

Unreal Tournament Skeletal System Exporter

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Purpose

This tutorial explains you, how to export your model to the new Unreal Tournament Skeletal System, the .PSK files. These kind of models can share animations. So basically you attach your model to default skeletons. Before you start, you need the following:

- UT 436 or better
- UT Bonus Pack 4
- MilkShape 3D 1.5.0 or better

See <http://www.epicknights.com/> for more information about UT PSK.

Also be sure to add the following line to your **Unrealtournament.ini**:

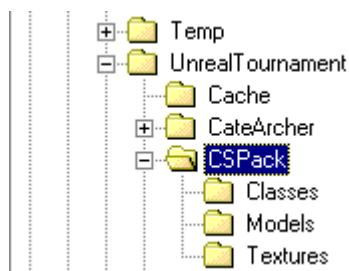
EditPackages=SkeletalChars

Add it below your other EditPackages statements. **ucc.exe** will know the class **SkeletalPlayer** now. But more about that later.

- [Project Setup](#)
- [Starting with the Skeleton](#)
- [Attaching the Model to the Skeleton](#)
- [Skinning](#)
- [Team Skins](#)
- [Face Skin](#)
- [Exporting](#)
- [Creating a Texture Package](#)
- [Playing UT](#)

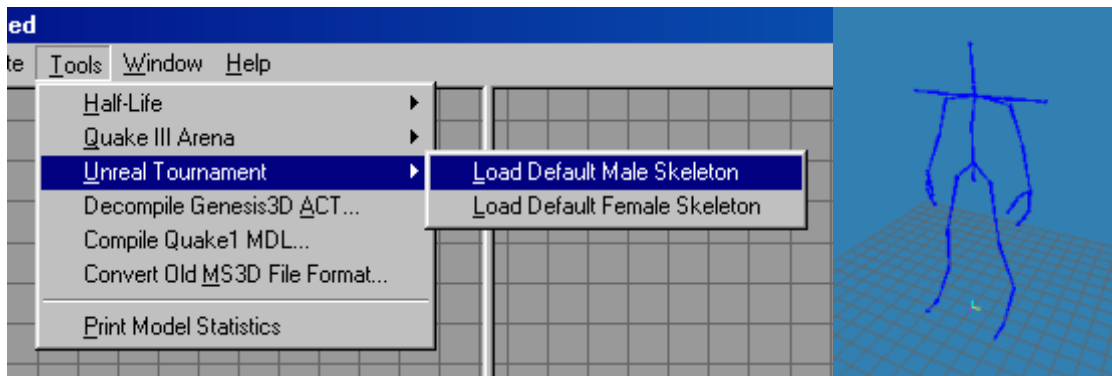
Project Setup

Create your directory structure directly in your **Unreal Tournament directory**. Create a directory named after your new package (i.e. '**CSPack**'), which must contain the three subdirectories '**Classes**', '**Models**', '**Textures**'. Save all your models (i.e. *.MS3D) into the './Models' directory and all your textures into the './Textures' directory.



Starting with the Skeleton

The best thing is, to start with one of the Unreal Tournament default skeletons:



Attaching the Model to the Skeleton

Then create or import your model. When your model is complete, then attach all vertices to a joint (bone). You can press the **SelUnAssigned** button to select vertices, which are not assigned to a bone yet. The exporter will check this for you, so if you oversee some vertices, then the exporter will tell you.

Skinning

You can have up to 4 materials and they are named like that:

- **Skin00**
- **Skin01**
- **Skin02**
- **Skin03**

You need at least 1 material. The texture filename naming conventions is as follows. It starts with a **4 character prefix** (i.e. 'MyMo', which is a short version of 'My Model'. I used 'Arct' for the 'Arctic' model and 'CaAr' for the 'Cate Archer' model). The texture for 'Skin00' has to be 'MyMo1.pcx', which is an 8-bit .PCX. I'm not sure, if 24-bit work too. The texture for 'Skin01' has to be 'MyMo2.pcx' and so on.

Team Skins

If you want to support team skins, then you should support all 4 team colors (red, blue, green, gold). The texture filename naming convention for team skins are almost the same as for default skins, but you have to add a 't_' to the skin.

Let's assume your model has 2 materials (Skin00 and Skin01), and you want to support team skins, then you will need those textures:

- **MyMo1.pcx** (default texture for Skin00)
- **MyMo1t_0.pcx** (red texture for Skin00)
- **MyMo1t_1.pcx** (blue texture for Skin00)
- **MyMo1t_2.pcx** (green texture for Skin00)
- **MyMo1t_3.pcx** (gold texture for Skin00)
- **MyMo2.pcx** (default texture for Skin01)

- **MyMo2t_0.pcx** (red texture for Skin01)
- **MyMo2t_1.pcx** (blue texture for Skin01)
- **MyMo2t_2.pcx** (green texture for Skin01)
- **MyMo2t_3.pcx** (gold texture for Skin01)
- **MyMo3Face.pcx** (Face Icon)

