A Beginner's Guide to Modding the game "Killer7" for the Steam PC Port. This should only be used for fun, educational, and for no monetary usage.

Documentation by: Killer7 Modding Community

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Legal Warning

Modding Killer7 is possible thanks to an event in 2016 where people found the source code available for download freely. While fans downloaded the files, e-mails were sent to warn everyone to delete their copies or consequences would happen.

*This event was explained in a video made by PachiMocchi:

https://www.youtube.com/watch?v=rAihRcjbWGI

The community does not intend to use these files for any other purpose that isn't amusement, studying and/or preserving the legacy of these files but we are fully aware that they weren't supposed to be available like that online.

If anyone that is reading this still wants to mod, we recommend to ask the community if a Blender .dat/SD Export plugin has been developed to make it so the source code leak isn't needed to create a mod. If the answer is no (at the time of writing this disclaimer/warning the answer is no) we do cannot guarantee that you'll be okay.

Another issue is the use of Maya 4.5, right now, this version of the software isn't available online for purchase, so you'll have to get it from second hand somehow or pirate it yourself. Once again, if a Blender plugin becomes a reality, Maya 4.5 may not be needed in the future.

For all Killer7 copyright holders, we kindly and respectfully ask of you to give us a chance to continue on modding this incredible game, that may keep it's legacy fresh for longer, as it would be essentially giving freedom any player to experience killer7 in multiple ways that they want.

As a testimony (DreamMareEXE writing here), I've played this game to completion at least 5 times because I've doing that many mods, appreciating the product more and more every time I did so.

How to allow your Killer7 PC Port to be modded

Your Killer7 PC Port should look mostly like this, besides the .zip and .bms:



This means that the game is compressed and you'll have to uncompress all files from the game, to do that you have to download a tool called QuickBMS and a script made by Luigi Auriemma:

- The Software: https://aluigi.altervista.org/quickbms.htm
- The Script: https://aluigi.altervista.org/bms/killer7_vfs.bms

Put both files in the game's folder. It's recommended to do a backup of the files in case something goes wrong.

Run QuickBMS.exe and it will ask for a BMS file, choose the script you downloaded, then it will ask for a VFS file, choose the file "data.vfs" inside the game folder.

The software will start extracting/uncompressing the files from the game, you'll know it's truly working when a bunch of folders are being created inside the game folder.

Once QuickBMS is done, pick the data.vfs file and change it's name to "data_original.vfs" to guarantee the game will be using the extracted files and not the vfs file.

With all that, killer7 are uncompressed and ready to install mods.



How to find and change files

So you now can put new files in the game, cool, which file is which? <u>To find Character's 3D Models, go to:</u> killer7\3DData\Model\Chara <u>To find Character Animations, go to:</u> killer7\3DData\Motion\Chara <u>To find Stages/each map part, go to:</u> killer7\3DData\Model\Stage <u>To find Stage Animations (doors, stuff that move and etc.), go to:</u> killer7\3DData\Motion\Stage



There is a bunch of character folder and files! Which folder is which? *files from src listed **Both 3D Models and Animations are organized in the same way, but separated.



AKI – Shinya Akiba AKN – AYAME Blackburn ANG – Angel BAN – Gatekeeper BHS – Old Heaven Smile CAT – Con Smith CUR – Curtis Blackburn CYO – Coyote Smith DAN – Dan Smith DE2 – Jean DePaul E01 – Beta Smile E02 – Normal Smiles E03 – Human Smile E07 – Red Gunner E08 – Backside Smile E09 – Protector Smiles E10 – Bombhead Smile E12 – Phantom Smiles E13 – Galactic Tomahawk E14 – Ulmeyda Smile E15 – Egg Smile E16 – Egg Smile Beta? E17 – Smile and DeadBody E18 – Duplicator Smiles E20 – Timer Smile E21 – Broken Smile E22 – Beta Protector Smile? E23 – Mother Smile E24 – Giant Smile E25 – Laser Smile E26 – Beta Protector Smile? E28 – Mithril Smiles E29 – Spiral Smiles E30 - ??? E31 – Hopper Smile FAN – Crying Angel FER – Archangel FUK – Toru Fukushima Gal – Garcian Smith **GLY** – Young Garcian **GRY** – Gary Wanderers HAC – Harman Smith HAD – Harman Dead

