MicroGDS

Informatix Software International
Concept Built Occupied Managed

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From Concept & Built Stages to Occupation and Maintenance
MicroGDS products make BUILD LIFECYCLE MANAGEMENT possible

What's new in MicroGDS 11.0 Project.....to be released as MicroGDS 2010

Our decision to work closely with the buildingSMART Alliance, our commitment to IFC standards, and our extension of BIM into the demanding world of BLM (Build Lifecycle Management) will make MicroGDS 2010 a key release, not only for Informatix, but for existing and new users alike. We believe that the availability of such high level functionality at such low price points makes the MicroGDS 2010 range unique in its marketplace. In brief overview some of the 2010 enhancements cover:

- Intelligent Objects
- Parametric Components
- ADK
- New 64-bit version of MicroGDS
- DXF, DWG and DWF translation

Intelligent Objects

MicroGDS 11 introduces the concept of Intelligent Objects. This is the ability to execute an ADK function in response to changes to the MicroGDS object. This allows you to, for example, update external data, alter the object's appearance or perform validation. The association of ADK functions to objects is controlled through the use of Schemas and Object/Drawing styles.

Schema changes

In addition to being able to associate a set of mnemonics with an object through a Schema, those mnemonics can now be given a default value. However, the default values will only be available if an Object has an explicitly associated Schema (Object Style).

The Schema will also allow you to define a .NET assembly which contains the functions to be called by the relevant editing events.

Object Styles

A new property has been added to Objects. The Object Style forms an explicit association between an Object and a Schema. The Schema can be selected from the list of all Schemas that match the object name, but once set, the association remains even if the Object is renamed. Once associated, the mnemonics in the Schema will take on any defined default values.

In addition to the above, if the Schema contains an associated .NET assembly which contains the appropriate functions, the functions will be called whenever the Object is copied, moved or edited.

Drawing Styles

In the same way that an Object can have an Object Style, a View can now have a Drawing Style. This is an explicit association between a View and a Window Schema. As with Objects, Views can take on default values for the Schema Mnemonics and call the associated .NET functions whenever the View is edited or the selection is changed.

Parametric Components

Building on the functionality introduced by Intelligent Objects, we will be introducing the first set of building components to make use of this technology. These will be Doors, Windows, Walls, Slabs and Stairs. Their built-in intelligence will, for example, mean that Doors and Windows can make holes in Walls, Walls can heal themselves whenever a Door or Window is removed and Door frames will resize if the wall thickness changes.

All these components will have IFC compliant attributes and, depending on which Schema you associate with them, you will be able to specify certain dimensions merely by adjusting parameters.

ADK

The ADK has been designed to provide the greatest flexibility in reading and modifying MicroGDS data. It replaces the older CadLink libraries and is described in more detail in a separate handout. With it you can develop integrated or standalone functionality.

Integrated ADK

The Integrated ADK allows you to develop functions that are to be used within a MicroGDS session.

Standalone ADK

The Standalone ADK can be used to develop applications that are independent of MicroGDS but use MicroGDS MAN and Project files.

New 64-bit version of MicroGDS

There is now a 64-bit version of MicroGDS that you can install onto a machine running a 64-bit version of Windows XP, Windows Vista or Windows 7. This enables you to take advantage of the improved memory handling of a 64-bit machine. The main difference is that the 64-bit version of MicroGDS lets you access more memory on a 64-bit machine, which in turn, will help you work more easily with large MicroGDS projects.

You can run the 32-bit version on a 64-bit machine, but not the other way around. If you have existing MicroGDS CPD databases that you want to continue to use you will need the 32-bit version as these databases are created with Jet 4.0 and there is no 64-bit version of the Jet driver.

Save and restore window axes

Each window definition in a document now has its own set of axes. When you open a view in a window definition, its axes are loaded from the window's stored values. When you move, rotate, or change the axes' scale, you can now explicitly save that axes for the window and restore it again later. MicroGDS saves the axes origin, rotation and scale, the units and decimal places, and the X and Y grid spacing (if you are using a grid).

Exporting and publishing views

In MicroGDS 11.0, the Window Export command has been divided into two commands: Window Export and Window Publish. The model-based formats remain with the Export commands and the image-based formats have moved to the new Publish commands.

Notes:
• You can export and publish to DWG format. MicroGDS translates the structure for export and draws the content for publish.
• You can save Export and Publish parameters to a file which can later be recalled, thus saving time and ensuring consistency.

Working with batch views

MicroGDS 11.0 introduces new batch commands to enable you to export, publish, and print multiple views.

These commands also provide options to save and load a set of views, and save and load the current settings, enabling you to easily export, publish, or print the same sets of views repeatedly. Note that batch export is for DXF and DWG formats only.

Improved handling of warning messages

There are a number of warning and error conditions detected by MicroGDS, typically when opening a document, for which detailed information is now available. For example, missing source files for photos or instance objects, or fonts that are used in a drawing but are not installed on the current machine. In these cases, the action taken by MicroGDS in previous releases has been replaced by reporting the information in a Problems dialog box.

By default, if any warnings or errors of this type are detected when you open a document, the Problems dialog box opens after the document has loaded. You can tell MicroGDS to not automatically open the dialog box by selecting the 'Don't show this dialog until I ask for it' check box.

Whenever possible, the dialog box will offer you various options to fix the reported problems. Whenever there are unsolved problems in a document, a yellow warning triangle is shown on the information bar. You can open the Problems dialog box by double-clicking this button.

