



# DI-Guy for Unity

Welcome to DI-Guy for Unity™! DI-Guy for Unity puts the power of DI-Guy into Unity.

DI-Guy for Unity is compatible with Unity 3.5.x and Unity 4.x. Included is an asset package allowing the user to integrate DI-Guy into Unity. Also included are source C# scripts and C++ files used to create the DI-Guy for Unity plugin.



To use DI-Guy for Unity within the Unity IDE requires a Unity Pro license (required for Plugin support).

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## ***Getting Started***

DI-Guy for Unity includes the sample project DIGuyPluginProject. Load DIGuyPluginProject into Unity and choose a sample scene:

- ◆ DIGuyPlugin\_test\_scene\_with\_stage11. A basic scene showing DI-Guy characters within Unity.
- ◆ FaceFX. A scene showing the use of DI-Guy FaceFX with Unity.
- ◆ NormalMapTest. A scene showing the use of DI-Guy bump-mapped shaders. This scene includes a GUI for showing DI-Guy characters both with and without bumpmapping.

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## Adding DI-Guy for Unity to Your Unity project

DI-Guy for Unity includes an asset package you can import into a new or existing project. The asset package includes plug-ins, C# scripts and shaders.

DI-Guy for Unity attaches DI-Guy characters created as game objects to a game object named DIGuyAttachPoint. You must have a game object with that name to see characters in Unity.

The DIGuyAttachPoint game object must include a script component referencing *DIGuyPlugin/gapi\_csharp/DIGuyGraphicsAPI.cs*. You must attach the *DIGuyGraphicsAPI.cs* script to the DIGuyAttachPoint game object to see characters in Unity.

The DIGuyAttachPoint script contains a variable `scenario_filename`. Point the scenario you wish to load.

## DI-Guy for Unity Project Structure

DI-Guy for Unity is in *./programming\_examples/diguy\_graphics\_api*. Sample code is provided to allow you to build the required DLL to integrate DI-Guy into Unity. Additionally, C# scripts are provided that implement the interface between DI-Guy and Unity.

- *DIGuyPlugin*. Contains C# scripts implementing an interface between DI-Guy and Unity.
- *DIGuyPlugin\_cpp*. Contains C++ code used to create the *DIGuyPlugin.dll*.
- *scenarios*. Contains sample scenarios used by the sample Unity project DIGuyPluginProject.
- DIGuyPluginProject. A sample project that demonstrates the capability of DI-Guy for Unity.
  - *DIGuyPlugin*. Contains C# scripts and shaders for the DI-Guy for Unity integration.
  - *Plugins*. Contains *DIGuyPlugin.dll* and *libdiguy\_module\_script.csharp.dll*.

## DI-Guy for Unity Technical Details

DI-Guy for Unity is built using the DI-Guy Graphics API, a C++ interface for integrating DI-Guy into custom applications.

*./programming\_examples/diguy\_graphics\_api/DIGuyPlugin\_cpp* contains C++ files used to create the *DIGuyPlugin.dll* plug-in. This plug-in communicates to Unity using C# scripts. The scripts were created using SWIG. They are in

*./programming\_examples/diguy\_graphics\_api/unity\_examples/DIGuyPluginProject/Assets/DIGuyPlugin/libpeopleshop\_csharp*.

The Unity side of DI-Guy for Unity is implemented via C# scripts in *./programming\_examples/diguy\_graphics\_api/unity\_examples/DIGuyPluginProject/Assets/DIGuyPlugin/gapi\_chsharp*.

The DI-Guy Graphics API handles setting up callbacks to communicate with Unity and initializing and shutting down DI-Guy.

- ♦ *diguyUnityGraphicsMesh* handles setting up DI-Guy meshes in Unity.
- ♦ *diguyUnityGraphicsTexture* handles setting up DI-Guy textures in Unity.
- ♦ *diguyUnityCharacter* handles creating and destruction of DI-Guy Characters and their pieces. It handles updating the Unity representation of DI-Guy characters.
- ♦ *diguyUnityScenario* handles scenario level callbacks and includes implementation of an altitude function for ground clamping.
- ♦ *diguyUnityUtil* contains helper functions for converting between DI-Guy and Unity coordinate systems.

### ***Unsupported DI-Guy features***

DI-Guy for Unity does not support:

- ♦ Specular map.
- ♦ Ambient occlusion.
- ♦ Texture variation.
- ♦ Shader LOD.
- ♦ Mesh LOD.

