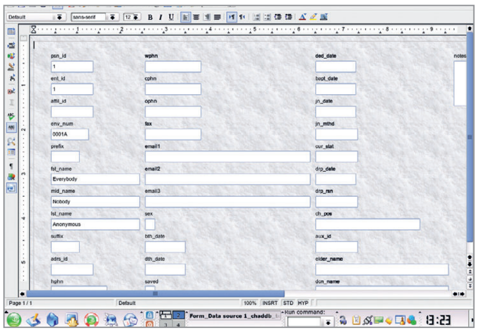
Advanced Base: Queries & Forms

Databases can be used to store information with only a little learning, but they can do lots more, especially if you make them easy for users to enter data...

Once you've been indoctrinated into a world where tables, primary keys and fields are all second nature, it's rather hard to imagine what life is like for those who really aren't interested in how databases work. For example, if you've just spent a few hours making a really impressive CD collection table that has all sorts of fields to let you better categorise your data, someone else might just come along and say, "Bleugh! I just want to see whether you have a CD that I want, not to browse through some massive spreadsheet-like thing!" Philistines! But *Base* has a solution that will please both you with your clever table structure and your friends with its ease of use: queries and forms.

A query can be thought of as a saved search. If you read the getting started with *Base* guide, you'll have seen how you can sort and filter the fields to make things easier to find. Well, a query is just like that, except it saves the settings so that the query is done instantly next time – without changing your underlying table. Queries also let you choose which fields you want to show, which means that you can create customised views of your table depending on what kind of person is looking at it.

Forms are much more advanced: they allow you to create user interfaces to your tables that make them much easier on the eye. The default forms are quite simple, but you can add pictures, colours, text and buttons of your own to add more power and company branding. It can take a little while to get your head around how forms work, but that's OK – once you get them working they'll make a real difference to how well your database is received!



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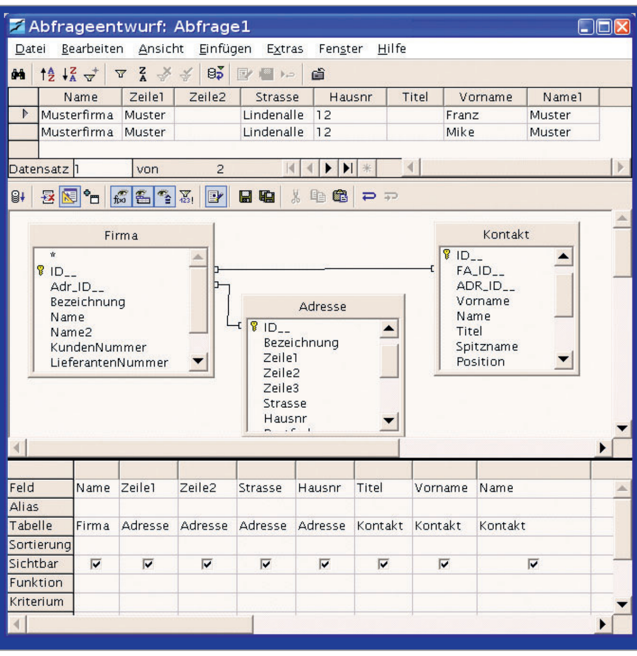
› Forms are a handy way for users to enter data.



Name	Zeile1	Zeile2	Strasse	Hausnr	Titel	Vorname	Name1
Musterfirma	Muster		Lindenalle	12		Franz	Muster
Musterfirma	Muster		Lindenalle	12		Mike	Muster

Feld	Name	Zeile1	Zeile2	Strasse	Hausnr	Titel	Vorname	Name
Alias								
Tabelle	Firma	Adresse	Adresse	Adresse	Adresse	Kontakt	Kontakt	Kontakt
Sortierung								
Sichtbar	☑	☑	☑	☑	☑	☑	☑	☑
Funktion								
Kriterium								

› ***OpenOffice.org* is derived from *StarOffice*; originally developed by German company StarDivision; Sun bought it because in the long run it was cheaper than Windows licenses for its 43,000 employees.**

A note about data types

As you advance more into the world of databases using *OpenOffice.org Base*, you'll start to realise that working with **TEXT [VARCHAR]** and **Integer [INTEGER]** fields is very limiting, and you will probably want to try some of the other data types. To help you get started, here's a quick list of the most important data types and what kind of data they hold:

» **Tiny Integer** holds a number between -127 and +127. Only use this if you're absolutely sure that your requirements won't go over that limit – ages, for example, are best avoided.

