# Criterion E: Product development

Complex techniques used:

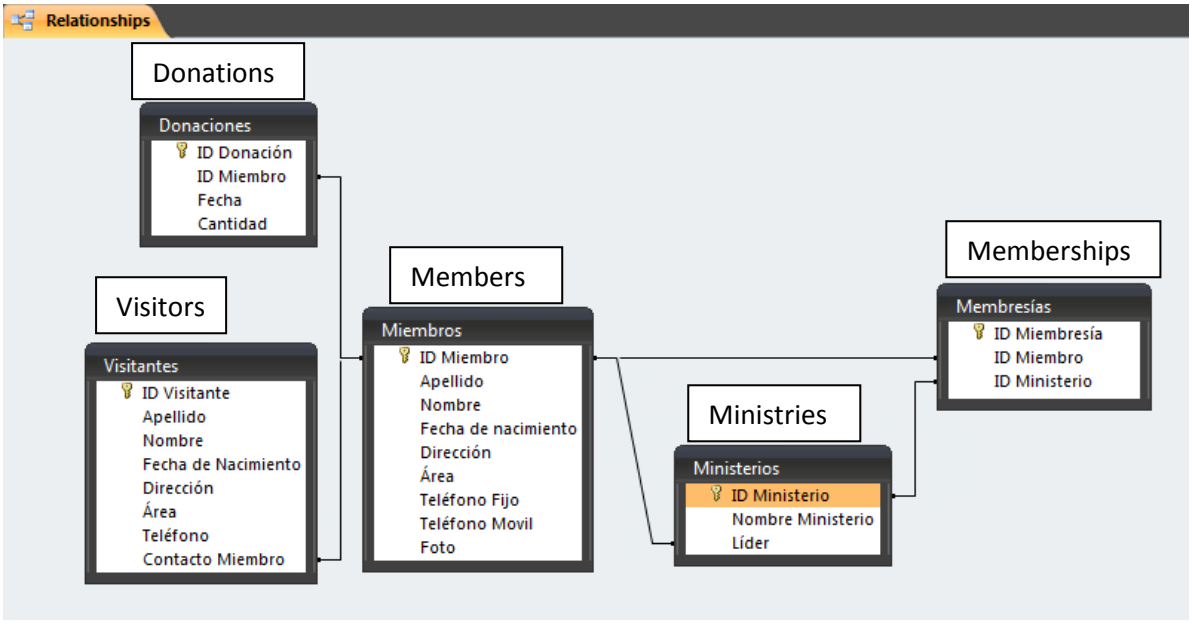
- Use of graphics fields
- Complex queries
- Three or more related tables
- Proficient design of reports and/or forms

Basic techniques used

- Data validation
- Three data types
- Use of graphics

Organisation of the database

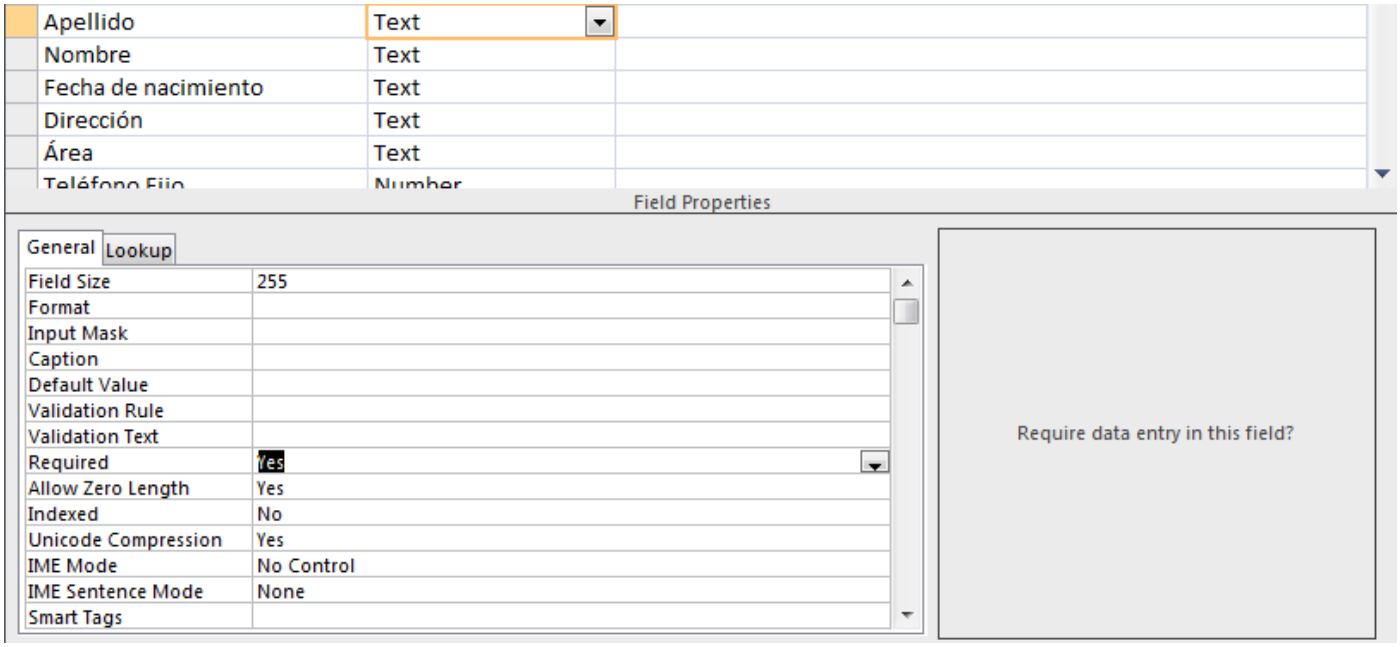
The screenshot below indicates the organisation of the database:




The data has been added to the tables and names that the user(s) will recognise have been used. The fields within the tables have been changed from the default settings to make them fit the type of data that is going to be added.

