GMS TUTORIALS

Feature Objects

This tutorial gives an introduction to feature objects. Feature objects are basic objects used in numerous ways in GMS.

1.1   Outline

This is what you will do:

1. Create feature objects

2. Select feature objects

1.2   Required Modules/Interfaces

You will need the following components enabled to complete this tutorial:

- Map, GIS

You can see if these components are enabled by selecting the *File | Register*. If you do not have these components enabled, you can complete the tutorial in *Demo Mode*. You can switch to *Demo Mode* by selecting the *File | Demo Mode* menu command.

2   Getting Started

Let's get started.

1. If necessary, launch GMS. If GMS is already running, select the *File | New* command to ensure that the program settings are restored to their default state.

3   Feature Objects

Feature Objects have been patterned after Geographic Information Systems (GIS) objects and include points, nodes, arcs, and polygons (Figure 3.1). You can use Feature Objects in many ways in GMS, and they are used in several tutorials.
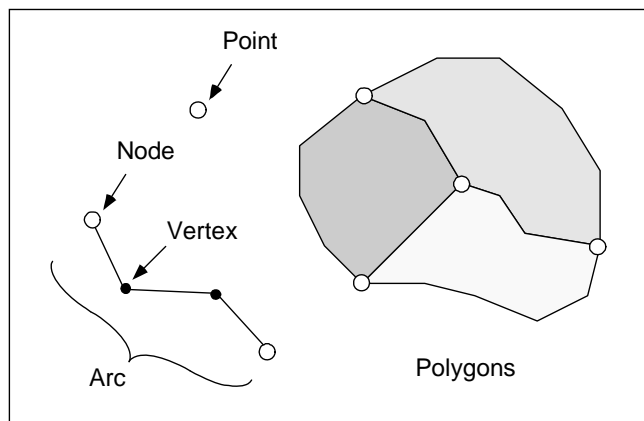

Figure 3.1 Feature Objects.

3.1   Points

Points are xy locations that are not attached to an arc. Points have unique ids and can be assigned properties. Points are typically used to represent wells.

3.2   Arcs

Arcs are sequences of line segments or edges which are grouped together as a single "polyline" entity. Arcs have unique ids and can be assigned properties.

3.3   Nodes and Vertices

The two end points of an arc are called "nodes" and the intermediate points are called "vertices". Nodes have unique ids and can be assigned properties. Vertices are used solely to define the geometry of the arc. Vertices cannot have properties.

3.4   Polygons

Polygons are a group of connected arcs that form a closed loop. A polygon can consist of a single arc or multiple arcs. If two polygons are adjacent, the arc(s) forming the boundary between the polygons is shared (not duplicated).

3.5   Coverages

Feature objects are grouped into coverages. Each coverage represents a particular set of data.

3.6   Creating Feature Objects

Let's create some feature objects now.

1. In the *Project Explorer*, right-click and select the *New/Coverage* command.

The **new coverage** item is now the active coverage, meaning that when we create feature objects, they will be added to this coverage.

2. Switch to the *Create Point* tool .

3. Click with the mouse to create points in any location.

4. Switch to the *Create Arc* tool .

5. Create an arc by clicking with the mouse. Single-click to create arc vertices and double-click to end the arc.

Polygons must be created using the *Feature Objects / Build Polygons* menu command. Although you may have created a closed loop with one or more arcs, a polygon won't exist until you select the *Feature Objects / Build Polygons* menu command.

6. Create a polygon by creating a closed loop with one or more arcs.

7. Select the *Feature Objects / Build Polygons* menu command.

There will now be a polygon where you created your closed loop of arcs. Until you use the *Build Polygons* command, you won't have polygons – only arcs. Feel free to experiment with the other Feature Object tools.

3.7   Selecting Feature Objects

There are different tools for creating feature objects and selecting feature objects. Refer to Figure 3.2 below. The different selection tools select different types of objects.

1. Hold the mouse cursor over a tool for a couple of seconds until the tool name appears.
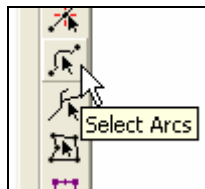
The *Select Tool* can be used to select all different types of feature objects. The other tools can only select one specific type of object. The *Select Tool* will probably be what you use most often, but you can use the other tools when necessary – for example if there are different types of objects close to each other.

2. Use the *Select Tool* to select different types of feature objects.
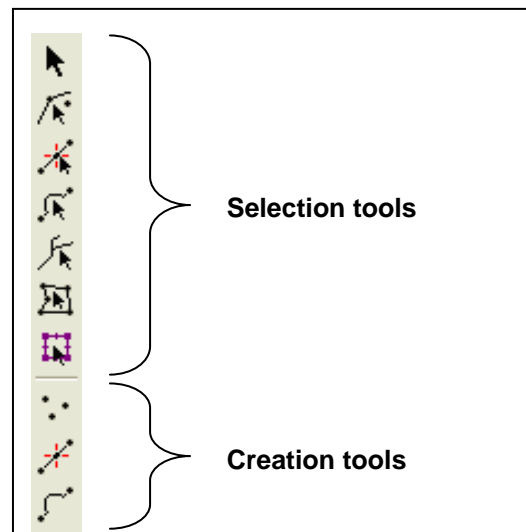
3. Try out the other selection tools.

Figure 3.2 Feature Object Tools.

4   Conclusion

This concludes the tutorial. Here are the things that you should have learned in this tutorial:

- Feature Objects are points, nodes arcs and polygons, organized in to coverages.