» **BigInt** holds extremely large numbers. Normally integers max out at around 2,000,000,000 (two billion) – if that isn't enough for you, then use BigInt.

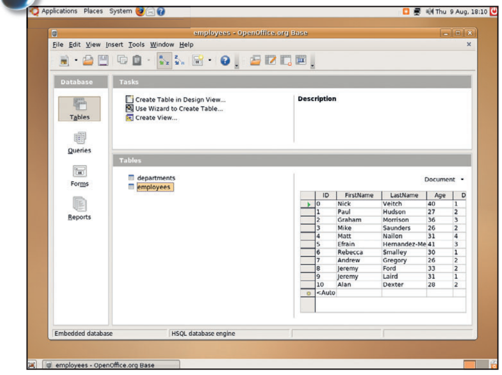
» **Image** holds binary image data, such as JPEGs or PNGs. Some people prefer to hold picture externally to their database, but using the Image datatype means that all your data – pictures included – is in one place. Be careful, though – adding too many pictures can make your database very big!

» **Float** holds a floating-point number, which means any fractional number. For example, 3 is an integer, but 3.1, 3.14 and 3.141592654 are floating-point numbers. You ought to use float fields for money.

» **Yes/No** holds either yes or no, or other simple values. For example, an employees table might have HasPassedProbation, or RecommendForRaise. This is also used for things that require true/false responses.

» **Date/Time** is used to store an exact date and time value in your table. For example, if you had a database of family history you might want to mark the fact that your son was born at 17:30 on Saturday 22nd of December 1979 – that's exactly what the Date/Time field ought to be used for.

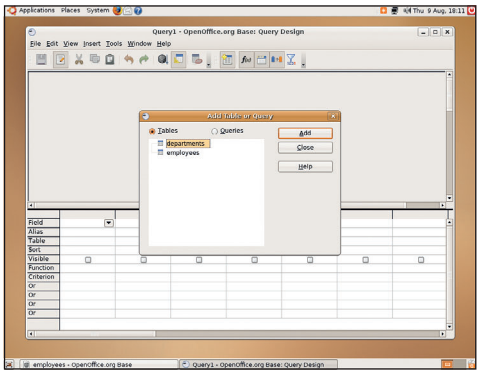
Base: creating a query



ID	FirstName	LastName	Age	D
0	Nick	Veitch	40	1
1	Paul	Hudson	27	2
2	Graham	Morrison	36	3
3	Mike	Saunders	26	2
4	Matt	Nailon	31	4
5	Efrain	Hernandez-Me	41	3
6	Rebecca	Smalley	30	1
7	Andrew	Gregory	26	2
8	Jeremy	Ford	33	2
9	Jeremy	Laird	31	1
10	Alan	Dexter	28	2
<Auto				

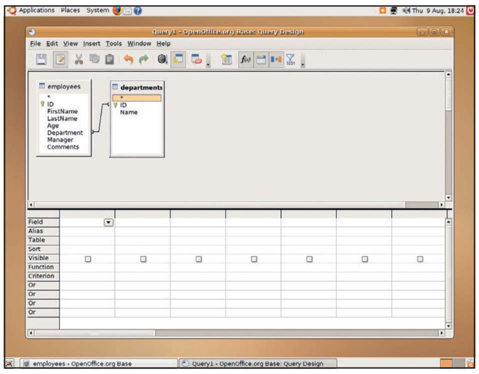
1 Use an existing table

A query requires an existing table of data, so make sure you have a table existing already. For this test, we're using an employees table containing names, ages and departments, and a departments table, which contains the names of departments employees are in.



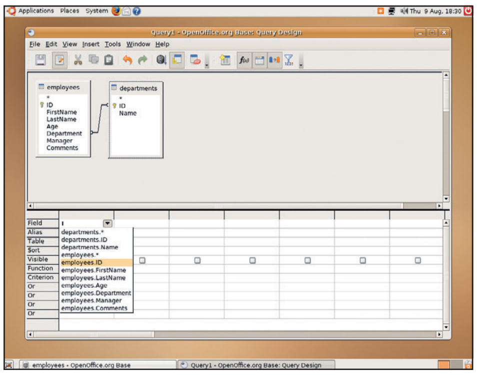
2 Choose tables

Click the Queries tab (on left), then choose Create Query In Design View from the list of tasks. This screen will appear, which is where you choose which tables to include in your query. Select "employees", click Add, then click "departments" and click Add again, and finally click Close.



