Instrumental Tools for 3D Studio MAX Plugins Development

Pyadushkin D., Chikalov I.

Nizhny Novgorod Software Technology Lab

Why 3DS MAX ?



Achievements

- Plugins Development Library
- 3DS MAX Plugin Application Wizard
- Applications

Plugin Development Library

- Automatically generates standard functions and Descriptor Classes
- Unify development of plugins of different types
- Allows to use MFC in user interface development

Highlights

- Parameter blocks is fully encapsulated
- Message maps mechanism is implemented
- File operations, cloning, undo/redo operations is overlapped by serializing mechanism

Plugin Development Library Help

3DS MAX Plug-in AppWizard for MS Developer Studio

3DS MAX Plug-in AppWizard - Step 1 of 3	X	3DS MAX Plug-in AppWizard - Step 3 of 3
3DS MAX Plug-in	3DS MAX Plug-in AppWizard - Step 2 of 3	3DS MAX Plug-in
	3DS MAX Plug-in	Locations
Select type of 3DS MAX plug	· · · · · · · · · · · · · · · · · · ·	3DS MAX C\Program Files\Kinetix\3DSMAX12
Procedural Modifiers Object	Object name MyObject Category Category	
		Using XGL Use All XGL Features
	Class name CMyObjec	xGL Path D\Developer≬XGL
Name PROJECTNAME	File name myobject.	t cpp
Descriptor <pre></pre>		Advi
< <u>Back</u> Next> Einish		< Back
	<back next=""> Einish</back>	Cancel <u>H</u> elp

The AppWizard creates skeleton for 3DS MAX plugin module, which contain:

- standard set of functions for all types of plugin;
- implementation of main plugin class;
- classes for implementation UI (dialog boxes, panes, etc.)

Applications



Ground Modelling plugin

2D effects plugin

- 2D procedural animated texture is created
- IPL/VEL library is used for frame transitions
- easy to add new effects

🛚 Material Editor - Material #6 🛛 🔹 💽			
Image: Second	VEProcessor		
+ Bitmap parameters	1		
+ Dirnab parameters			
+ Output			
I + Coordinates I			
+ Noise			
– Dissolve parameters			
Fraction : 0.80			
Dissolve Type			
C Additive C Dither			
C Non-additive Cross			

2D effects plugin inside

XGLObjectFactory (common properties of all plugins) **BitmapTex** (base class for bitmap

based textures)

TMAXPlugInTexmapBase < BitmapTex>

(common properties of textures plug-in)

CVEProcessor

user interface, message handlers (class is automatically generated by AppWizard)

template TVEObject< CVEProcessor> (common properties of video effects)

CVE

(properties of concrete video effect)



3DS MAX SDK classes

Plugin Development Library classes

Classes created by plugin developer