Below are some examples:

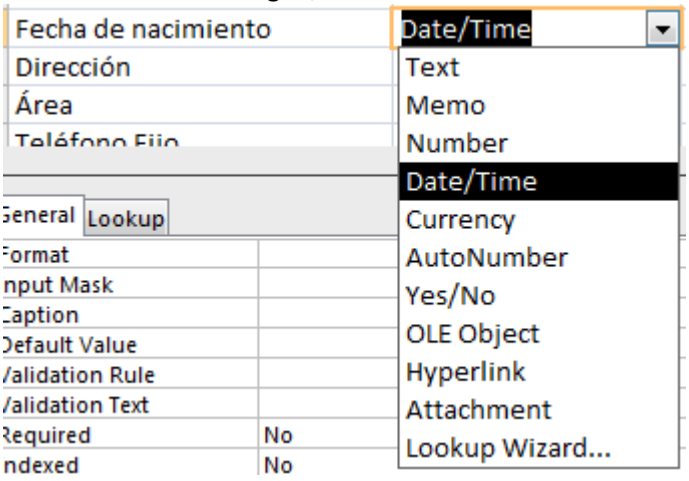
- The data for some fields is classified as “Required,” meaning that the data must be entered to create a new record.

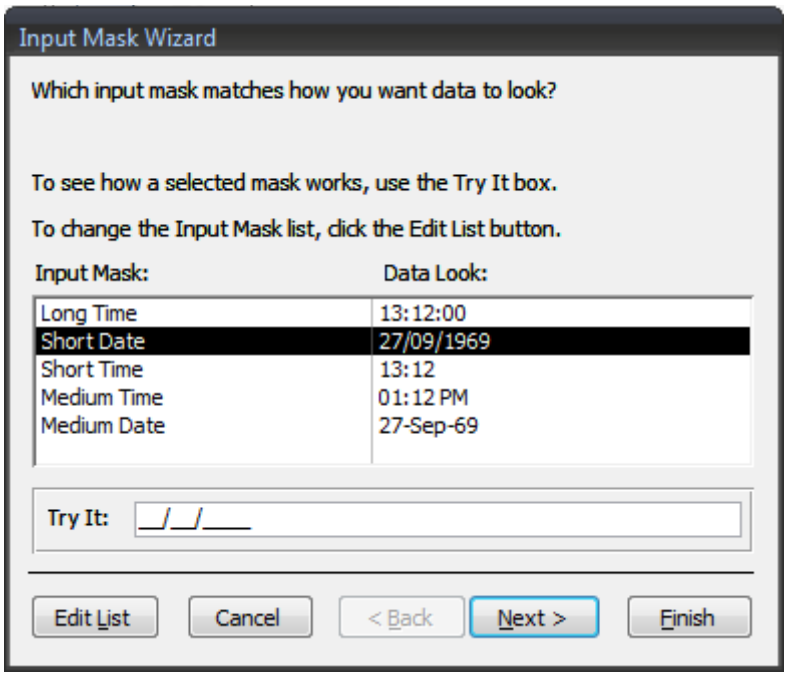



- The data format for the field “Teléfono Fijo” or telephone number was changed to fit the eight

digits divided by a dash, as usually written.