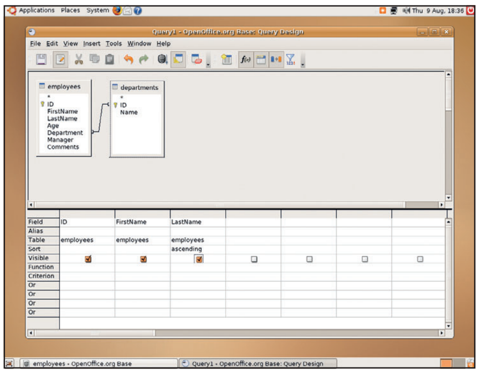
3 Linking data

In the query editor window, tables are above, and details are below. Our employees table has a "Department" integer field that links to the departments table; click on Department in the employees table and drag it to ID in departments table. This connects it in the table view, as shown.



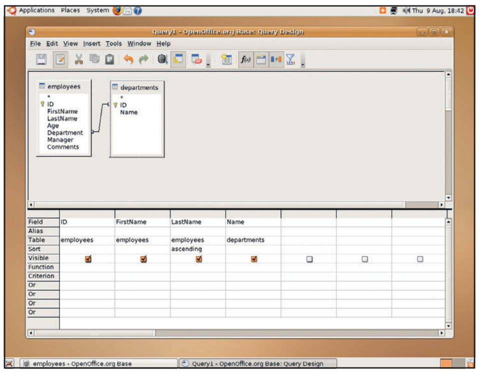
4 Organising fields

Now to turn our attention to the details on the bottom of the screen: this is where you select which fields you want to show and their organisation. If you click the down arrow in the "Field" box, *Base* will show you a list of all the possible fields you can select.



5 Sorting fields

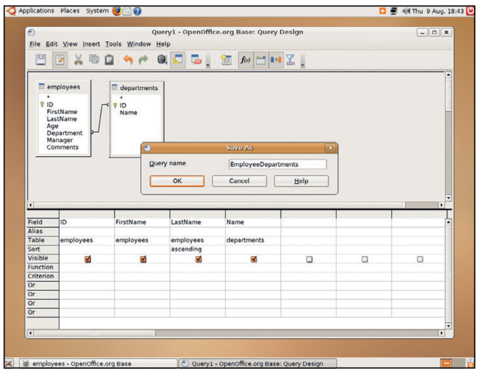
Set the first field to be employees.ID (the ID field from the employees table), then the second and third fields to be employees.FirstName and employees.SecondName. You should also set LastName to sort ascending, so that the query results are nicely ordered.



Field	ID	FirstName	LastName	Name
Table	employees	employees	employees	departments
Sort			ascending	
Visible	☒	☒	☒	☒

6 All correct!

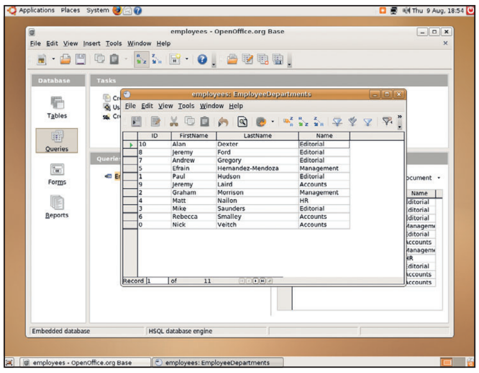
Now for the magic: add the field departments. Name to the query. Because we linked employees. Department to departments.ID, *OOo Base* will automatically pull out the correct department name for each of our fields.



Query name: EmployeeDepartments

7 Add filters

That's it for this query, but if you want to add filters then use the Criterion boxes in the bottom to add values. Click the disk icon in the toolbar, then give the query a name that reflects what tables it reads from – we called ours EmployeeDepartments.

