080237	£1,999.99	1080	40	No
PixelPerfect	United Kingdom	PP401080247	£1,799.99	1080	40	Yes
PixelPerfect	United Kingdom	PP40768172	£829.99	768	40	Yes

### Results for Task 9

Task 9 - Meagan					
Model	Price (£)	Screen size (inches)	Sound System	Resolution	
TV371080173	£749.99	37	ProLogic II	1080	
TV421080342	£799.99	42	Virtual Surround Sound	1080	
TV421080242	£899.99	42	ProLogic II	1080	
WH371080205	£899.99	37	ProLogic II	1080	
TV501080465	£999.99	50	Virtual Surround Sound	1080	
VI421080229	£999.99	42	Virtual Surround Sound	1080	
WH401080219	£999.99	40	ProLogic II	1080	
PP401080208	£1049.99	40	Virtual Surround Sound	1080	
PP401080197	£1099.99	40	Virtual Surround Sound	1080	
PP4010801978	£1099.99	40	Virtual Surround Sound	1080	
TV401080234	£1149.99	40	ProLogic II	1080	
WH461080235	£1299.99	46	ProLogic II	1080	
PP461080250	£1499.99	46	Virtual Surround Sound	1080	
PP461080251	£1499.99	46	Virtual Surround Sound	1080	
PP461080252	£1499.99	46	Virtual Surround Sound	1080	
VI371080217	£1499.99	37	Virtual Surround Sound	1080	
VI421080182	£1599.99	42	Virtual Surround Sound	1080	
PP461080247	£1699.99	46	Virtual Surround Sound	1080	
PP401080247	£1799.99	40	Virtual Surround Sound	1080	
PP461080240	£1899.99	46	Virtual Surround Sound	1080	
VI471080299	£1999.99	47	Virtual Surround Sound	1080	
PP401080237	£1999.99	40	Virtual Surround Sound	1080	
PP461080296	£2499.99	46	Virtual Surround Sound	1080	

# Appendix 2

**Photocopy Masters** 

Database Design Form

Company	Founded	Profit (£m)	Logo	Warranty (years)	Manufacturing Country	Finance
Bright	22/05/1975	1045	2RIGHT	5	United Kingdom	18 months
PixelPerfect	02/10/2005	22	lenise:	5	United Kingdom	24 months
PowerZ	17/11/1988	356	2	2	Japan	24 months
TV2GO	30/12/1999	77	TV2G0	1	USA	None
Vision	02/02/2002	6	Spirit and Angel	1	USA	None
Whyte	19/07/1982	14		5	Russia	18 months

• The warranty attribute can only take the values 1, 2, or 5

Field Name	Field Type	Primary Key	Validation
Company		Yes	
Founded		No	
Profit (£m)		No	
Logo		No	
Warranty (years)		No	
Manufacturing Country		No	
Finance		No	

### **Software Evaluation Form**

Name	Date		
Type of package	Name	of package	

Identify three different types of data object used to create the website.		
Describe two enoughing used to madure one of the chicats chases		
Describe two operations used to produce one of the objects chosen.		
Evaluate the online help of the application used to create the website.		

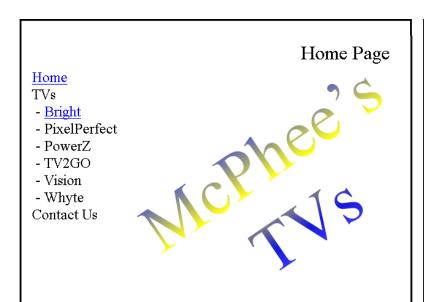
## Completed Database Design Form

# ONLY TO BE GIVEN OUT TO CANDIDATES AFTER THEY HAVE SUBMITTED THEIR OWN DATABASE DESIGN FORM

Company	Founded	Profit (£m)	Logo	Warranty (years)	Manufacturing Country	Finance
Bright	22/05/1975	1045	BRIGHT	5	United Kingdom	18 months
PixelPerfect	02/10/2005	22	lest of the section o	5	United Kingdom	24 months
PowerZ	17/11/1988	356	2	2	Japan	24 months
TV2GO	30/12/1999	77	TV2GO	1	USA	None
Vision	02/02/2002	6	arion viagor disconsistente de la constante de	1	USA	None
Whyte	19/07/1982	14		5	Russia	18 months

• The warranty attribute can only take the values 1, 2, or 5

Field Name	Field Type	Primary Key	Validation
Company	TEXT	Yes	NONE
Founded	DATE	No	NONE
Profit (£m)	NUMBER	No	NONE
Logo	OBJECT	No	NONE
Warranty (years)	NUMBER	No	RESTRICTED CHOICE (1,2 OR 5)
Manufacturing Country	TEXT	No	NONE
Finance	TEXT	No	NONE





### **BRIGHT**

#### Home TVs

- Bright
- PixelPerfect
- PowerZ
- TV2GO
- Vision
- Whyte Contact Us





BR421080220

## <u>Home</u>

- TVs
- BrightPixelPerfect
- PowerZ
- TV2GO
- Vision
- Whyte Contact Us



Bright BR32768135

Model	BR32768135
Price (£)	£400.00
TV Type	LCD
Screen Size (inches)	32
EPG (days)	7
HD Ready	Yes
Resolution	768

### Home

#### TVs Brigh

- Bright
- PixelPerfect
- PowerZ
- TV2GO
- Vision
- Whyte Contact Us

### Bright BR421080220



BR421080220
£900.00
LCD
42
7
Yes
1080

Scottish Qualifications Authority Coursework Task Intermediate 2 Information Systems 27