

Introduction to MapBasic

A Course for Non-Programmers

Course Info

This course is for individuals who wish to learn how to develop MapBasic applications. This introductory course begins by covering the basic syntax and structure of MapBasic, as well as examining and coding programs that will automate repetitive tasks, customise MapInfo Professional's user interface and more.

The course participant will be introduced to fundamentals of MapBasic including different uses for MapBasic; the basic structure of a MapBasic program; variable types and declarations, constant definitions, sub procedures, operators and flow control. The course then moves on to cover other topics related to working with tables and maps.

The approach to this course is very much hands on. As different topics are covered, small pieces of code will be written to create and/or contribute to a MapBasic program.

This course is instructed using the current version MapInfo Professional and the MapBasic Development Environment.

Pre-requisites:

Although experience with some form of BASIC programming language is helpful you do not have to have programming experience to take this course! This course has been designed for MapInfo Professional power users that wish to automate repetitive tasks, create new capabilities in MapInfo Professional and/or create a customised mapping application.

Knowledge of MapInfo Professional is helpful. It is useful to understand the capabilities and features of MapInfo Professional as this is what you will be programming. Some experience with using the MapBasic window and / or with editing workspaces would also be particularly helpful. (Note that these topics are introduced in our "MapInfo Professional Level 2" training courses.)

An experienced programmer will also find this course to be of value, but some MapInfo Professional experience would still be considered helpful. Also, an experienced programmer will find some of the basic programming concepts covered in the course to be a revision. If you are an experienced programmer and wish to write a mapping application, you might consider using MapX, our ActiveX mapping component or our MapXtreme developer tools. (MapXtreme is for developing Internet/intranet based mapping applications.)

Content (2 day course)

Introduction and Concepts

Introduction to MapBasic: Understanding the use of MapBasic within MapInfo Professional, including workspaces and the MapBasic Window. The capabilities of MapBasic. Using the MapBasic documentation and on-line help. Using the MapBasic development environment. Understanding the structure of a MapBasic program. Creating and using sub procedures. Compiling your program and dealing with syntax errors.

Dialog Boxes

How to create your own dialog boxes. The types of controls (buttons, listboxes, pop up menus, etc.) available in dialogs. Positioning and naming controls. Getting input from the user via a dialog control, including reading control values and placing values from a dialog box into a variable. Using an control in a dialog box (such as a button) to call a sub procedure. As part of this course you will receive a free dialog library. This dialog library contains over 95 pre-built dialog boxes that you can copy and paste into your programs.

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Menus

How to create your own menu and/or add new menu commands to an existing menu. How to have your menu command call a sub procedure in your program. How to add, remove or relocate individual menu commands. How to add or remove entire menus from MapInfo Professional's standard menu bar. Altering the appearance of menu items, such as making a menu item available or unavailable ("greyed out") and adding dividing lines into the menu.

ButtonPads

Using the different types of buttons available in MapBasic: pushbuttons, toolbuttons and togglebuttons. How to create your own custom ButtonPads and/or add new buttons to an existing ButtonPad. How to find and use the buttons from the MapBasic's library of custom button icons. How remove buttons from an existing ButtonPad. Creating a new button for an existing menu command and creating a new button to call a sub-procedure in your program. Controlling the location and appearance of the ButtonPads.

Obtaining System Information

MapBasic includes a number of functions that can be used to find out about the current state of the system environment. A MapBasic programmer can use this information in many ways. Examples of information that you can obtain are how many tables are open, the name of a table, the type of a table (permanent, query, raster, etc), how many columns a table has and information about the column (the name and type of column). It is also possible to find out how many windows are open, what type of windows they are, what layers are in a map window or what type of window is the active window.

Working with Tables in MapBasic

Fundamentals of working with tables in MapBasic, including opening tables, reading values from a table (the "Fetch" statement), writing values into a table, and displaying a table in a Browser window. Also creating a new table and modifying the structure of an existing table. Using selection tables.

Introduction to Objects

Object and table fundamentals, creating tables, adding objects to tables. Understanding projections and co-ordinate systems. Declaring and using object variables to store an object. Using MapBasic to create map objects in a table. Using a drawing tool and storing the object that is drawn by a user into a table.

System Event Handlers

System event handlers give the programmer the ability to have their application respond automatically to specific user actions or events. For example, a MapBasic program can respond automatically if the user closes a window, makes or changes a selection, pans or zooms a map window, or changes the window that has the focus (or in other words the window that is "in front"). This section will describe the particular system events and event handler procedures that are available in MapBasic.

Thematic Mapping

Using MapBasic to create thematic maps. Particular emphasis will be given to a ranged thematic map. Using array variables and the Create Ranges and Create Styles commands to leverage MapInfo Professional's range calculation and automatic colour spread capabilities.

Private training courses are available at your location or ours. We will work with you to ensure that the training course meets your specific needs. Please contact us for more information.