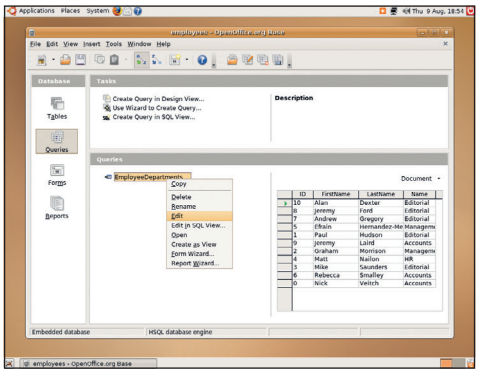


ID	FirstName	LastName	Name
10	Alan	Dexter	Editorial
8	Jeremy	Ford	Editorial
7	Andrew	Gregory	Editorial
5	Efrain	Hernandez-Mendoza	Management
1	Paul	Hudson	Editorial
9	Jeremy	Laird	Accounts
2	Graham	Morrison	Management
4	Matt	Nailon	HR
3	Mike	Saunders	Editorial
6	Rebecca	Smalley	Accounts
0	Nick	Veitch	Accounts

Record 1 of 11

8 Reading queries

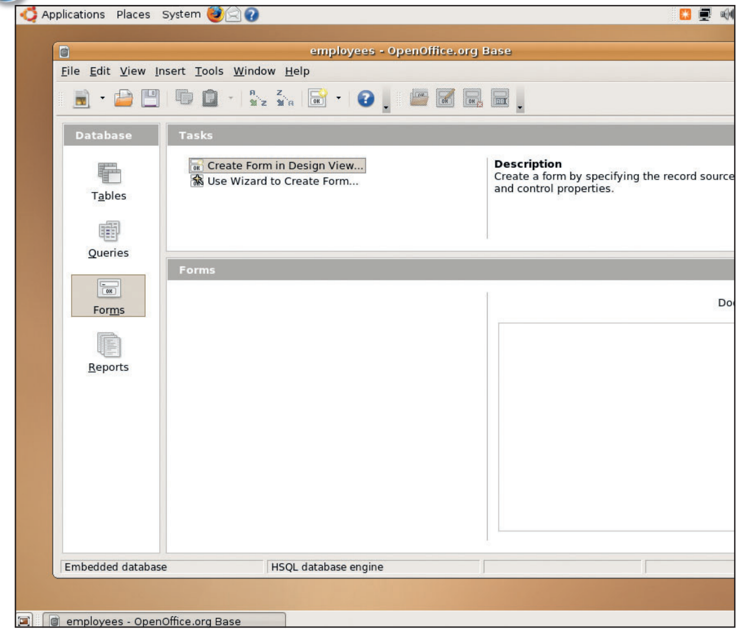
That query is treated by *OpenOffice.org* as if it were a table in its own right – you can use it to create other queries, or forms and reports. Or you can just double-click it to open the query for reading, as if it were a normal table.



9 Customisation

The nice thing about queries is that they never affect the underlying data source, so you can right-click on a query, choose Edit, then you're back to the query creation screen. Any changes you save here will automatically be reflected in the query, making it easy to customise as your needs change!

Base: going graphical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employees - OpenOffice.org Base

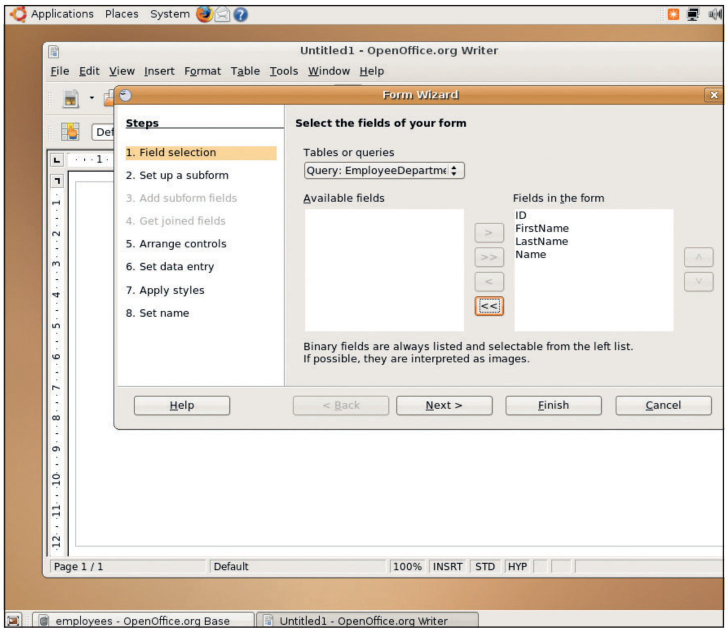
Create Form in Design View...
Use Wizard to Create Form...

Description
Create a form by specifying the record source and control properties.