HAT - Pigeon HAY – Young Harman HN1 – Handsome Red HN2 – Handsome Blue HN3 – Handsome Brown HN4 – Handsome Dead HN6 – Handsome Pearl HN8 – Handsome Pink HN9 – Handsome Gold HNG – Greg Nightmare JEF – Mahjong Guy1 KBT – Hanging Doctor KEA – Benjamin Keane KED – KAEDE Smith KIN – Shinya Akiba Skull KIS – Julia Kisugi KNL – Kun Lan KRM – Mahjong Guy KRR – Hiroyasu Skull KVN – Kevin Smith MAD – Mad Doctor MAT – Kenjiro Matsuoka MSK – MASK de Smith SO1 – Beta Person S02 – Beta Person SO3 – Beta Person SO4 – Beta Person SMA – Samantha Sitbons SNG – Singer TEN – Beta Archangel UR2 – Andrei Ulmeyda Naked URU – Andrei Ulmeyda ZA1 – Mizaru ZA2 – Iwazarus ZA3 – Kikazaru ZA4 – Travis Bells ZA5 – Kess BloodySunday ZA6 – Susie Summer ZA7 – Yoon-Hyun ZA8 – Christopher Mills Ghost ZA9 – Julia Kisugi Ghost ZAA – Cult Member ZAB – Benjamin Keane Ghost ZAC – Beta Benjamin Keane? ZAD – Boss Duo Ghosts ZAE – Shinya Akiba Ghost ZAF – Andrei Ulmeyda Ghost ZAG – Curtis Blackburn Ghost ZAH – AYAME Ghost ZAI – Kenjiro Matsuoka Ghost ZAJ – Jean DePaul Ghost ZAK – Handsome Black Ghost



Getting used to Maya 4.5

Alright so you have a 3D Model ready to import into the game, but how to?

First, your model should be in .obj format and it's texture should be in the .tga format, if your image editor doesn't export files to that, you can download Paint.NET and it does the job perfectly.

When entering a project from the game there's a chance it'll be divided into multiple windows (normally 4 in total). To select the one with free perspective, put the mouse in the window with free perspective and click the SpaceBar, you'll see a bunch of words appearing but don't move the mouse, it will automatically go to the window the mouse is in.



If you selected a window with a perspective that isn't good for you, just press SpaceBar to go back to 4 windows being shown.

Now that you know that, time to move yourself in the project, to move yourself you need the ALT key and the Mouse:

- ALT + Left Click rotates the camera;
- ALT + Right Click zooms in and out;
- ALT + Scroll Wheel Click moves your position without rotation;

Time to mod a character, as an example, let's change KAEDE for a new model:



First you'll have to delete all her 3D model, either select each model part and delete by using the "Delete" key on the keyboard, or click on the Persp/Outliner to see all items in the project file and delete the polygon surfaces that makes KAEDE.





Now that all KAEDE parts have been deleted, make sure no skeleton bones were deleted during that process.

If everything is fine, go to "File" on the up left corner and choose "Import", then select your new model.



After that you want to see your model better without the wireframe, to do so, click all these buttons and your model should either look grey or

green.



Next to import the texture into the cel-shading.

Press "Window", "Rendering Editors" and "Hypershade", this will make a window pop-up to show all material files configurations.

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There will be 2 materials you want "CHARACTER_Texture" and the shading for it. Pick the texture first and the list on the right will react, you want to click the "Out color" option.



This will allow you to change the picture of texture that is in the shading, click the button to search for files and choose your texture.

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Now you need to click on your model and then go back to the "Hypershade" window, right-click the cel-shading material and select "Assign Material to Selection" and the model should now have its texture but super blurred, do not worry, it's Maya optimizing itself. (it won't look like that in-game, if you really need to, click the "render image" button to see how it'll really look)



Now you need to open the Persp/Outliner button just like the deleting process. Select your model and then click on the files "Root" and "Root_joint".