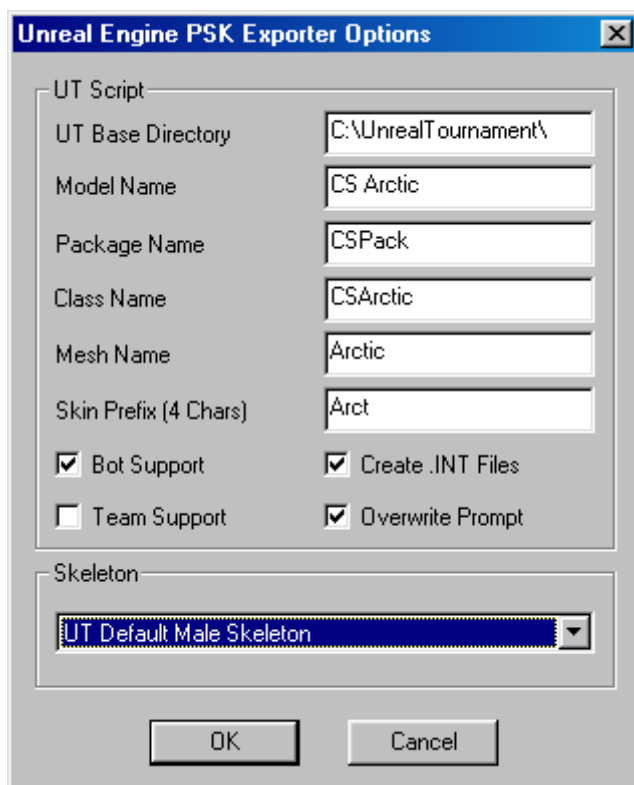
Please note, that in MilkShape 3D, you just have the 2 materials Skin00 and Skin01, which have the MyMo1.pcx and MyMo2.pcx.

Face Skin

Now you might wonder what the **MyMo3Face.pcx** is good for? Well, this is 64x64 texture, which is used as a face skin or also known as a talk skin, which you see, when you or the bot says something.

Exporting

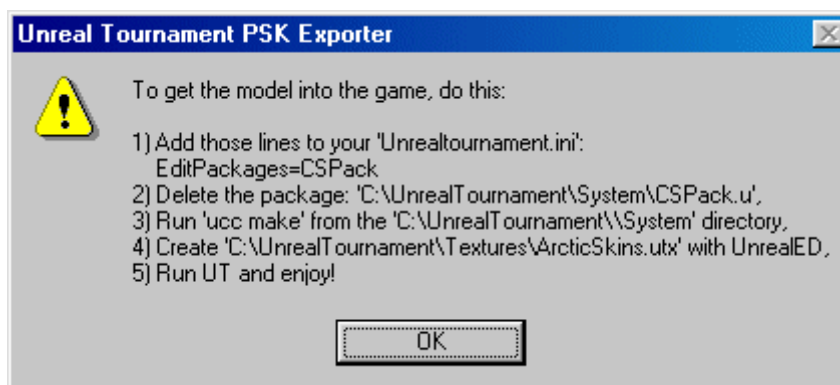
After you've saved your work, it is time to export your model. So goto the MilkShape 3D menu and choose '**File->Export->Unreal Engine Skeletal Mesh PSK...**'. This will show you the following dialog:



- **UT Base Directory:** The directory of your Unreal Tournament installation.
- **Model Name:** This is name of your model. It will be named like that later in the game.

- **Package Name:** This is the package name. No spaces or or other special characters are allowed. Also, be sure that you have created the directory structure mentioned above, because the package name has to be the same as the project directory.
- **Class Name:** This is the name of the class in the generated .UC script. No spaces or other special characters are allowed.
- **Mesh Name:** This is the name of the mesh in the generated .UC script. No spaces or other special characters are allowed.
- **Skin Prefix::** This is a 4 character skin prefix. It must have 4 characters!
- **Bot Support:** Check this to enable bot support.
- **Team Support:** Check this to enable team skin support. But then you have to create 4 team skins for each material in your model.
- **Create .INT Files:** Check this, to automatically create .INT files. These files are needed by the Unreal Menu, Player setup, to find your model and skins and are placed in your UT\System folder.
- **Overwrite Prompt:** Check this, just to be sure, that you don't accidentally overwrite some important files!
- **Skeleton:** Choose either male skeleton, when you have attached your model to a male skeleton, or choose the female skeleton, when you have attached your model to the female skeleton. Note, that in UT 436, female animations are not supported yet, so female models will looks weird ;-)

Then press the '**Ok**' button and MilkShape 3D will export your model, generate the necessary .UC scripts and also the .INT files. Finally, a message box will pop up, which tells you your last steps to bring your model into the game. The .UC scripts are placed into the './Classes' subdirectory and the .INT files are placed into the 'UT\System' directory.



First open **UnrealTournament.ini** in a texteditor (i.e. Notepad) and add the line '**EditPackages=MyPackageName**' after the other EditPackages statements.

Then delete your '**MyPackage.u**', if it is already there from a previous build. This will make '**ucc make**' to rebuild your model again.

