Creating Filters in
Microsoft Access 2007®

This is the third document in series of five about Microsoft Access 2007®
The aim of this guide is to provide information on how to search a database in Microsoft Access®. Prior knowledge of how to set up a database in Microsoft Access® is assumed.

Other documents in the series are:
USER 163 Introduction to Microsoft Access 2007®
USER 164 Creating tables in Microsoft Access 2007®
USER 166 Creating forms in Microsoft Access 2007®
USER 167 Producing reports from Microsoft Access 2007®
Filters
A filter can be used to search for a specific value within a form or datasheet. There are four types of filter:

- **Filter by selection** – shows all instances of a selected piece of data
- **Filter by exclusion** – retrieves all data in the database except the data that has been chosen to be excluded from the search
- **Filter by form** – for searching an Access® form. See USER 166 Creating Forms in Microsoft Access 2007®
- **Advanced filter** – allows you to add conditions across a number of fields in a table that the search must meet

Filters are temporary searches and cannot be saved for re-use. The only exception is the Advanced Filter, which is classed as a query.

Queries
A query allows you to specify certain criteria that the search must meet. The query will search through fields and across more than one table without having a form or datasheet open. The search results are displayed in a table called a **Dynaset**.

Queries can be saved and re-used, making them ideal for information gathering on a frequent basis. For example, you could use a query to retrieve records that are twenty or more days old.

Further information about filters and queries
Filters and queries both allow you to search for data. However, what you want to do with the results determines whether you use a filter or a query. A filter should be used to temporarily view or edit data from a form or datasheet. A query should be used to:

- Perform a search without first opening a table or form
- Control which fields from records will display in the results
- Perform calculations on values in fields
- Choose which tables you want to work with
Applying a basic filter

- Select a table to filter and open it in Datasheet view.
- Click in the field containing the data that will be used in the filter.
- Click the Filter button from the Sort & Filter group and choose the filter you wish to apply.
- The data in the table will temporarily change to display the results of the filter.
- To remove the filter, click the Filtered button on the Record bar at the bottom of the screen.
- To display the results of the filter again, click the Unfiltered button on the Record bar.

Filtering by selection or exclusion

- Select a table to filter and open it in Datasheet view.
- Click in the field containing the data that will be used in the filter.
- Click the Selection button from the Sort & Filter group and choose the filter you wish to apply.

Advanced filtering

- Click the Advanced button from the Sort & Filter group.
- Choose Advanced Filter/Sort.
- The Filter window will appear.
The top part of the window contains an overview of the table that will be used for filtering. The bottom part of the window is where you specify the filtering criteria.

**Developing a search:**

Choose a field to search by clicking the arrow to the right of the field cell and choosing a field name from the list. Alternatively, double-click on a field name in the table overview, or drag a field from the table overview to the field cell at the bottom.

**Removing fields from the filter:**

- Click on the field that you wish to delete in the bottom part of the window
- Press the **Delete** key on the keyboard

**Setting a filtering criteria:**

This will tell the filter to retrieve specific data.

**Note:** the criteria section may already contain text if you have previously performed a filter. Remove any text using the **Delete** key on the keyboard.

- Click in the criteria section of the field that you are filtering
- Enter the data that you would like the filter to retrieve. Repeat this for each field that you are filtering
- Click the **Toggle Filter** button. The results of the filter will be displayed in a table
Sorting the results of a filter:
• Right-click on the results of the filter
• Choose from the Sort options that appear

Closing the results of a filter:
After a search, the filter window will remain open. To close the filter, click the Toggle Filter button. Closing the table window will also remove the filter.

Saving a filter as a query
An Advanced filter can be saved as a query, so that a search can be run at any time.

While the filter is open:
• Click the Office button and choose Save
• Enter a name for the Query and click OK

The Query will appear in the All Tables list on the left-hand side. Double-click on the Query name to run the query again.