Preferences and settings

In past versions, MicroGDS wrote preferences and settings to the Windows registry. This made it particularly difficult to transfer settings between users and machines. Now, MicroGDS writes most of its details to various xml files, making it much easier to copy and share settings. Furthermore, settings can now be saved at different levels, including user-level, MicroGDS document level, and CAD manager level. This is done using the new Configuration Editor. The use or roaming profiles means that your personal settings will be available on any machine on your network.

Many companies will have office standards for different types of MicroGDS items, such as layer names, colours, linestyles, and so on, and have set up your working environment to suit. Sometimes however, you might have a project that needs its own standards, such as where a client always follows a particular layer naming strategy. The Configuration Editor lets you set general and project settings, allowing you to choose to override a setting on an individual basis. It will also allow you to lock any setting so that it cannot be modified in a session. If you want to use a project-specific settings file with a different project, just copy the settings file to the location of that project.

User profiles

MicroGDS 11.0 introduces profiles to store and recall different window layouts. This enables you to create and recall a layout to suit specific needs. A typical use would be if you often switch between 2D drawing and 3D design and would like a different screen environment for each. Another use might be where multiple users have access to a specific PC and each would like to load their preferred layout each time they log on and run MicroGDS on that machine.
A new Profile submenu has been added to the Window menu enabling you to select, save, delete, and define profiles.

New and enhanced material shaders (Pro and Compact3D only)

There are a number of new material shaders in MicroGDS 11.0 and also several enhancements to existing materials.

Renderer enhancements (Pro and Compact3D only)

When rendering to the render window, MicroGDS now uses progressive rendering. This initially shows a limited image, and then refines that image. The image is sampled at a few pixels, which are drawn repeatedly so that you see a coarse, blocky image. This image is then filled in with smaller pixels until finally rendered at one-to-one and in full quality.

Final Gather options:
• Whenever ambient lights are used with final gather rendering, MicroGDS now automatically switches to using ambient occlusion lighting. This is an intelligent method of shading which helps add realism by approximating how light radiates in real life.
So, instead of the ambient light being uniform and constant, which can tend to flatten the scene, the light will vary around objects and in corners-spreading light across the whole scene. Use the ambient occlusion options to control the shader-like effects.
• Select the 'Handle translucency' check box to consider the amount of light transmitted through surfaces with the translucency reflectance shader, when any of the visibility rays encounter some geometry. This means that translucent surfaces can pass light through from behind, and that light will be gathered.

Photo enhancements

In MicroGDS 11.0, after snapping the source window for a photo, MicroGDS now automatically displays the Photo Transform dialog box. This dialog box has been improved to provide more intuitive options. Use the Photo Transform dialog box to scale and rotate the photo. The scale options let you choose whether to set the photo size by specifying the scale view or by using snaps (maintaining the aspect ratio).

The Photo Transform View dialog box has also been enhanced. It now shows the source scale or view size, depending on the view type, of the source window.

In addition, the 'Photo enlargement' property on the Properties dialog box has been renamed 'Photo scale'.

Setting overrides for a window photo

You can now set phase overrides for a window photo primitive. This enables you to specify different properties to that of the photo source. For example, you can override the assigned colour or linestyle of the graphics in the photo primitive.

Overrides are set using the new Photo Phase Editor. You display the editor by double-clicking the 'Photo phase overrides' box for the photo on the Properties window.

Details about the phase that references the layer on which the photo resides are shown. Many settings are the same as those on the associated Window Editor.

Disabling MicroGDS commands

A new Commands tab has been added to the Preferences dialog box which enables you to disable (or enable) any MicroGDS command.

Note that the Command list shows all MicroGDS commands available throughout the suite of products. This means that some MicroGDS commands might not appear on your menus depending on the product you are using. For example, if you are using MicroGDS Compact, you will see some advanced 3D related commands that are not available on your menus.

Defining MicroGDS custom commands

You are now able to define your own custom commands for inclusion in MicroGDS menus. Previously this could only be accomplished through the use of Automenu files. The types of commands you can define have been extended from Shell commands and CadEvents to include, .NET assemblies and Integrated ADK functions. These command definitions are stored in the settings files and so can be defined at Personal, Project, Domain and Program level.

Configuring MicroGDS menus

The MicroGDS menu layout can now be easily modified using a new tab on the Customize (formerly Toolbar) dialog box. Using drag-and-drop you can move or delete entries, add new sub-menus, separators and custom commands. The modified menu definition is saved to your current profile.

DXF, DWG and DWF translation

A number of changes have been made to improve the translation to and from DXF and DWG data. These include

General changes

MicroGDS now reads and writes AutoCAD 2010 DXF and DWG files. MicroGDS also reads and writes mesh entities and section objects ('live' sections only).

Import and export of OLE data has been added to DXF/DWG translation (for AutoCAD 14 and later formats).

Import

- If a DXF/DWG file has empty layer names, MicroGDS now allocates names before opening the file.
- DXF/DWG import now processes left/centre/right/justified justification settings for paragraphs in multi-line text (for AutoCAD 2008 and later formats).
- Increased the use of plot styles for setting colours of phases, including phase overrides.
- A new setting has been added to the AutoCAD Import dialog box to specify the location in which to look for XREFs. The default is to look for XREFs in the same folder as the referencing file.

Export

- DWF export of photos with shaded views now correctly draws photos whose view has been extended (by changing the boundary). Previously, photos did not draw outside the photo's stored view.
- In general, DWF export has been improved in many areas, (e.g. Symbol filled linestyles are now written to DWF) although gradient and raster fills are currently not supported.
- Exporting rotated shaded views to DWF has been improved.
- Photo clipping for DWF export has been improved to cope with nested photos.
- DWF export of raster primitives has been optimised to reduce the size of the DWF file.
- The Export to AutoCAD dialog box has a new option to omit screen-only phases from the resulting DXF/DWF file.