- The data type for dates were also changed, like birthdates

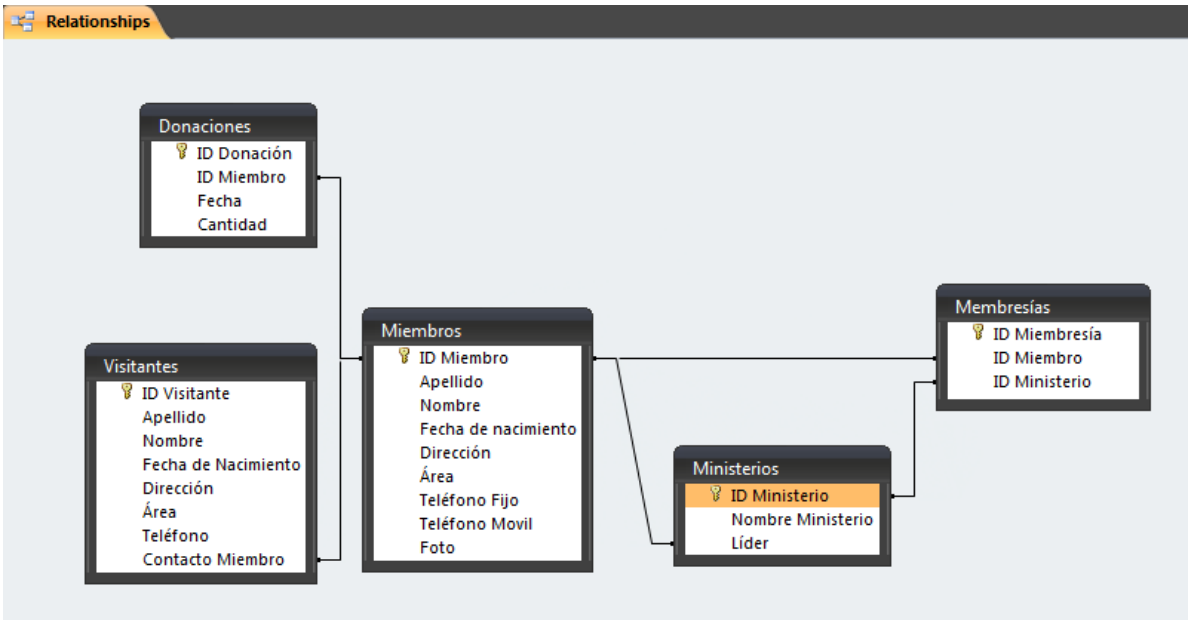


The structure and organisation of the database

**Technique: related tables**

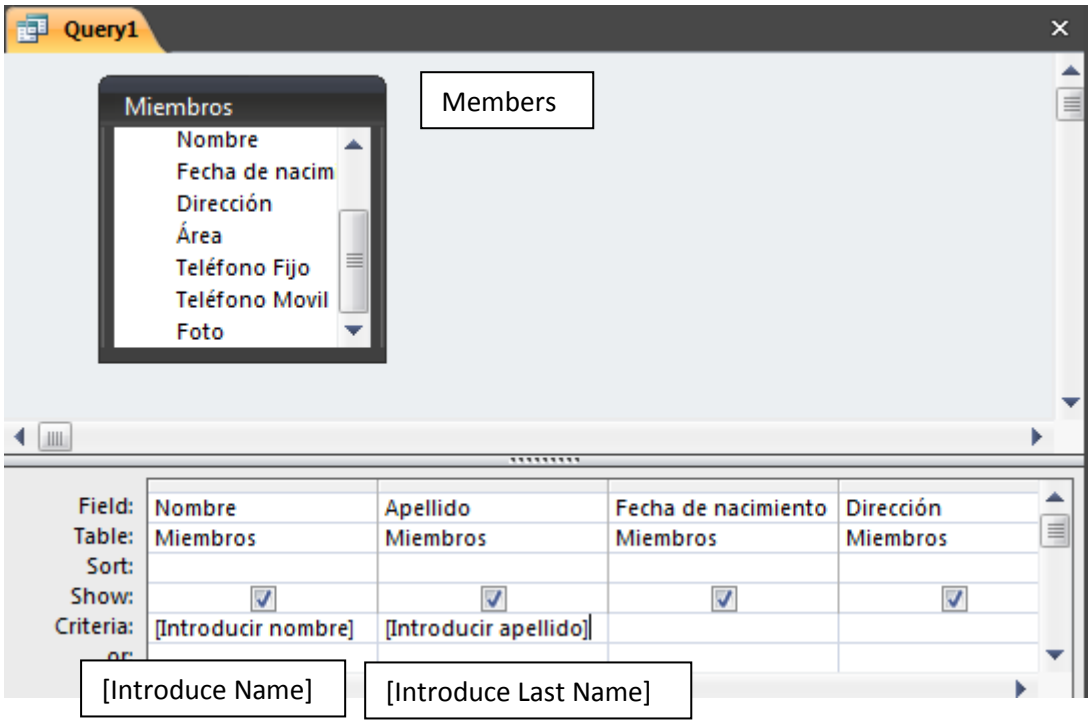
The database consists of five tables joined by one-to-many relationships, as shown below:



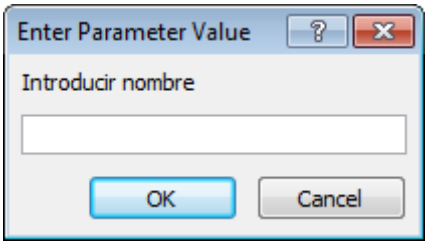

All the queries and data included in each record are designed to prevent issues when a certain field is changed. For example, a member changes address, that should not interfere with the use of queries and/or reports.

**Technique: complex queries**

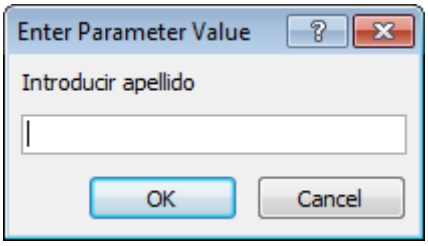
To prevent the user from having to browse through the tables containing all the records, queries have been modified to fit the user's biggest needs. For example, instead of browsing for a specific record, the user can input information associated with that record and the records which match the criteria are displayed.




Whenever the client wants to search for a specific member in the "Members" database, he just has to input the first name of the member he is looking for when prompted by this pop-up:

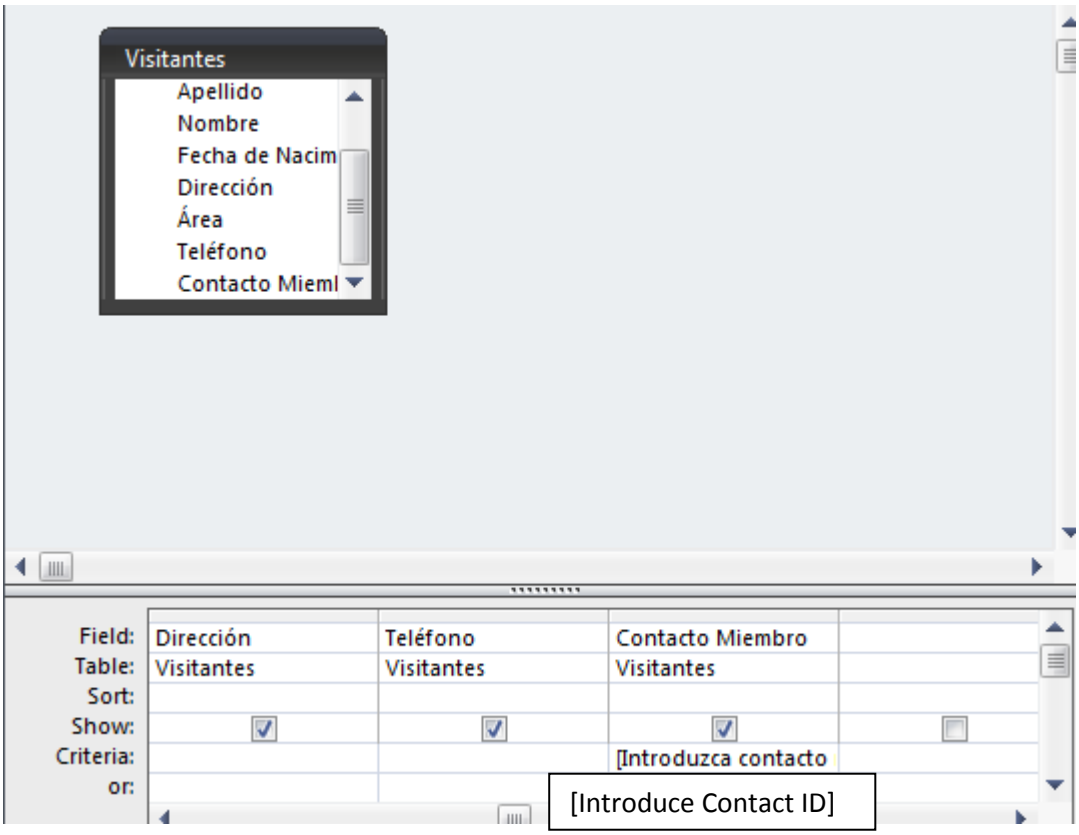



And the last name when prompted by this other pop-up:

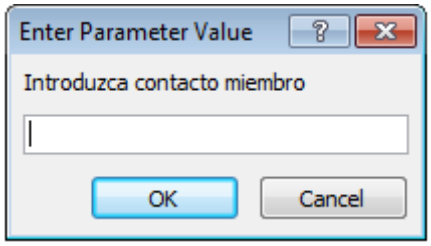



The result of introducing the criteria "Eunice" and "Melgar" is this:

The same techniques were used to search visitors by area and contact member, ministries by name, memberships by member and ministry, and donations by member and date.