With those 3 connected, go to "Skin", "Bind Skin", "Smooth Skin". That'll connect the skeleton animations with the model.

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Now the most 50/50 part of this process for beginners, exporting the file to Killer7.

Go to "File" in the up left corner and choose "Export All", you need to export in the SDExport format (known as the .dat file).

This won't come with Maya 4.5, before starting you had to install a plugin that allows you to do the exportation, if you can't find the SDExport option, then it means you need to install the plugin correctly. If everything was done properly, name the file as the same you want to replace, in this case, KED_M00.dat to change her on the first stage/target:Angel.



** Common mistakes in doing all that **

That's all you need to know but some bad stuff can happen if you don't know how the models react from Blender to Maya to Killer7.

Let's start with the most common mistake, **backface culling.** Essentially it's the concept of seeing the polygons from the back instead of the polygons from the front, affecting both textures and shading in-game.



There a few ways this can happen:

- You may not have all vertices connected;
- The maybe some parts are only flat with and therefore it can't find a "front";

• The faces might be inverted from copying different/mirrored parts of the body.

Let's start with the basic one, all vertices not connected well.

Make sure to connect all vertices in your model correctly (can be done in Blender or Maya, but since Blender is free all of this documentation will use it when possible).

Then in Blender, in edit mode, press A to select all and M with a few options, choose "Merge by Distance" and vertices that are close will be connected, but it's recommended you make the distance tolerance bigger to see if anything changes. After that, press again A and press SHIFT+N to recalculate the faces of the polygons, Blender will automatically understand where the faces should face if the model is made to be 100% connected with no flat parts.



If you have flat parts like in this KAEDE Chinese dress costume, then the recommendation would be to make a thin version of the flat surface you have at the moment, once that is connected to the model, SHIFT+N to correct the faces.



If you mirrored something (normally an arm or leg), there's a good chance you scaled it in one direction with the value of -1 to make it look identical to the original but backwards. (again, good for arms and legs)

Once connecting the mirrored part to the body on the needed side, use SHIFT+N to recalculate the faces, for the -1 value changes the faces direction as well.

All right, let's say your model comes with 2 or more textures (like one for the face and another for the body), how to put both in the same model + the cel shading?

To do that, go to Blender and in edit mode, select the material you want and press "Select" to show all polygons that use that material.



Once that is done, right click with the mouse and go to "Separate", then choose "by selection".



After that go to object mode and you'll have a new 3d model, the original and the separated part.

Now save them individually as .obj (I recommend deleting one part, save the other as .obj, and going back to having 2 by using CRTL+Z and deleting the saved one and saving the originally deleted, with that you'll have 2 .objs)

Go to Maya and do the importing process, import the 2 objs and put the shading on one part. Once that is done, select the cel-shading and go to "Edit" in the Hypershade window, choose "Duplicate" and "Shading Network".



Now you'll have 2 shaders, you want to put a new texture on the shader that has a 1 in it's name, indicating that's the copy. Do that and put the shading on the other part of the model, I recommend verifying if it's working through the Render Image button.

This method also works for multiple parts, from 2 to 200 if you ever need it (the worst I tried was 52 model parts and separate cel-shaders, not impossible but annoying)

Let's say now that you want to bring a 3d model from a recent game, so you think "okay, I won't use light displacement textures (also known as "Normal Texture" for lighting configurations) since I'll use the cel shading, the game won't need that much resolution for image textures either".

Obviously yes but you'll have to also consider the character polygon/triangle count. A normal Killer7 character polygon count has between 1500 to 5000 polygons during gameplay, it's highly recommended that you downgrade the model you want to make sure open Killer7. 2B from Nier Automata as Kaede had to be downgraded for example, in polygons tho, textures seemed to go fine but can be an issue.

How to mod All Character Types

"What other character types?"