Embedded database | HSQL database engine

1 User-friendliness

A "form" is a user interface dialog you can create to let people interact with your data in a more natural way. *Base* uses *Writer* as its form designer, which means you can add all the styling you want. To get started, go to the Forms tab and click Use Wizard To Create Form under the Forms tab.


Applications Places System
Untitled1 - OpenOffice.org Writer
File Edit View Insert Format Table Tools Window Help
Form Wizard
Steps
1. Field selection
2. Set up a subform
3. Add subform fields
4. Get joined fields
5. Arrange controls
6. Set data entry
7. Apply styles
8. Set name
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Finish
Cancel
Page 1 / 1 Default 100% INSRT STD HYP
employees - OpenOffice.org Base
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Select the fields of your form

Tables or queries: Query: EmployeeDepartme

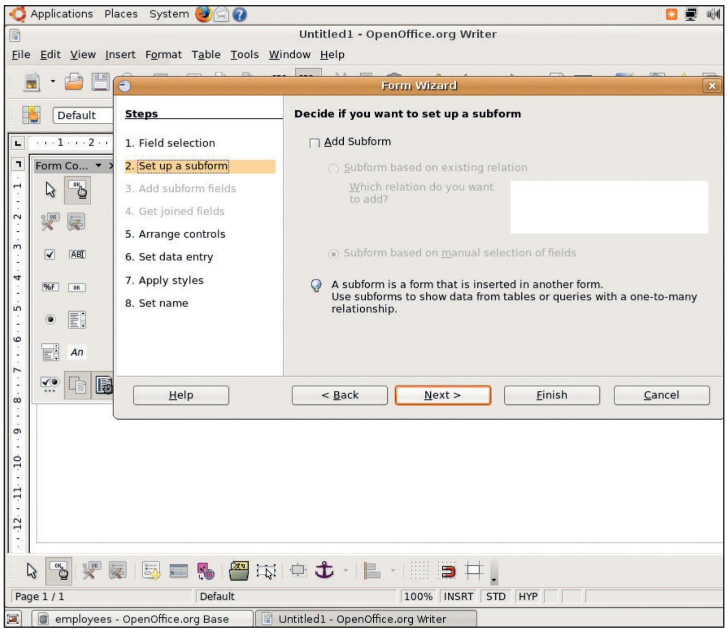
Available fields

Fields in the form: ID, FirstName, LastName, Name

Binary fields are always listed and selectable from the left list.
If possible, they are interpreted as images.

2 Form data choice

You need to choose what data you want to appear on the finished form. We selected the query from p68, because it combines our two tables into one result. Use the > arrow to add individual fields to the form, or >> if you want to add them all.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Finish
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employees - OpenOffice.org Base
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Decide if you want to set up a subform

☐ Add Subform

○ Subform based on existing relation

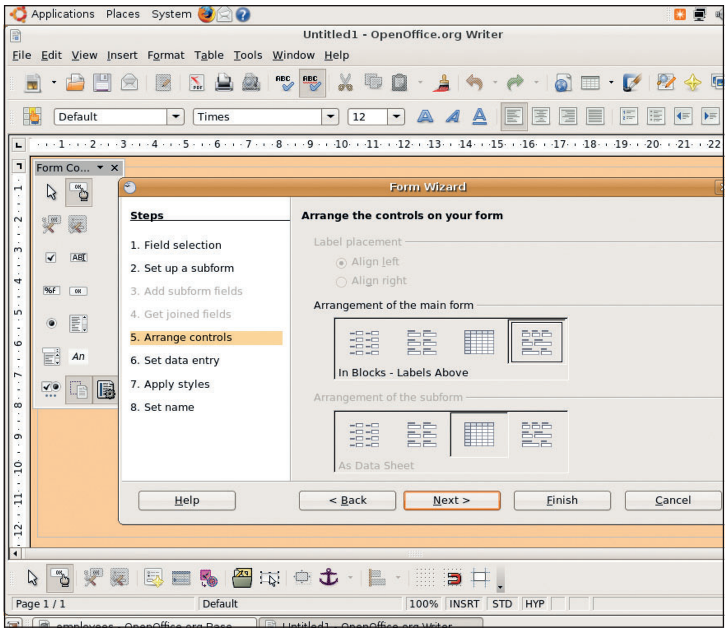
Which relation do you want to add?

● Subform based on manual selection of fields

A subform is a form that is inserted in another form.
Use subforms to show data from tables or queries with a one-to-many relationship.