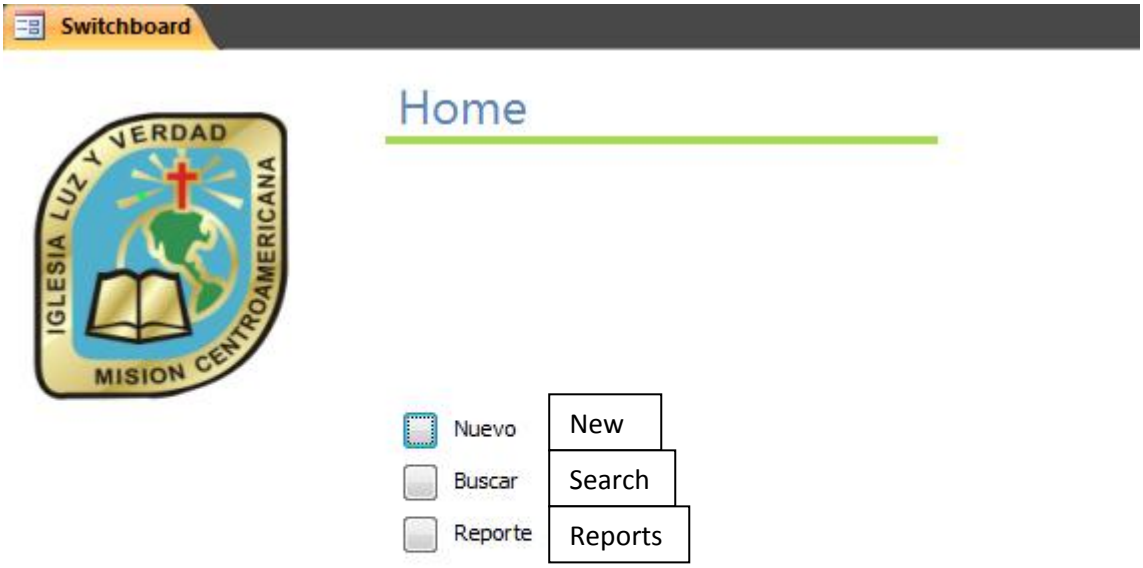

Produces:




And when an ID is entered, the following data is shown:

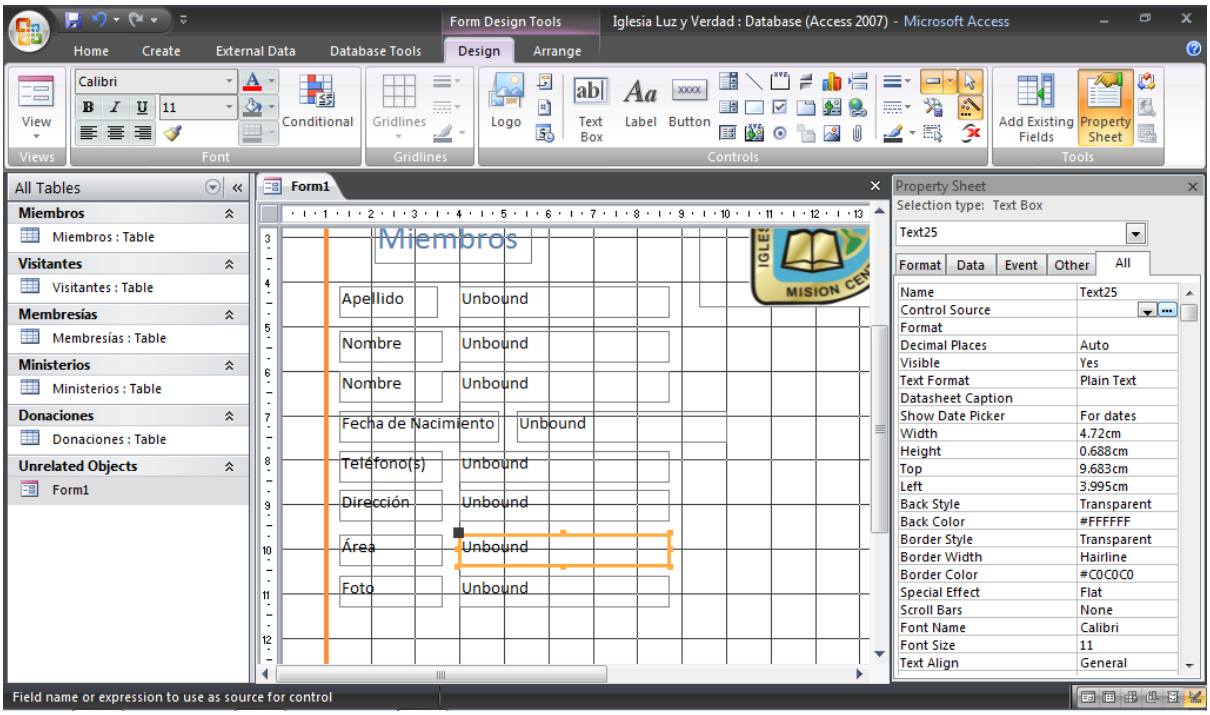
**Techniques: Switchboard and Proficient design of reports and forms**

