

Understanding Database

Terminology

Aims of session:

To enable you to:

Describe what is meant by the term "Database"

Describe the uses of a computerised database.

Database

A database is a means of keeping data (information) in a framework which enables the user to easily:

Add Data

Edit Data

Delete Data

Retrieve Data

A database system can be thought of as a record keeping system, some examples are listed below:

A Telephone Directory

A Card Index System

Office filing cabinet(s)

DVLC database

The Northern College Student Records System

A database does not have to be held on computer in order to be effective. However, it is the case that the number of computerised databases is rapidly increasing and it is hard to imagine any organisation being able to effectively manage information without recourse to such technology.

Files/Tables

In computing terms databases can be said to consist of one or more data files. Current RDBMS (Relational DataBase Management System) terminology refers to Tables rather than



Files. Each Table is stored separately by the computer. When required by the user, the computer or more accurately the DBMS (database management system) i.e. the software that controls the database, will cross reference the files to display the information in a form that is useful to the user. In the simplest cases a database will have only one table, this is known as a **FLAT FILE** database.

Records

Each table is made up of records (or rows). It may help to think of a table as a grid similar to a spreadsheet. in which the rows constitute records. Each record in the data file has the same structure (i.e. it is made up of the same columns (fields)).

Fields

Each record is made up of fields. Each field contains a distinct piece of data. A field is the smallest element of data that a database can normally access (without resorting to clever programming techniques).

Data Types

Fields can hold many types of data, the most common being

Character (or string)

Holds alphabetical characters and symbols

(0,1,2,3,4 , #.~.\$,% etc.)

Numerical

Holds numbers which can be;

Real: 1232.8, 5.0, 7.5. -7.5 or

Integer: 1, 2, 300, -300

Date

Holds a valid date, e.g. 29/09/1953

Logical

Is either TRUE or FALSE.

Key Field

This is a special field in that it has some "organising function" attached to it, it can be either unique or non unique. A unique key



field is guaranteed to occur once only in a data file whilst a non unique key field may conceivably occur more than once.

Examples of unique key fields are:

National Insurance Number

A car licence number

An Overview of a database

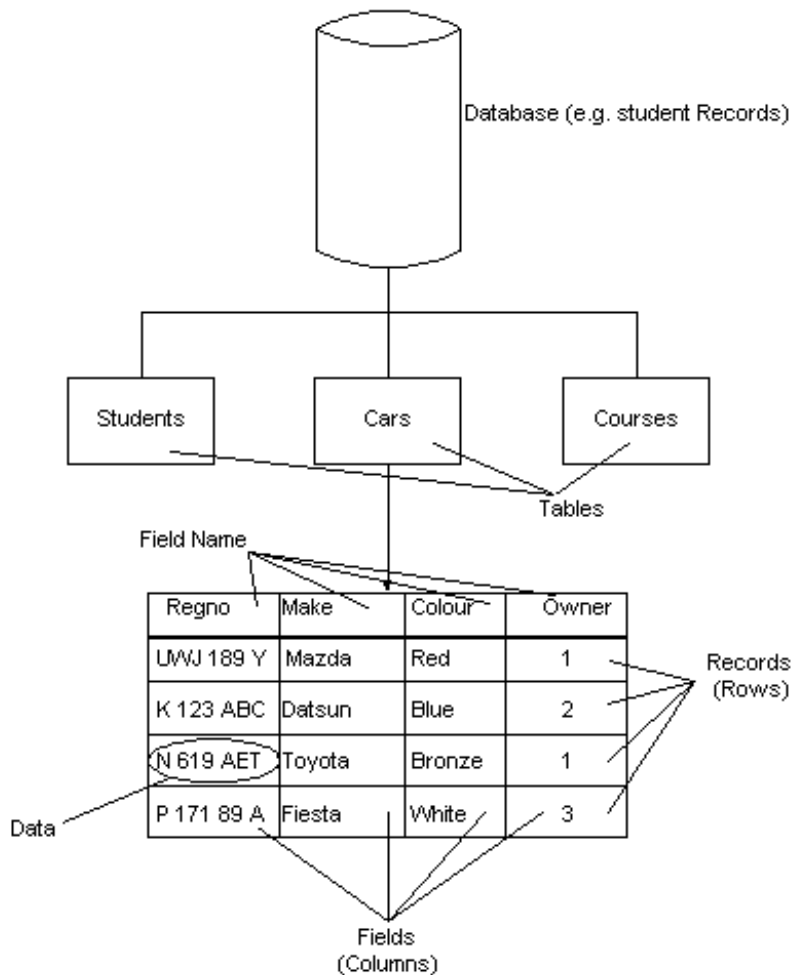


Figure 1.2: Overview of a Database