3 Forms within forms

Complicated forms can have "subforms" – a form within a form. The idea here is that if you have some common data elements (such as customer details) that you want to see in several places, you can embed that customer form into other forms. We don't need this, so just click Next.



Arrange the controls on your form

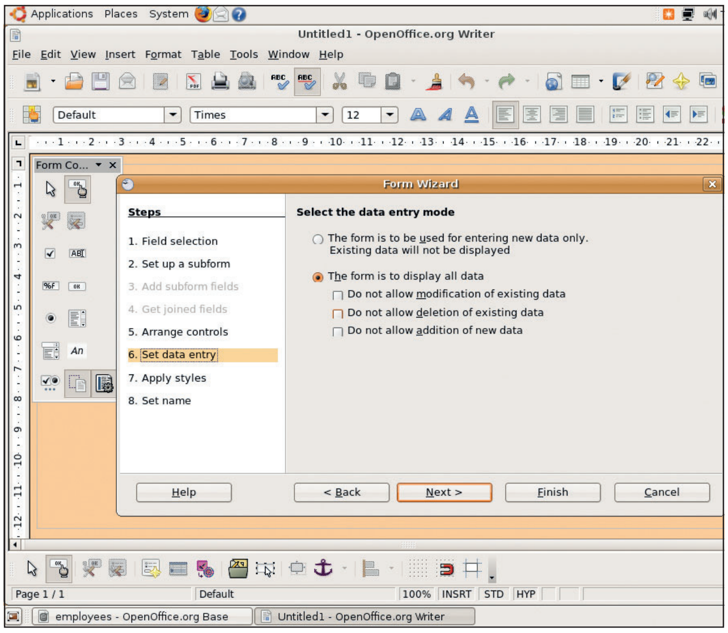
Label placement
● Align left
○ Align right

Arrangement of the main form: In Blocks - Labels Above

Arrangement of the subform: As Data Sheet

4 Choose a layout

The *Base* forms wizard can offer you three basic layouts: basic fields, aligned fields, spreadsheet, or unaligned fields. The default is spreadsheet style, which is distinctive in its ugliness, so we'd recommend changing to option four.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Steps

1. Field selection
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4. Get joined fields
5. Arrange controls
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7. Apply styles
8. Set name

Select the data entry mode

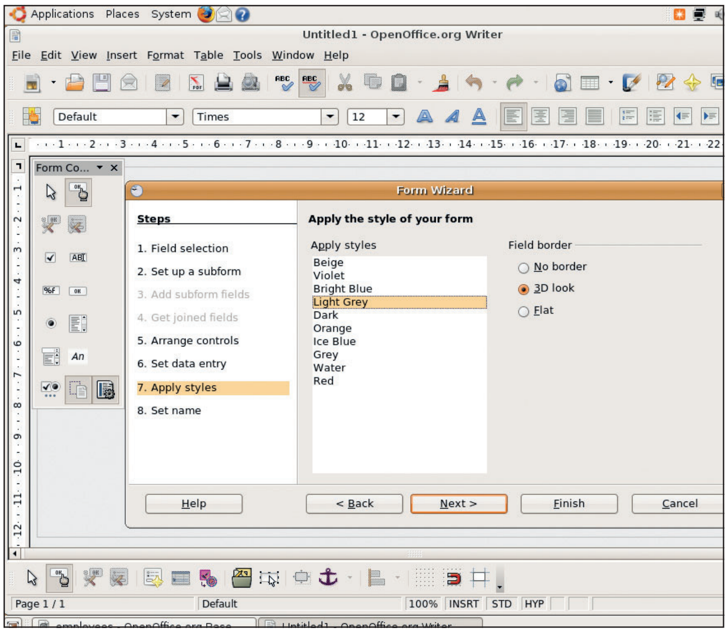
○ The form is to be used for entering new data only. Existing data will not be displayed

● The form is to display all data

- □ Do not allow modification of existing data
- □ Do not allow deletion of existing data
- □ Do not allow addition of new data

5 Define user limits

How should your users be able to work with your form? The default is to let them see all the data as well as add, edit and delete from it, but you can change that on this screen if you want to. If you want users to be able to modify only part of a form, use subforms. For now, click Next.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employees - OpenOffice.org Base
Untitled1 - OpenOffice.org Writer

Steps

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2. Set up a subform
3. Add subform fields
4. Get joined fields
5. Arrange controls
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8. Set name