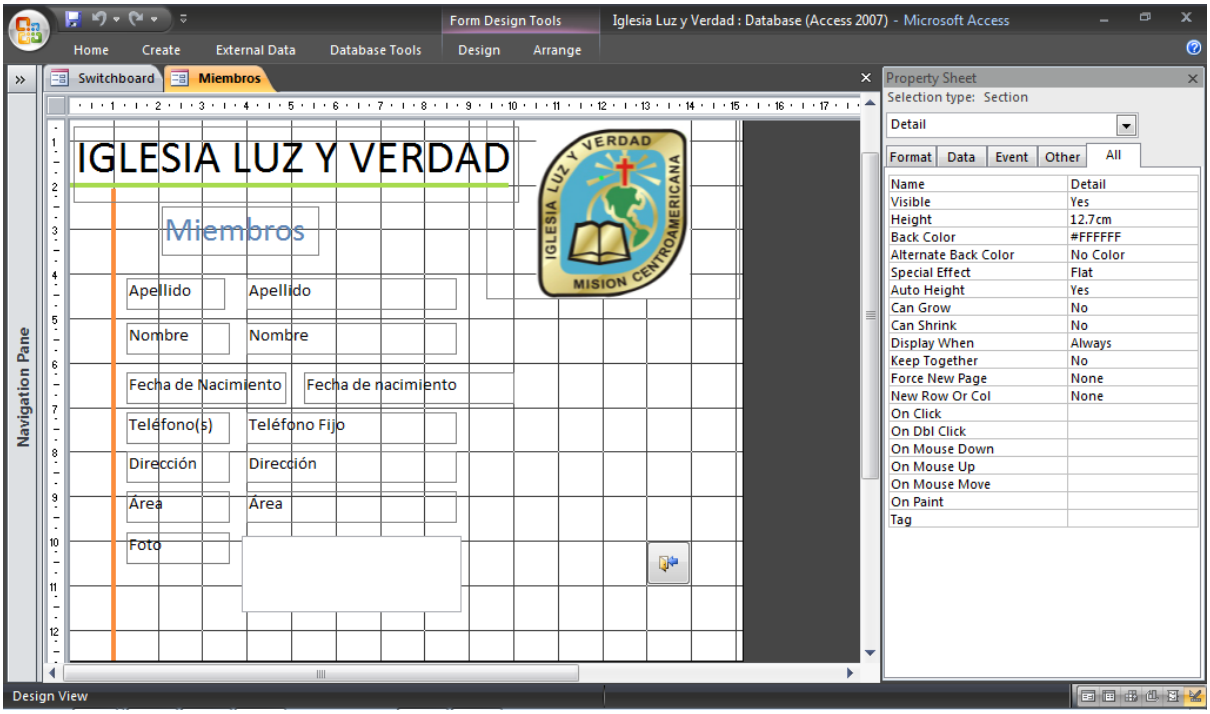
To facilitate the client's use of the database, I integrated a simple switchboard with a simple structure. The home page contains buttons to guide the user to create a new record, search existing records based on queries or see reports.

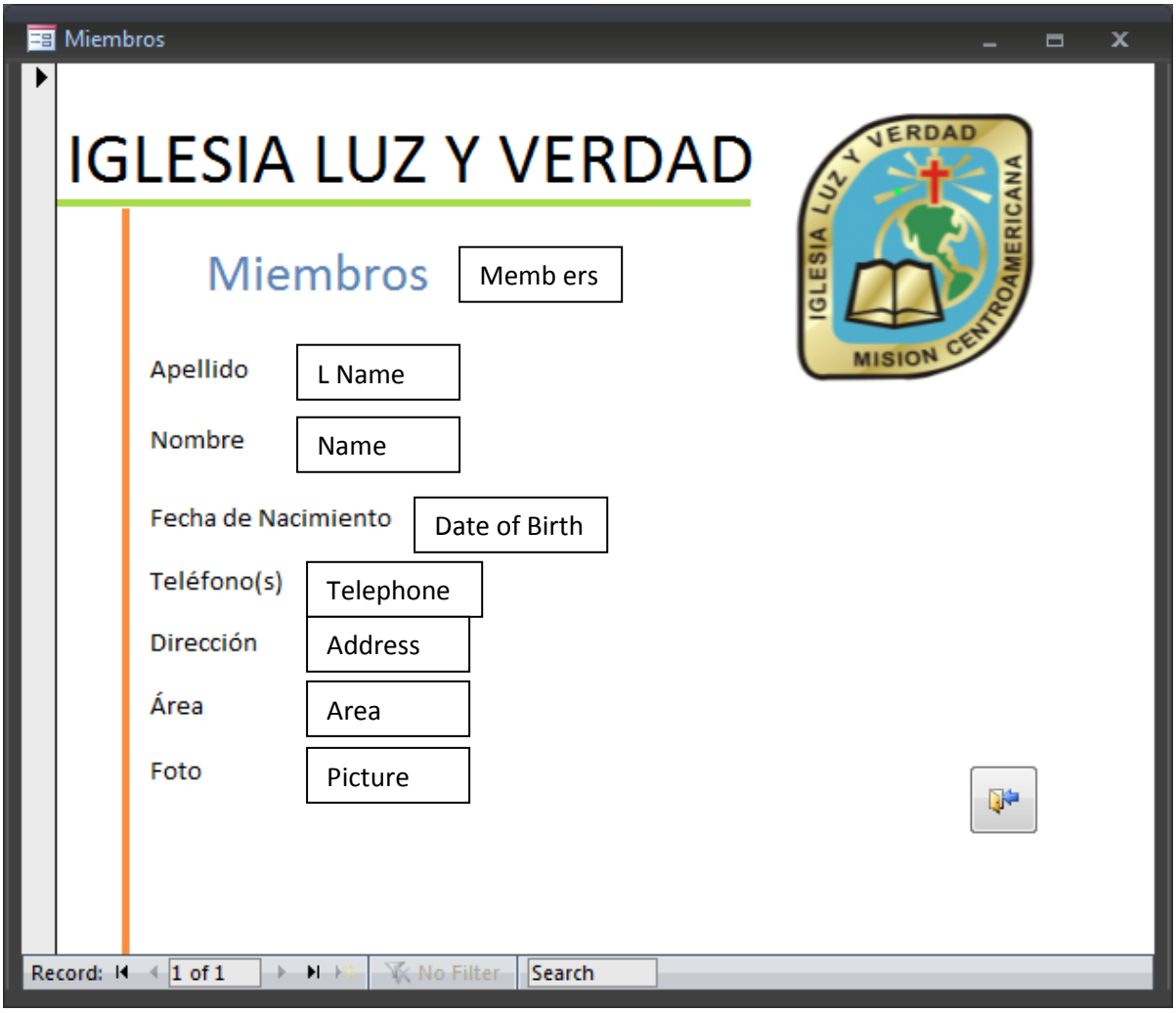



When the user clicks the "New" button the following screen appears, giving options to create new records:

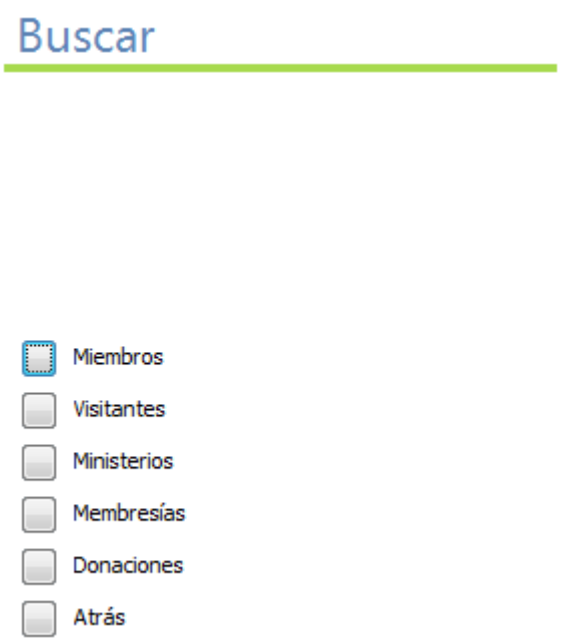
Each one of these buttons produces a form to insert new data in each table, which were previously created in design view:

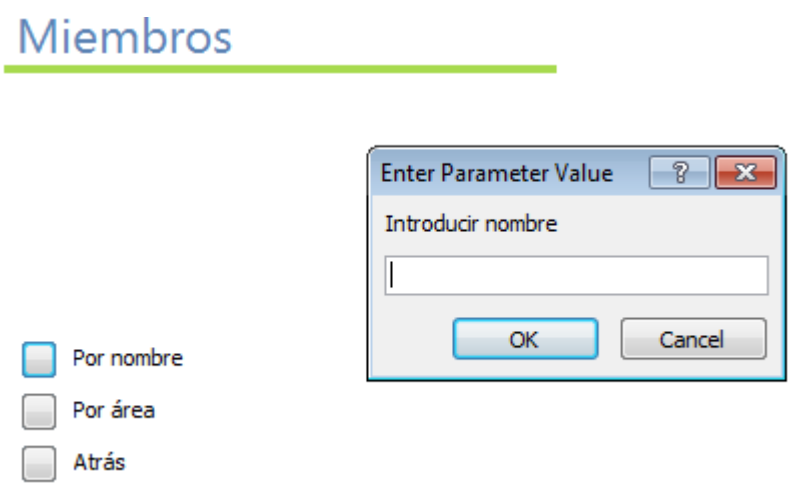



Form Design Tools
Iglesia Luz y Verdad : Database (Access 2007) - Microsoft Access
Home
Create
External Data
Database Tools
Design
Arrange
Switchboard
Miembros
IGLESIA LUZ Y VERDAD
Miembros
Apellido
Apellido
Nombre
Nombre
Fecha de Nacimiento
Fecha de nacimiento
Teléfono(s)
Teléfono Fijo
Dirección
Dirección
Área
Área
Foto
IGLESIA LUZ Y VERDAD
MISION CENTROAMERICANA
Property Sheet
Selection type: Section
Detail
Format
Data
Event
Other
All
Name
Detail
Visible
Yes
Height
12.7cm
Back Color
#FFFFFF
Alternate Back Color
No Color
Special Effect
Flat
Auto Height
Yes
Can Grow
No
Can Shrink
No
Display When
Always
Keep Together
No
Force New Page
None
New Row Or Col
None
On Click
On Dbl Click
On Mouse Down
On Mouse Up
On Mouse Move
On Paint
Tag
Navigation Pane
Design View