Then run '**ucc make**', which will print something like that:

```

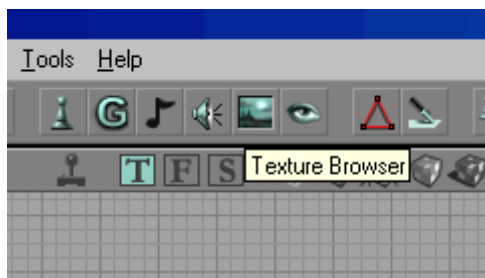
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UBrowser
UnrealShare
UnrealI
UMenu
IpServer
Botpack
UTServerAdmin
UTMenu
UTBrowser
SkeletalChars
CateArcher
Arctic
Analyzing...
Parsing Arctic
Parsing ArcticBot
Parsing SelectArctic
Compiling Arctic
Compiling ArcticBot
Compiling SelectArctic
Success - 0 error(s), 0 warnings

```

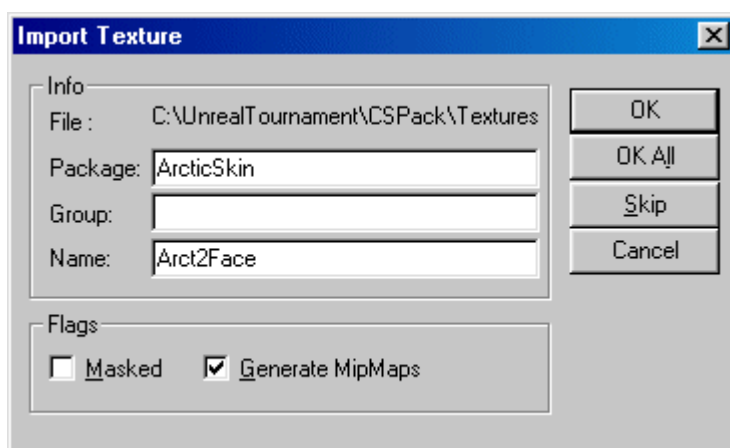
Your last step is to create a 'MyMeshNameSkins.utx' with UnrealED.

Creating a Texture Package

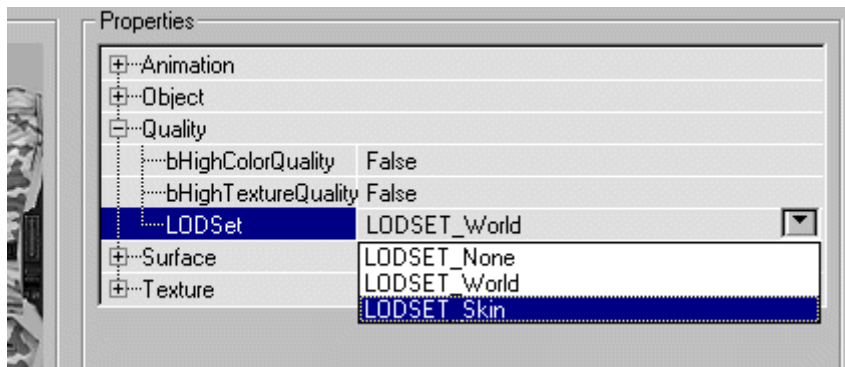
Start UnrealEd.exe and open the **Textures Browser**. You can open it with the following toolbar button:



In the Textures Browser do '**File->Import...**', choose all your .PCX textures from the './Textures' subdirectory and edit the dialog as follows:



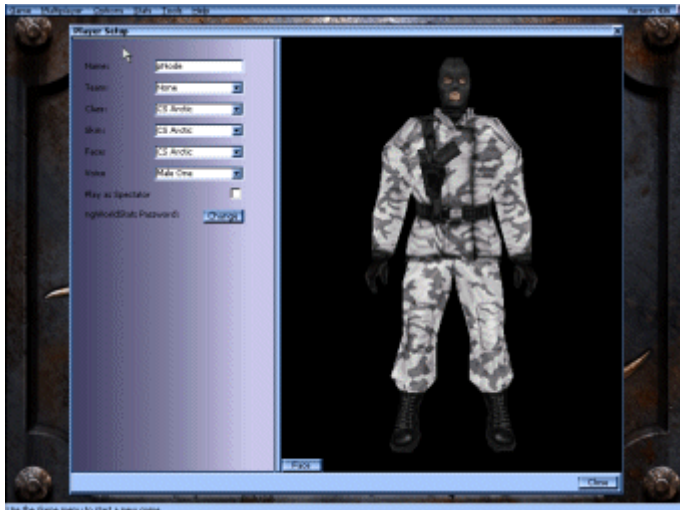
Click '**Ok**' for all your textures. Note, that the package name has to be MyMeshNameSkins (with the trailing '**Skins**'). Then set the **Quality.LODSet** to **LODSET_Skin** for each of your texture. Except your face skin can go with **LODSET_None**.



Then save it to 'UT\Textures\MyMeshNameSkins.utx' or here in that tutorial 'ArcticSkins.utx'.

Playing UT

Now start UT and choose your new model in the **Player Setup**. You can also choose this new class as a bot.



That was pretty easy, wasn't it? All I can say now is: Enjoy and have fun!

- Mete