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 send your questions by email.)

Step 0: Download Goblin XNA v3.5 from http://goblinxna.codeplex.com. Unzip GoblinXNAv3.5.zip.

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 the ALVAR tracking library, 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 Game Dynamics SDK 1.53" for Win32 from http://www.newtondynamics.com/downloads.html. (Please be sure to download v1.53, not a later or earlier version!) 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; for example, under Windows 7, this defaults to *C:\Program Files (x86)*\) to the *GoblinXNAv3.5\dlls\unmanaged* directory.

- If you would like to use Havok Physics instead of (or in addition to) the Newton Game Dynamics 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 wraps only a very limited set of functions needed for simple simulations). 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 Technical Research Centre website: http://virtual.vtt.fi/virtual/proj2/multimedia/alvar.html. This library is free only for trial and non-commercial use. (A professional version of the library, with additional features, is available for commercial use by contacting alvar.info@vtt.fi.) First, install ALVAR 1.4.0 and download and install OpenCV 1.0, which is required for running ALVAR 1.4.0. (You will need to restart your computer after installing OpenCV 1.0. to make sure that your path environment variable is set correctly.) 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 the *Alvar1.4.0\bin\msvc90* directory to the *GoblinXNA\dlls\unmanaged* directory, and **cv100.dll**, **cvaux100.dll**, **cvcam100.dll**, **cxcore100.dll**, and **highgui100.dll** from the *OpenCV\bin* directory to the *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 GoblinXNA*src* and build the solution.

Note: 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 the *Device**Vision**Marker* folder

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