Apply the style of your form

Apply styles

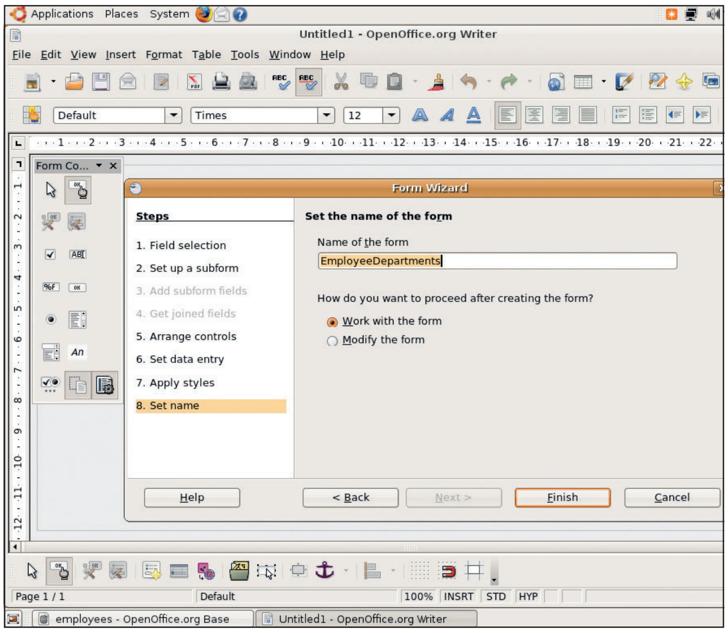
Beige
Violet
Bright Blue
Light Grey
Dark
Orange
Ice Blue
Grey
Water
Red

Field border

○ No border
● 3D look
○ Flat

6 Looks are everything

The next step is to configure the look of your form, and here unfortunately, *Base* follows the *OOo* tradition of offering a selection of predefined styles that look uniformly unattractive. Choose the least offensive one – light grey, perhaps – then click Next.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employees - OpenOffice.org Base
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Steps

1. Field selection
2. Set up a subform
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5. Arrange controls
6. Set data entry
7. Apply styles
8. Set name

Set the name of the form

Name of the form: EmployeeDepartments

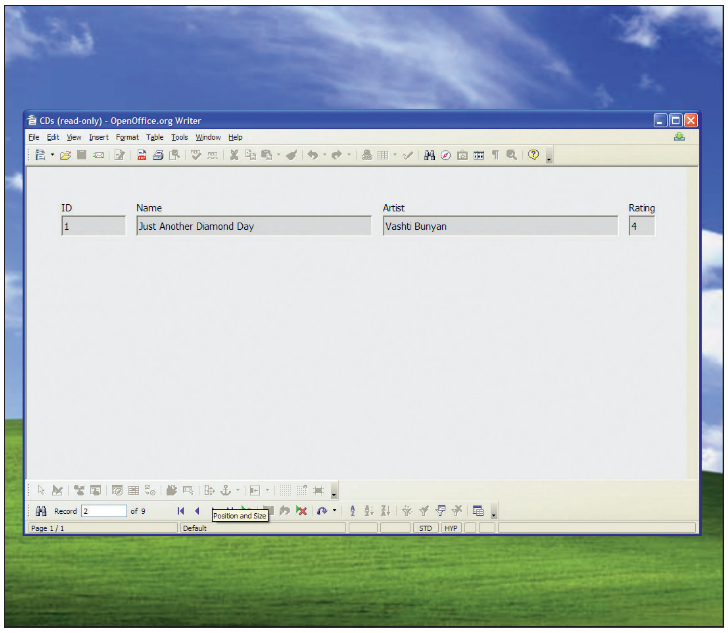
How do you want to proceed after creating the form?

● Work with the form

○ Modify the form

7 Name your form

The last step is to give your form a unique name inside the database. You can then choose whether you want to work with your form (*ie* start amending or entering data), or modify it. The default is to work with the form, which is probably what you want – just click Finish and you're done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File Edit View Insert Format Table Tools Window Help
Record
of 9
Position and Size
Page 1 / 1
Default
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HYP

ID	Name	Artist	Rating
1	Just Another Diamond Day	Vashti Bunyan	4

8 The finished article

One of the major advantages of *Base* forms is that they adapt their look to fit on other platforms – here's a form working on Windows XP, which will look very similar to yours whether you're using XP, Linux or OS X. LXF