



GraphWorX64

Using Camera Views for 3D Objects



APPLICATION NOTE

September 2013

Description: Guide to creating and using camera views for 3D objects

OS Requirement: Windows 8 x64 (Professional or Enterprise Edition), Windows 7 x64 (Professional or Enterprise Edition), Windows Server 2012 x64, Windows Server 2008 R2 x64, Windows Vista x64 SP2 (Business, Ultimate, or Enterprise Edition), Windows Server 2008 x64

General Requirement: Installation of GENESIS64 10.8; GraphWorX64 display with 3D objects.

Introduction

Camera views are preset views that focus on a certain part of the display. They allow you to zoom into an object during runtime with a click of a button. It is a quick and useful way to navigate around your 3D viewport.

In order to take advantage of Camera views, you need to create them in configure mode. This document will detail all the necessary steps.

Creating a Camera View

1. Open a GraphWorX64 display with one or more 3D objects in configure mode.

NOTE: If you do not have one available, please refer to the applications note called *GraphWorX64 - 3D Objects Quick Start* for more information on how to create one.

2. Double-click on the 3D View control to edit it.
3. Move around your 3D View control to a desired view. You can do that by pressing the Alt key while dragging the viewport.
4. Click on the down arrow of the Camera  button from the View section of the Home tab.
5. Select 'Add current view' and give the view a name.
6. Repeat the above steps to add as many views as you like.
7. If you wish to automate your views to change periodically, click on Camera Patrol Options  and check on the Enable checkbox.
8. Add your created views in the *Shots* list and set the duration time and the rest accordingly, as shown in Figure 1.

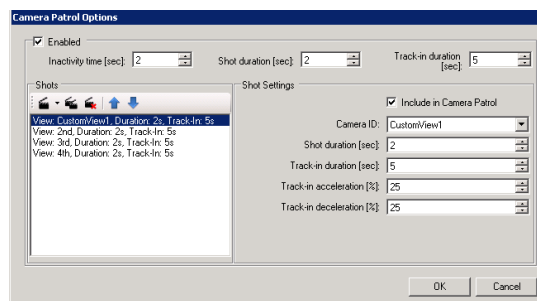


Figure 1 – Shots List, Camera Patrol Options

9. Save your GraphWorX64 display.

Camera View in Runtime

10. Put your display in runtime.
11. Right click anywhere on the display to have the Camera View menu appear.
12. If you automated your animation, it should transition between your views based on the selected criteria shown in Figure 2.

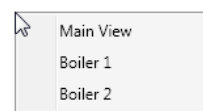


Figure 2 - Runtime Camera View

Creating a Pick Action

To change the created camera views in runtime, we can also use a simple script or a pick action. Using this during runtime, you can click on particular objects or assign shortcut keys to change the display views, zoom-in, etc..

Click an Object to change view

1. Rename your 3D control to be 'MainViewport' if you wish, as shown in Figure 2.



Figure 3 - 3D View Control: Main Viewport

2. Enter the configuration mode and double click on the object responsible for changing views. You should see the tab as shown in Figure 4.

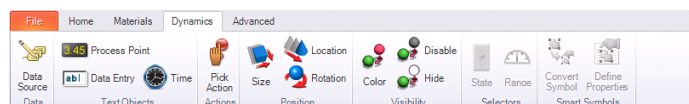


Figure 4 – Dynamic Tab, 3D View Control



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- Click on *Pick Action* in the Actions section to bring up the Pick properties in the dynamic tab on your right.
- Name the action and change the Command field in the Dynamic Behavior section to be *Set View*.
- Set the *TargetName3D* to be 'MainViewport', depending on what you named the 3Dmain display to be. Set the *ViewName* to the User created views. Leave the remaining values as default or change them according to your needs.

Common	
(Name)	Changeviews
Description	
Dynamic Behavior	
PickMode	Normal Button
InitialClick	False
Command	Set View
CommandParameters	
TargetType	Current Display
TargetName	
TargetName3D	MainViewport
ZoomType	ZoomToNamed
ViewName	UserCreatedView
TransitionDuration	0

Figure 5 – 3D Object Configuration

- Repeat steps 2-5 for any other view that you wish to set by clicking an object.
- Put your display in runtime.
- Now, click on the object to transition to the 3D view that you have set.

Assign a Shortcut Key to change view

You can assign any key on the keyboard to change the display views.

- Exit the 3D view by clicking either outside the 3D display box or pressing the Esc button.
- Select the Dynamics tab of the ribbon and click the *Function Key*.

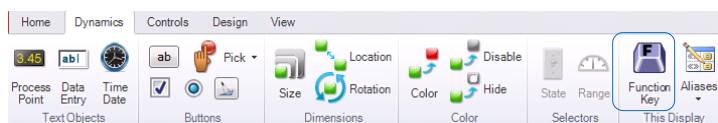


Figure 6 – Function Key of the Dynamics Tab

- Name the Function Key and change the Command field to *Set View*.
- Under Command Parameters, enter the *TargetName3D* to the current display and the *ViewName* to the view created by the user.
- Leave the other fields as default or change them according to your needs.
- Put the display in runtime.

- Click on the assigned key on the keyboard to change the view.

Click on a Button to change view

- Enter configuration mode; exit the 3D view display by clicking either outside the 3D display box or pressing the Esc button.

Select the Dynamics Tab on the ribbon and click on  in the *Buttons* section.

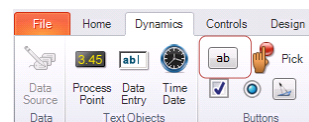


Figure 7 – Dynamic Tab, 3D View Control

- The pointer changes to a crosshair; drag it on the display to create a button.
- On the right of the display, the Dynamic Properties (Pick) of the button would be displayed.
- Name the button and change the Command field in the Dynamic Behavior section to be *Set View*.
- Set the *TargetName3D* to be 'MainViewport', depending on what you named the 3Dmain display to be.
- Set the *ViewName* to the User created views.
- Leave the remaining values as default or change them according to your needs.

Common	
(Name)	ButtonChangeView
Description	
Dynamic Behavior	
PickMode	Normal Button
InitialClick	False
Command	Set View
CommandParameters	
TargetType	Current Display
TargetName	
TargetName3D	tester
ZoomType	ZoomToNamed
ViewName	4th
TransitionDuration	2000

Figure 8 – 3D Object Configuration

- Repeat steps 1-6 for any other view that you wish to set using a button.
- Put your display in runtime.
- Now, click on the object to transition to the 3D view that you have set.

NOTE: If you see nothing happening, make sure that you are not already looking at the viewport from that view. In this case, simply move your view and then try clicking again on the button.