MS ACCESS HOW TO: MAKE A REPORT FROM A QUERY

Unit 18 Database Design
Extended Diploma in ICT
You may need to produce a print out of data from the database

Typically this might be an invoice or a bill

Reports can be created from queries, so that the correct data can be selected.
In this How To we will produce an invoice for the rental of a costume.

It will include the customer’s name and address, the date of the invoice, the rental details and the total cost.
Building the query

- We will start with the rental cost query (see How To: Calculate queries)

<table>
<thead>
<tr>
<th>StartDate</th>
<th>EndDate</th>
<th>Days rented: DateDiff</th>
<th>CostumeType</th>
<th>Day rate</th>
<th>Rental cost: Days rented*Day rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>tblRental</td>
<td>tblRental</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>StartDate</th>
<th>EndDate</th>
<th>Days rented</th>
<th>CostumeType</th>
<th>Day rate</th>
<th>Rental cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>10/01/2010</td>
<td>11/03/2010</td>
<td>60</td>
<td>Superman</td>
<td>£30.00</td>
<td>£1,800.00</td>
</tr>
<tr>
<td>10/01/2010</td>
<td>17/01/2010</td>
<td>7</td>
<td>Jack Sparrow</td>
<td>£40.00</td>
<td>£280.00</td>
</tr>
<tr>
<td>19/09/2011</td>
<td>21/09/2011</td>
<td>2</td>
<td>Yoda</td>
<td>£60.00</td>
<td>£120.00</td>
</tr>
</tbody>
</table>
On the report we would like the customer name to appear one line and joined up

- Mr Frank Streeter

We can concatenate the fields in a query to make this easy

In the field row of the query enter:

Name: [Title] & " " & [FirstName] & " " & [LastName]
Add the address details

- Drag the address details into the relevant field rows
Design a report

- Click on Report Design in the Create tab

- A blank report grid opens
Record source

- Make the record source the query you just made
- You can add a title in the header with a label
Add fields

- Drag text boxes onto the Detail section and select the field names in the Control Source in the property sheet.

- Change the label to “Invoice to”
Add the remaining fields

- Delete or rename labels as appropriate
- Use the =Date() function to add today’s date
- Add a label about payment
Result so far

- My layout isn’t perfect

Bob's Veterinary Surgery

Invoice to: Mr William Ponsonby
26 Railway Street
Highcliffe
BD6 2HF

14/11/2011

Costume rented: Superman
From: 10/01/2010
To: 11/03/2010
Cost per day: £30.00
Invoice amount: £1,800.00

Please pay within 7 days
Add a page break

- To get an invoice per page drag a page break from the Controls box to where you want the break.

- A symbol is added to the design view.
Use Print preview

- See how the pages will look using Print Preview from the View button
<table>
<thead>
<tr>
<th></th>
<th>P2</th>
<th>P3</th>
<th>P4</th>
<th>P5</th>
<th>P6</th>
<th>M2</th>
<th>M3</th>
<th>M4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Design a relational database for a specific need</td>
<td>Create and populate a database</td>
<td>Create features in data entry forms to ensure validity and integrity of data</td>
<td>Perform queries using multiple tables and multiple criteria</td>
<td>Include an advanced feature in a database design</td>
<td>Import data from an external source</td>
<td>Export data to an external source</td>
<td>Implement an automated function</td>
</tr>
<tr>
<td></td>
<td>Discuss how potential errors in the design and construction of a database can be avoided</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
You have been asked to computerize a veterinary practice. They are still using paper for most of their records. After discussing their requirements you have decided to implement a database in MS Access. You have been given copies of their paper records (on wiki under Unit 18) and a file of their current customers (Customer text File on wiki Unit 18).
main functions:

- Adding and editing animals and owners
- Making appointments
- Recording treatments and prescriptions
- Printing prescriptions
- Printing a bill for the consultation, treatments and drugs
- Creating mailing lists for reminder letters of annual check ups
A user interface will be provided which hides and protects the database structure from the end user, as well as being easy to use.

All data entered by the user should be validated prior to being saved in the database.
<table>
<thead>
<tr>
<th>Design - completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>A minimum of 5 tables are required.</td>
</tr>
<tr>
<td>You must submit the following items:</td>
</tr>
<tr>
<td>An Entity Relationship diagram</td>
</tr>
<tr>
<td>Details of normalisation to third normal form</td>
</tr>
<tr>
<td>An explanation (one page of A4) of how you arrived at your final choice of tables and attributes. This should clearly explain:</td>
</tr>
<tr>
<td>- how you resolved any differences between the two models</td>
</tr>
<tr>
<td>- Whether you added attributes that weren’t in the paper record and your reasons for doing so</td>
</tr>
<tr>
<td>A data dictionary for all the tables in your design</td>
</tr>
<tr>
<td>A description (in structured English/pseudocode) of how any calculations will be performed in preparing the bill</td>
</tr>
</tbody>
</table>
P3, M2 implementation

- At least 5 tables that match the data dictionary (witness statement)
- The existence of all the required relationships with referential integrity applied (annotated screen shots)
- Successfully importing the data from the customer text file into a table in your database (witness statement, criteria M2)
- Tables populated with data. In most cases at least 10 rows of data will be required to demonstrate correct operation of the database.
- (witness statement)
Forms will be required to permit end users to interact with the database. The following forms will be required:

- An initial form showing the options available. This should include at least:
  - A title
  - Buttons
    - to add or edit an owner or an animal
    - book an appointment
    - create a prescription
    - print a bill
  - Exit the database
A data entry/edit form for an animal and one for an owner. These should include at least:

- A search facility
- A drop down for entering the animal type
- Validation on a date field to prevent incorrect dates
- An input mask to capitalise the initial letter of proper names
- A clear indication of the required fields (*) and error checking to make sure they are completed
P5, M3 Queries

- You will need to write queries which allow the printing of prescriptions and bills. You must demonstrate:
  - A query which produces the drugs prescribed for a specific dog, the dosage and the date they were prescribed
  - A query which produces an itemised bill for the animal belonging to a specific owner. It must include the consultation fee, cost of drugs and treatment, the total prior to VAT, the VAT amount and the amount to be paid.
  - A query which produces a list of owners, their addresses and the names of animals which are due an annual check up (1 year since their last appointment)
- Export the data about animals due an annual checkup to a word processor and generate (using mail merge) a mass mailing reminder letter (criteria M3)
P6, M4 improved usability

- Improve the usability of your database by creating forms which allow a user to easily make an appointment for an animal. You will need to
  - Make an appointment form
  - Display a list of owners
  - Display a list of animals belonging to a selected owner
  - Display and select a vet for the appointment
  - Select a date and time for the appointment
  - Confirm the appointment and update the database

- Print an appointment card using a single button (M4)
In the previous tasks you have used design techniques and implemented features which minimise the possibility of errors being designed in or introduced by users. For this task you have to identify and explain a range of common errors in design and construction and how they can be avoided. You should include the following as a minimum and use your own database to provide examples:

- The use of normalisation
- Using forms to protect the underlying database
- Correct use of data types
- Using sequences of forms and controls to perform a business process

Write about 2 pages of A4 (excluding any illustrations)