

Fact Finder

A computer can select facts and compile lists from the vast amount of information stored in a database

An accumulation of data that is held on and accessed by a computer is known as a 'database'. We all use various non-computerised databases as part of our everyday lives.

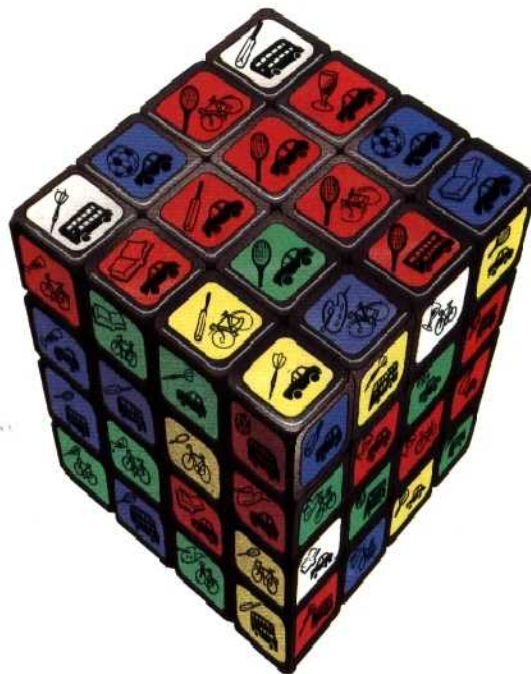
The telephone directory is an example of a non-computerised database. However, information does not have to be indexed or stored in a particular order to be a database. On a computer, such fixed ordering actually creates severe limitations.

A database program is a set of routines that allow selections to be made from the data. Such programs range from simple card-indexed systems to complete languages.

Typically, a computerised database will be large and contain data of many different types. But this does not mean that you have to be the owner of a huge machine. Any computer can handle a useful database. The only real limitation is the size and speed of the storage facilities.

We could, for example, make a list called 'people' containing facts about various persons. If we put these on an ordinary card index, we get a list that looks like the one called Personal Index. It is immediately apparent that there are several different kinds of information here. Within each category, many of the items are simple words, and some are numbers. There are limited possibilities within two of the categories: 'sex' can only be male or female and 'marital status' must be one of the set 'single, married, divorced, or widowed'.

It might be useful to make certain items into lists



TONY LODGE

of words and numbers. For example: occupation, name of company, business address, business telephone, and name of superior could usefully be grouped under the heading 'business', and both types and age of car could be members of the car list.

By extending this idea, we can keep all addresses as lists. This is better than keeping an address as a single item, since we might want to know which town a person lives in, but not which street.

'Marital status' can also be extended by adding the name of the spouse where appropriate. This

Anyone For Tennis?

We have used the Rubik's cube as an analogy for a raw database — that is, one that contains all the information we may need, but as yet has not been manipulated into the right order. In this example we are looking for a tennis partner (the racquet symbol), who is a car owner (the car), and who is free on the day in question (the red squares)

```

DATABASE HCCSOFT
ENTER DATE AS DD/MM/YY: 14/10/83
.ACCESS
#use FRIENDS
#while FRIENDS, do CARS;
#while HOBBIES, do TENNIS;
#end
_CLOSE

```

Asking The Right Questions

Most commercial database programs use codes that are almost programming languages in themselves. The code we've used here is typical. 'ACCESS' indicates to the program that we wish to 'interrogate' or ask questions of

```

#FRIENDS, CARS subset hobbies: TENNIS
FIONA DAVIES      253 8146
CYNTHIA GRIMSHAW 794 1121
ROBERT MITCHELL  877 6202
DAVE WHELAN      592 5360
MARGARET JENKINS 345 1314
#END

```

a file that we have previously created. 'Use' indicates that we are going to use a sub-set of the file called 'FRIENDS', and 'while' these conditions are true, we are going to pull out all the items that are tagged with 'CAR' or 'TENNIS'. The result is a list of friends, with their telephone numbers, who both drive cars and play tennis

IAN MCKINNELL