

Deus Ex SDK – Version 2.0 (2-13-01)

About This SDK

If you've gotten this far, we can safely assume you've already installed the Deus Ex SDK.

Deus Ex is based on the Unreal engine, and the majority of its code is written in UnrealScript. A discussion of UnrealScript is beyond the scope of this documentation. For further information about UnrealScript, we recommend visiting <http://unreal.epicgames.com> on the web.

This SDK contains the following:

- 1) The modified versions of UnrealEd and UCC used to build Deus Ex.
- 2) Sample conversation (.con) and DeusExText files from Deus Ex's training mission and the first two missions in New York City.
- 3) The ConEdit conversation editor, used to edit dialogue, infolinks and barks within the game.
- 4) A Lightwave-to-Unreal model converter.
- 5) All the headers used in development of Deus Ex. (located in Headers/DxHeaders.zip)

About the Deus Ex Packages

The following packages are used by Deus Ex:

- **Core.u:** The core routines used by the Unreal engine. These have been modified somewhat to work with Deus Ex.
- **Engine.u:** The baseline Unreal engine code. These have been modified somewhat to work with Deus Ex.
- **Editor.u:** Files used by UnrealEd.
- **Fire.u:** Procedural texture routines for Unreal.
- **Extension.u:** Basic extensions to the Unreal engine for Deus Ex. This includes the user interface and flag system code.
- **DeusExUI.u:** Textures used by Deus Ex's user interface.
- **ConSys.u:** The conversation system.
- **DeusExConversations.u:** Actual conversations, infolinks, etc. used by Deus Ex. Contains mostly imported .con files.
- **DeusExSounds.u:** Sound files for Deus Ex.
- **DeusExItems.u:** Meshes and skins for inventory items in Deus Ex.
- **DeusExDeco.u:** Meshes and skins for decorations in Deus Ex.
- **DeusExCharacters.u:** Meshes and skins for all NPCs in Deus Ex.
- **DeusExText.u:** Contains text for all books, datapads, emails and bulletins in Deus Ex.
- **DeusEx.u:** The Big Kahuna. This is where all the DX-specific code is kept.

Generating UnrealScript Source Files

To generate the UnrealScript source code for the game, do the following:

- 1) Run UnrealEd from your System directory.
- 2) From the Browse combo box (upper right corner of the editor), select "Classes".
- 3) Click on the "Export All" button in the lower right corner of the editor. This will generate the entire UnrealScript source tree for Deus Ex.

Building the Game

Before you start building new Unreal packages, it's a good idea to save off copies of all the original .u files in your System directory.

The UCC executable (modified for Deus Ex) has been included with this SDK so you can build your own UnrealScript classes. However, many of the textures, models, music files, sound effects and subsidiary files have not been included, so you won't be able to rebuild some of the packages yourself.

The following packages are *safe* to rebuild:

Core.u
Fire.u
IpDrv.u
ConSys.u
DeusEx.u
IpServer.u

The following packages ***ARE NOT SAFE*** to rebuild, due to dependencies on nonexistent files:

Engine.u
Editor.u
Extension.u
DeusExUI.u
DeusExConversations.u
DeusExSounds.u
DeusExItems.u
DeusExDeco.u
DeusExCharacters.u
DeusExText.u

If you want to rebuild any existing packages (such as DeusEx.u), here's how:

- 1) Edit the DeusEx.ini file in your System directory. Change the "CdPath=" variable so it points to your top-level Deus Ex directory. (You will only need to do this once.)
- 2) Delete the package file. UCC will not rebuild files unless they're missing from your System directory.
- 3) From a DOS box, cd to the System directory and type "ucc make". This will automatically regenerate any missing .u files. If you are prompted to rebuild a ".h" file, answer "no."

Adding New Packages

Although you can modify the existing UnrealScript packages to change the game, it is better (and considerably easier) to add new packages in order to extend the existing behavior in Deus Ex.

Here's how to add new packages to Deus Ex:

- 1) Create a new directory in the top-level Deus Ex directory with the same name as your package (for example, "DXMod").
- 2) Create a subdirectory called "Classes".
- 3) In the Classes directory, add UnrealScript files for any new classes you want to put in this package. These files should have the same name as the classes you wish to create, and should end with a ".uc" extension (for example, "UNATCOZymeDealer.uc").
- 4) In the System directory, edit the DeusEx.ini file. Look for a list of packages prefixed by "EditPackages=". Add your new package to the end of this list (e.g. "EditPackages=DXMod").

- 5) From a DOS box, enter the System directory and type “ucc make”. This will create a new package with the name you’ve specified. (If you’ve already created the package once, you’ll need to delete it before you perform this step; otherwise, UCC will not rebuild it.)

Installing ConEdit

Installing ConEdit is easy – simply run the “setup.exe” program inside the ConEdit directory, and follow the prompts. For a description of how to use ConEdit, see [ConEditDocumentation.doc](#).

Editing Deus Ex Levels

Information on how to edit Deus Ex levels using UnrealEd can be found here: [EditorDocumentation.doc](#).

Implementing Music in UnrealEd

Here’s how to incorporate music into a Deus Ex level: [MusicDocumentation.doc](#).

Using LWO23D

LWO23D is a tool that converts Lightwave objects (files ending in “.lwo”) to files compatible with Unreal’s 3D meshes. The Unreal-formatted files can then be imported into a package and used. Multiple Lightwave files can be concatenated to create animations (running, walking, sitting, etc.). LWO23D needs a data file called a CNN file to batch-convert LWO files to the 3D format. Run “lwo23d” with no parameters for more information.

Sample Files

This SDK contains many sample files to get you started. Some of these files include:

- Conversation files (.con): Located in the DeusExConversations directory. These can be read/modified via ConEdit and contain conversations, infolinks and barks for the training mission and missions 1 and 2.
- DeusExText files (.txt): Located in DeusExText\Text. These are text files (written in a pseudo-HTML format) which are displayed when the player reads a datapad, book, email or bulletin. Included are the DeusExText files for the training mission and missions 1 and 2.
- LWO23D batch file (.cnn): Located in the Tools directory. This is a sample data file used by the LWO23D program to convert Lightwave objects to Unreal’s 3D format.

Good luck, and have fun!