Goblin XNA v3.5 Installation Guide

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Note: If you have any difficulty with these installation steps, please post your questions to the discussion board at goblinxna.codeplex.com (NOTE: Please do not directly email your questions to Ohan Oda).

Step 1: Download and install either (a) Microsoft Visual Studio 2008 Professional Edition [preferred] or (b) Microsoft Visual C# & C++ 2008 Express Edition. Do either step a or step b.
(a) Download Microsoft Visual Studio 2008 Professional Edition. Once you have installed it, *please be sure to get Service Pack 1 from the Microsoft webpage*.
OR
(b) Alternatively, if you do not have access to Visual Studio 2008 Professional Edition, you can use Microsoft Visual C# 2008 Express Edition, which is free. Download Microsoft Visual Studio 2008 C# Express Edition at no charge from http://www.microsoft.com/eXPress/download/#webInstall and install it. You will have to register the product in order to use it for more than 30 days. (Registration is free, but you will need a free Microsoft .NET Passport account to register the product.) If you use ALVAR, then you will also need Microsoft Visual C++ 2008 Express Edition to compile the sample projects provided in the ALVAR distribution package and the wrapper we provide.

Step 2: Download and Install XNA Game Studio 3.1.
Download XNA Game Studio 3.1 from http://www.microsoft.com/downloads/details.aspx?FamilyID=80782277-d584-42d2-8024-893fcd9d3e82&displaylang=en and install it.

Step 3: Download all necessary packages needed to compile Goblin XNA. (These are not included with Goblin XNA because the package owners require that they be downloaded from their sites.)

- Download "Newton Dynamics SDK 1.53" for Win32 from http://www.newtondynamics.com/downloads.html . After unzipping the file, run "setup.exe" to install the SDK. Once it has been installed, copy **Newton.dll** from *NewtonSDK/sdk/dll* (the directory where you installed the Newton SDK) to the *GoblinXNA/dlls/unmanaged* directory.
- If you would like to use Havok Physics instead of Newton engine, please download it from http://www.havok.com . It is free for trial and non-commercial use. First, unzip the downloaded file. Then, open HavokWrapper.sln under the *GoblinXNA/wrappers/HavokWrapper* directory (The current wrapper implementation is for hk710r1, and it only wraps very limited set of functionalities needed for simple simulation). Compile this project and copy the generated

HavokWrapper.dll from the *GoblinXNA/wrappers/HavokWrapper/Release* directory to the *GoblinXNA/dlls/unmanaged* directory. When you compile, make sure that the "Additional Include Directories" under Configurations Properties → C/C++ → General and the "Additional Library Directories" under Configurations Properties → Linker → General in the project settings have the correct path for your Havok directory.

- Download one of the two tracking libraries supported by Goblin XNA: (a) ALVAR [preferred] or (b) ARTag. Do either step a or step b:

  (a) Obtain the ALVAR tracking library (basic version) from the VTT website: http://virtual.vtt.fi/virtual/proj2/multimedia/alvar.html. This library is free for trial and non-commercial use. (A professional version of the library, with additional features, is available for commercial use.) First, install ALVAR, as well as OpenCV 1.0, which is required for running ALVAR 1.4.0. Then, open ALVARWrapper1.4.sln under the *GoblinXNA/wrappers/ALVARWrapper1.4* directory (You will need either Visual Studio 2008 Professional Edition or Visual C++ 2008 Express Edition to open this solution file as well as ALVAR project files). Compile this project and copy the generated **ALVARWrapper.dll** from the *GoblinXNA/wrappers/ALVARWrapper1.4/Release* directory to the *GoblinXNA/dlls/unmanaged* directory. When you compile, make sure that the "Additional Include Directories" under Configurations Properties → C/C++ → General and the "Additional Library Directories" under Configurations Properties → Linker → General in the project settings have the correct path for the ALVAR 1.4.0 and OpenCV 1.0 installations. Finally, copy the **alvar140.dll** and **alvarplatform140.dll** from *Alvar1.4.0/bin/msvc90* directory to *GoblinXNA/dlls/unmanaged* directory, and **cv100.dll**, **cvaux100.dll**, **cvcam100.dll**, **cxcore100.dll**, and **highgui100.dll** from *OpenCV/bin* directory to *GoblinXNA/dlls/unmanaged* directory.

  OR

  (b) Download the ARTag marker-based tracking library from http://www.artag.net/sdk_download/artag_sdk_download.php if you intend to use ARTag for marker tracking. (You will need to purchase a copy of Mark Fiala's book to get the library.) Unzip it and, then unzip the CSharp_ARTagWrapper.zip in */lib*. Copy the **ARTagWrapper.dll** to the *GoblinXNA/dlls/unmanaged* directory. Download TaoFramework (version 2.1.0) from http://www.taoframework.com/Home. Unzip it and copy **Tao.OpenGL.dll** and **Tao.FreeGlut.dll** from */bin* to *GoblinXNA/dlls/managed*, and **freeglut.dll** from */lib* to the *GoblinXNA/dlls/unmanaged* directory.

Now, you are ready to compile the Goblin XNA library. Open the GoblinXNA.sln file under *src* and build the solution. If you downloaded ARTag instead of ALVAR, then before you build the solution, add the following files in your solution explorer:

1. Tao.FreeGlut.dll and Tao.OpenGL.dll under *Reference*
2. ARTagTracker.cs and ARTagDllBridge.cs under *Device/Vision/Marker* folder

If you have all of the necessary files, it should build successfully, and the GoblinXNA.dll will be generated under the *GoblinXNA/bin* directory.