

Creating a Database Using Ms Access

An Introduction

OBJECTIVES

- What is a database and why is it needed
- How to create a database in Ms Access for data storage and retrieval.
- How to export data from Ms Access to Ms Excel.
- How to import data into Ms Access.
- How to use the data (contacts/addresses) available in Ms Access for mass

The

1. Database and Database Management System

In a nutshell, a *database* is a collection of data. Your phone book is a simple database. A simple recording about the books and journals is also a database. Databases are of two types *simple and complex*. The data having relation with other data is a complex database and known as Relation Database.

To access information from a database, you need a database management system (DBMS). This is a collection of programs that enables you to enter, organize, and select data in a database. It is a system involving data, the hardware that physically stores the data, the software that utilizes the hardware's file system in order to store, retrieve or change the data, and finally the users who turn the data into information

2. Need for a database

A database is required for Storage & retrieval of information. Information that you may need to store may be of various kinds. It could be addresses of people/organizations, information about books, documents, films, photographs, Electronic files etc

Fields	First Name	Last Name	E-mail	Phone
Records				

3. Building a Database: Key Steps

● Define the specifications for the database.

The requirements are translated into the specific components of the database: the fields, tables, data entry screens, reports, queries, functions, etc.

● Documentation manual

Document your requirements and expectations from the database.

TIPS

1. You can create the software (or even hire a developer if the internal capacity doesn't exist).
2. Refer to the Documentation manual for have your requirements fulfilled.
3. Time frame for the Database project needs to be kept in mind.
4. Staff back-up- Maintenance and development of the database need

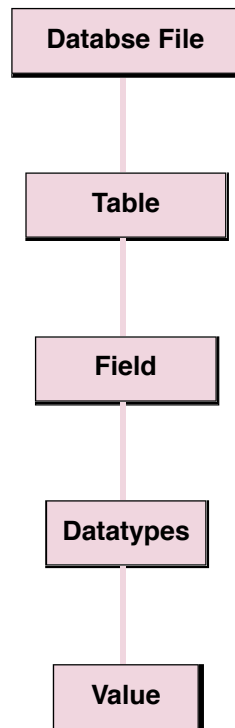
Structure of MS ACCESS

MS ACCESS provides us with tools to-

- Design the structure of your database
- Create data entry forms so you can get information into the database
- Validate the data entered and check for inconsistencies
- Sort and manipulate the data in the database
- Query the database (that is, ask questions about the data)
- Produce flexible reports, both on screen and on paper, that make it easy to comprehend the information stored in the database.
- Data export/import and merging various fields/tables with MSWORD and E-mail client.

Common components of Microsoft Access database:

Database File, Table, Record, Field, Data-type. Here is the hierarchy that Microsoft Access uses in categorising a database.



Database File:

This is your main file that encompasses the entire database and that is saved to your hard-drive or floppy disk.
Example) Name.mdb

Table:

A table is a collection of data about a specific topic. There can be multiple tables in a database.

Example #1) Emp ID

Example #2) First Name

Field:

Fields are the different categories within a Table. Tables usually contain multiple fields.

Example #1) First Name

Example #2) Phone

Datatypes:

Datatypes are the properties of each field. A field only has 1 datatype.

Field Name) First Name

Datatype) Text

For example, Let us create a database of peoples contacts consisting of the following information.

Name

- Designation
- Organisation
- Address and City
- Telephone
- E-mail
- Work area

For Work areas

Ref: List of Keywords existing in your organisation.

Ref: Section on Organising Information to know about keywords.

4. Issues of Concern:

1. **Data Integration**
2. **Maintenance and Updation**

Few important ways in which the database can be used:

- Maintenance of contacts
- Using the same database for Mailing (invitations, publications promotion, E-mailers, etc.)

Data entry is still the single biggest expense in any database, and hence data entry is done once.

Proper relations between separate databases will help in single point updating of the databases.

TIPS ON DATABASE DESIGN AND USE

Don't

Create one flat file:

A flat file means that all your data goes on one data table. Flat files make it difficult to create statistical reports.

Create repeating fields:

If you have fields like Date 1, Date 2, Date 3, you should look at your data table design. Repeating fields are usually the sign of a flat file design, and will make reporting difficult.

Use a range instead of a number:

When entering data such as income levels, set up the database so that you are entering numbers, not a range such as \$10,000 - \$15,000. Ranges are not very flexible should the categories change later on.

Enter data inconsistently:

If some users enter "donor" and others enter "contributor," database queries will be hard to run accurately.

Create too many address-oriented fields:

Some databases include so many fields connected to addresses, that creating labels is impossible.

Use too many Yes/No fields:

If you are using a large number of yes/no fields, you may need to re-examine the design of your database.

Enter the wrong type of data in a field:

Sometimes users cannot find the proper field for a piece of data, so they enter it into another field, such as typing a client's ethnicity in an empty Address 2 field.

Do

Create relational data tables:

Unless you are doing only one very simple task such as entering a list of names and addresses, you will need more than one table of data to track your information correctly.

Put like data in a single field:

Create separate relational tables and you will eliminate the need for most repeating fields.

Put only 1 piece of data in a field:

Relational databases are set up so that the user doesn't need to put more than 1 piece of data in a field.

Use a number instead of a range:

If you enter a number in an income field, you will be able to generate reports that can easily be changed if the categories change.

Decide on consistent rules for data entry:

The organization should make decisions about data entry consistency. Then the database designer can build in ways to enforce consistency at the user level.

Create only necessary address fields:

Keep address-oriented fields to a number that will fit on mailing labels.

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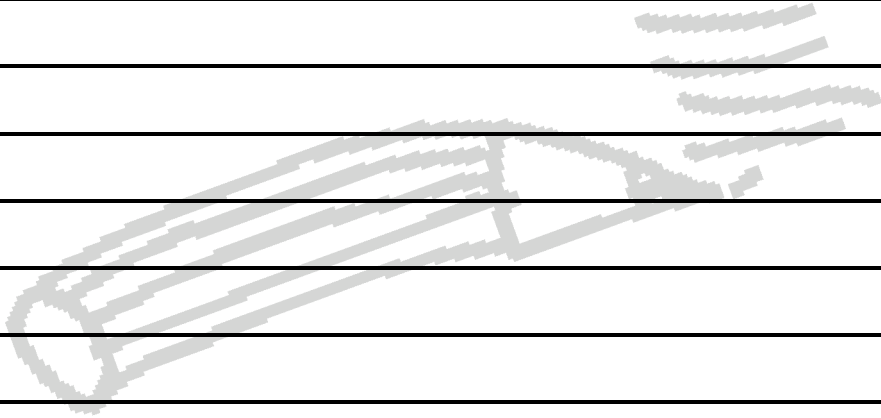
Keep address-oriented fields to a number that will fit on mailing labels.

Enter information in the proper field:

If the data entry person cannot find the right place for a piece of data, perhaps the database needs some work. The answer is not to enter information randomly in an empty field.

NOTE PAGES

Lined area for notes, featuring horizontal ruling lines.



ACTIVITY SHEET

Total time: 30 minutes

1. Create a database for storing information about key persons that your organisation interacts regularly.
2. Sort the database developed in question 1 according to cities.
3. Export the data (report) developed in question 2 in MS-Excel.
4. Draft a letter in MS Word and merge it with the data available in excel sheet. (Mail merge)

Note: Total marks –20 . Every step is of 5 marks.

Prize: A parker pen.