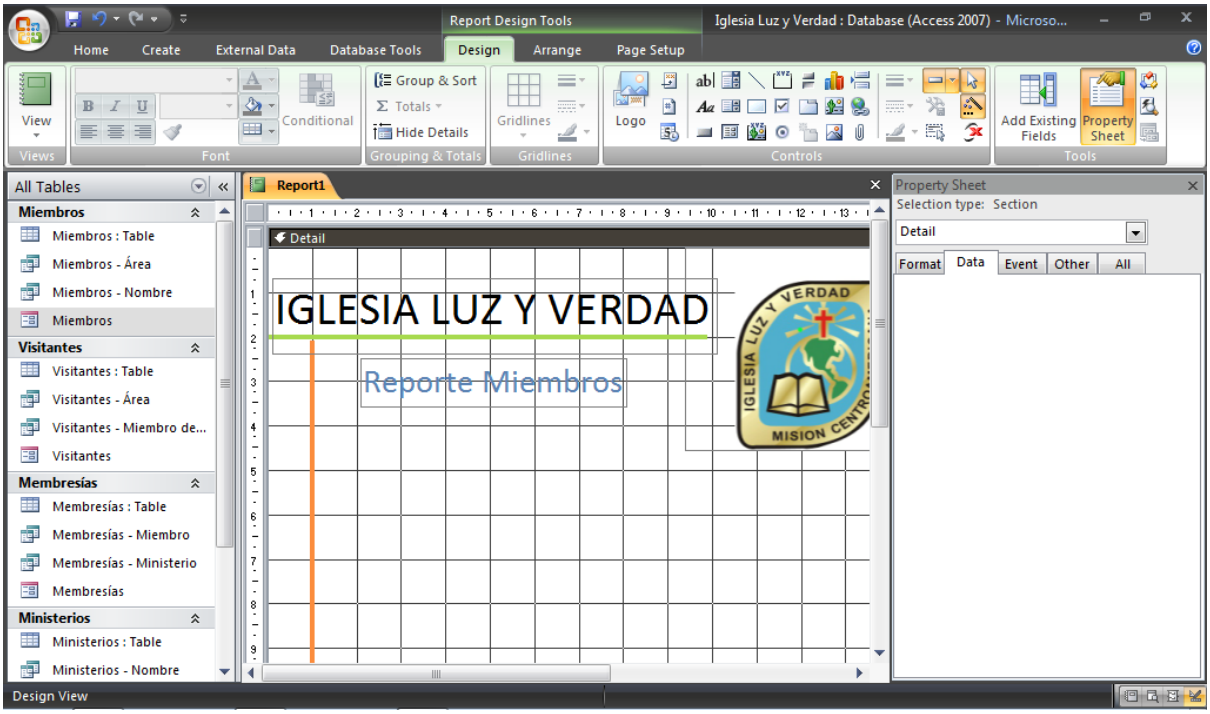

Miembros
IGLESIA LUZ Y VERDAD
Miembros
Memb ers
Apellido
L Name
Nombre
Name
Fecha de Nacimiento
Date of Birth
Teléfono(s)
Telephone
Dirección
Address
Área
Area
Foto
Picture
IGLESIA LUZ Y VERDAD
MISION CENTROAMERICANA
Record:
1 of 1
No Filter
Search

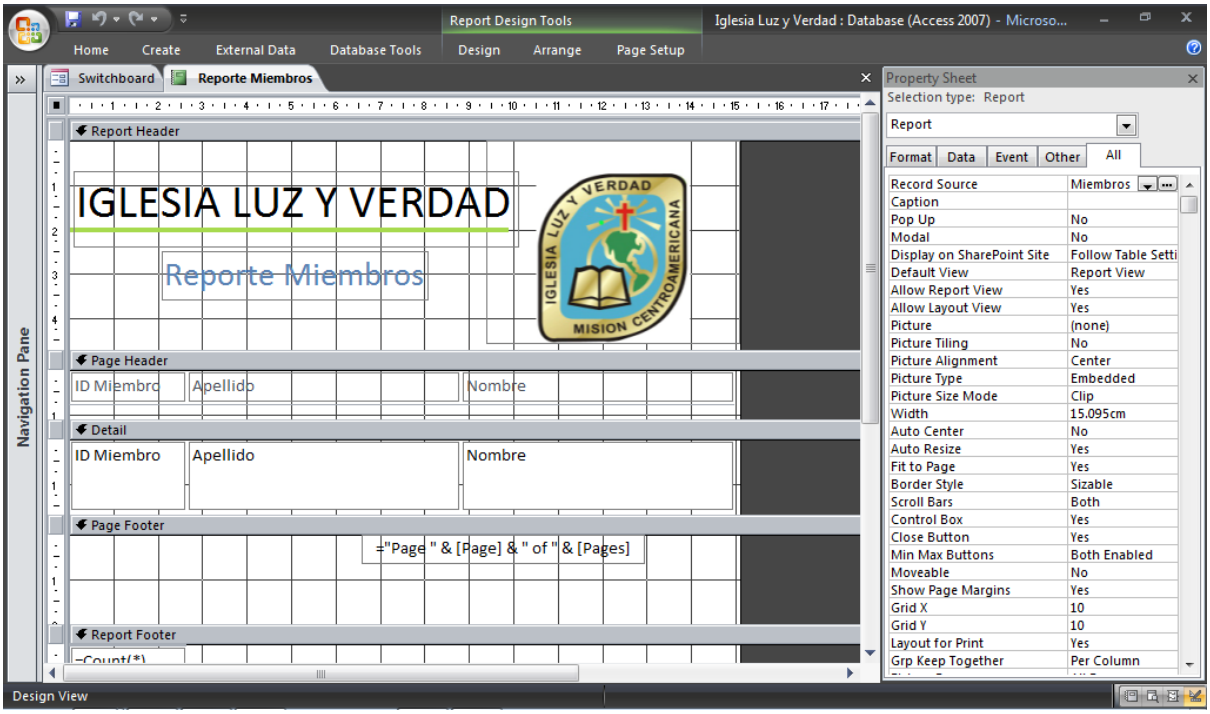
Back to “Home,” the “Search” button leads to the different tables, where the user can choose which table to search and can select from the parameter queries:




Also, the “Reports” button allows the user to bring up a report from any table with the click of a simple button, reports previously created in design view:

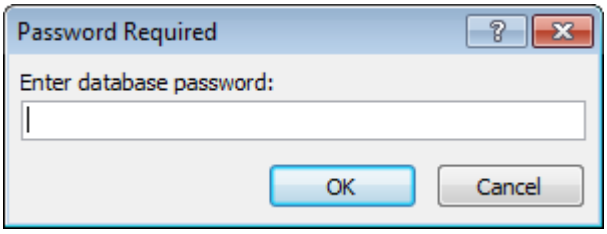

Report Design Tools
Iglesia Luz y Verdad : Database (Access 2007) - Microso...
Home
Create
External Data
Database Tools
Design
Arrange
Page Setup
View
Conditional
Group & Sort
Totals
Hide Details
Gridlines
Logo
Add Existing Fields
Property Sheet
Views
Font
Grouping & Totals
Gridlines
Controls
Tools
All Tables
Miembros
Miembros : Table
Miembros - Área
Miembros - Nombre
Miembros
Visitantes
Visitantes : Table
Visitantes - Área
Visitantes - Miembro de...
Visitantes
Membresías
Membresías : Table
Membresías - Miembro
Membresías - Ministerio
Membresías
Ministerios
Ministerios : Table
Ministerios - Nombre
Report1
Detail
IGLESIA LUZ Y VERDAD
Reporte Miembros
IGLESIA LUZ Y VERDAD
MISION CENTRO
Property Sheet
Selection type: Section
Detail
Format
Data
Event
Other
All
Design View