Well, this comes as odd but there are characters that can mess the game fast if not well handled or if you want a specific effect, so here's the list:

- Finger animation bones;
- Transparent Models;
- Characters with Guns;
- Characters with no Guns;
- Taller Characters;
- Mini Characters;
- Different Effects to Killer7 (changing shader colors, etc.)

*FINGER ANIMATION BONES - So characters that move their fingers separately will have a bunch of animation bones for each part, this normally only happens with cutscene models, but you can find models like Kun Lan and Harman that have that issue.



How to solve it? [Anyone else write here please XD]

***TRANSPARENT MODELS** - If you are importing a model that you want transparency there are 2 ways: with no cel-shading, and with cel-shading.

*CHARACTERS WITH GUNS – Most if not all gun characters won't have a gun in their model, instead the gun is a different object in another file, and the game picks it and puts on the model. But how does it do that? Simple.

Let's say you are playing with a Smith, in their model file, search for a animation bone that resembles a 3D Cross or "X", that is called a "GunPos_RShape" or "GunPos_LShape", which is the location for where the gun should be put.



While you may think this only applies for Smiths, Julia Kisugi, Ayame and Curtis Blackburn also have these bone animations, so if you find any character with a gun, there's a good chance it will have that bone and you'll have to find their gun model file to edit it separately.

*CHARACTERS WITH NO GUNS – Most if not all characters won't have a gun, so the editing is just like the tutorial of how to put models into the game. Putting a Gun bone for a no gun character hasn't been experimented, so there's no idea how the game would react to that, but personally (DreamMareEXE writing here) I doubt the game would try to load anything.

***TALLER CHARACTERS** – Let's say you want to make a giant, the game won't have any issue with that for characters that don't make particles like

Kun Lan or Harman, remnant psyches and other models, but Smiths and Heaven Smiles are a big issue.

Basically the amount of particles are defined by the size of the model, so let's say you made a giant smile, the moment it dies it will make particles, if the model is too big, there'll be too many and the game crashes because the engine can't handle. (no, the issue isn't your pc, it's the game engine not being made to handle that many particles).

In conclusion, whatever you do, make a backup of your model if you want to make a character bigger if it's a Smith or a Smile, there's a good chance you'll have to make a second.

*below is a smile being killed, the moment it died I couldn't see the particles, the game music continues but it's essentially crashed for good.



*MINI CHARACTERS – Mini characters will be easy, since they don't have the crashing problem but some things should be said for the smith models.

First of all, the camera won't react to the model size, so you'll look like a ant if you exxagerate. Secondly, when aiming you'll get the proper character height, so the model size doesn't affect gameplay, so the model size isn't good for out of bounds camera for example.



To do both of those, simply select "Root" as the base of the skeleton animations and scale it up or down considering what you want to do.

***DIFFERENT EFFECTS (SHADERS)** – There are a few things you can do with the shaders, first let's look at a no shaders mode.

To do it, select the material where the texture of the character/model should be (either that or choose the celshading shader and find your way to the texture). Once that is done, select the model you want and the texture and right click it to "assign material to selection". It should result in something like this.



Let's say you want to **change the shadow's color**, that's possible too but it's much more complex.

Firstly, the shader is composed of 2 materials called "Ramps" that are normally called "CHARACTER-NAME_ShadowAlpha" and "CHARACTER-NAME_ShadowColor".

[To edit any of them, click on them and then click "Shading Map Color"]



<u>ShadowAlpha</u> controls how much it affects the model, it's ramp it's **composed of 4 colors: Black, Strong Grey, Light Grey and White.** Black means it will be 100% in the model, while White means it won't affect the model at all, kind off like transparency in a way, but only for the shadow colors.



<u>ShadowColor</u> is the actual color for the shadows. If you want more divisions to make more ellaborate shadows, just click on the rectangular color area and it will create a new division (the button on the left is to select the color, the right square one is to delete the division)

*The ShadowAlpha changes the position of the colors, so in ShadowColor the colors are in fixed position, the edit also had the Alpha changed position of some points



How to mod Cutscene Characters

How to mod Audio

How to mod Video Cutscenes

How to mod Stages

How to edit Enemy Spawn Locations (Not known yet)