Query wizard
A query can be created quickly and easily using the Query wizard.
• Click the Create tab

• Click the Query Wizard button
• Follow the instructions to develop the query
• The results of the query will be displayed in a table
Constructing a query in design view

- Click the **Create** tab

- Click the **Query Design** button

- The **Show Table** window will appear. Select the table(s) you wish to use in your query from the list

- If you wish to add additional tables to your query, click the **Show Table** button from the **Design** tab

- To remove a table from your query, click once on the table and press the Delete key on the keyboard

- You can then develop your query in the Query window

The Query window is similar in appearance to the Advanced Filter window, but with the addition of two extra rows – **Table** and **Show**.

The **Table** row displays the name of the table you wish to search.

The **Show** row contains a tick box to include or exclude fields from being displayed in the search results.
Setting criteria for a query:

- Click in the Criteria cell and enter the data that you wish to find, e.g. a particular surname or the name of a course.
- Remove text from the Criteria cell with the Delete key
- For more information on setting criteria, go to the section Setting Advanced Criteria within this guide

Running a query:

- Click the Run button
- The results of the query will be displayed in a table in Datasheet view

Modifying a query:

To modify a query, switch to Design view. Locate the query from the All Tables list, right-click on the Query name and select Design View.

Changing the order of columns in the results table:

- Open the query in Design view

Above each column is a narrow grey button.

- Place the mouse over the button of the column that you wish to move
- When the cursor changes to a thick black arrow pointing downwards, click once to select the column
- Hold down the mouse button and drag the column to a new position

Renaming a query:

- Locate the Query from the All Tables list
- Right-click on the query name and select Rename
• Enter a new name for the query

Deleting a query:
• Locate the Query from the All Tables list
• Right-click on the query name and select Delete

Setting advanced criteria
Criteria can be set to perform searches where certain elements or words must match (known as ‘like’ data). You can also specify several types of data to be found.

Searching for ‘like’ data and common themes:
A criteria could be set to retrieve all postcodes starting with ST4, by entering ST4*. The asterisk represents the data that does not have to match.

Searching for ‘one or the other’:
This is used to find one or another pieces of data, e.g. to retrieve the details of students on Business OR Computing courses.

Click in the Criteria field and type ‘business or computing’
or

• Click in the Criteria field and enter the first part, e.g. business
• Click in the next field down (the Or field) and enter the second part, e.g. computing

Searching between certain dates:
Enter the following in the criteria field:

Between #date# and #date#

Conditional searches:
This will set two or more conditions that must be met, e.g. retrieve all instances of surname ‘Smith’ with a postcode beginning with ‘ST4’. Insert another table or field to the Query window and apply criteria.
**User defined criteria:**

A query can be designed where the criteria is based on data entered by the user of the database. There are known as **Parameters**. For example, if a query retrieves records based on dates, the user can be prompted to enter the dates required.

- Click in the Criteria field
- Enter the text, enclosed by square brackets, that you want to appear in the pop-up box to prompt the user, e.g. **[Please enter a date]**

**Basing a search on a calculation:**

A search can be performed based on a calculation, e.g. to retrieve records that are twenty or more days old. This requires the construction of a mathematical expression. The expression can be entered directly into the Criteria field or you can use the **Expression Builder**.

- Click on the Criteria cell
- Click the **Design** tab
- Click the **Builder** button

A list of common mathematical operators can be found in the **Operators** folder. A list of frequently used expressions, e.g. Current date, can be found in the **Common Expressions** folder.
Where next
Once you have created a database and performed searches, the next step is to customise the database with forms.

See USER166 Creating forms in *Microsoft Access 2007®*

Where to go for more help or information
You can get further help from the Information Services Help Desks at:

Thompson Library: 01782 294771
Brindley IT Centre: 01782 294135
Octagon IT Centre: 01785 353339

Online: www.staffs.ac.uk/ishelp
Email: libraryhelpdesk@staffs.ac.uk (for all IT and Library queries)

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