Report Design Tools
Iglesia Luz y Verdad : Database (Access 2007) - Microso...
Home
Create
External Data
Database Tools
Design
Arrange
Page Setup
Switchboard
Reporte Miembros
Navigation Pane
Report Header
IGLESIA LUZ Y VERDAD
Reporte Miembros
IGLESIA LUZ Y VERDAD
MISION CENTROAMERICANA
Page Header
ID Miembro
Apellido
Nombre
Detail
ID Miembro
Apellido
Nombre
Page Footer
="Page " & [Page] & " of " & [Pages]
Report Footer
=Count(*)
Property Sheet
Selection type: Report
Report
Format
Data
Event
Other
All
Record Source
Miembros
Caption
Pop Up
No
Modal
No
Display on SharePoint Site
Follow Table Setti
Default View
Report View
Allow Report View
Yes
Allow Layout View
Yes
Picture
(none)
Picture Tiling
No
Picture Alignment
Center
Picture Type
Embedded
Picture Size Mode
Clip
Width
15.095cm
Auto Center
No
Auto Resize
Yes
Fit to Page
Yes
Border Style
Sizable
Scroll Bars
Both
Control Box
Yes
Close Button
Yes
Min Max Buttons
Both Enabled
Moveable
No
Show Page Margins
Yes
Grid X
10
Grid Y
10
Layout for Print
Yes
Grp Keep Together
Per Column
Design View

In each new screen, there is a back button facilitating return for the user. If the button was not there, the user would have to close the switchboard and run it again.

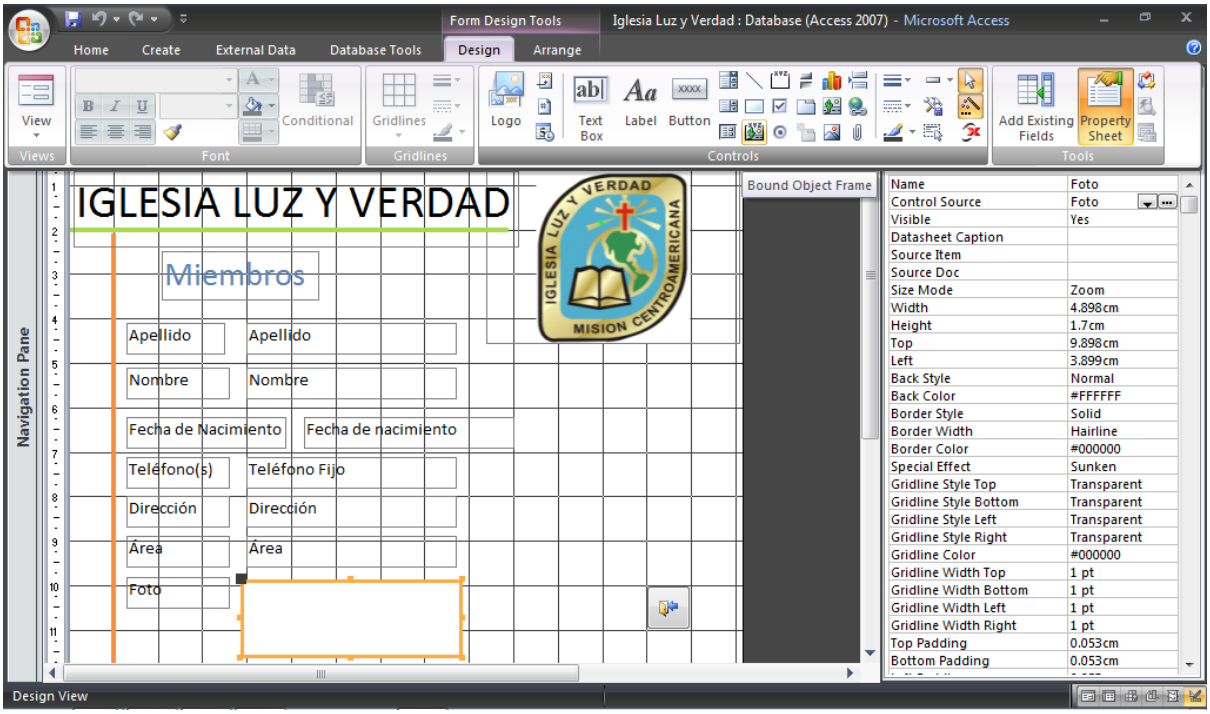
**Technique: Password**

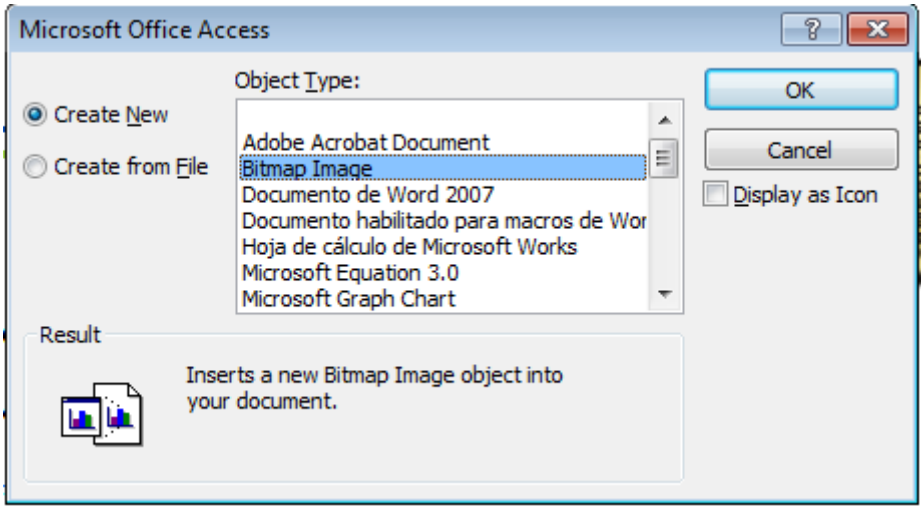
To make the database safer, I integrated the use of passwords. To create a password, I must first open the database with exclusive rights. Afterwards, I could easily add a password. When the user opens the database, a pop-up window prompts the user to introduce the password:



**Technique: Graphics Fields**

The use of graphics fields was mainly to provide a way to recognise members. An OLE object box was added in the Members form and the result was a form with the capability of adding a photograph.






Word count: 640 words