

A Just Cause 2 model editing tutorial

by FRX

Summary :

1. The Project
2. Tools used
3. Grabing models
4. Making our Project
5. Rendering a model
6. Editing the model file (.rbm)
7. Editing the textures (.dds)
8. Using other models

1. The project

In this tutorial we'll see how to remove the Rico's extra hair and add a holster from a Roaches NPC.

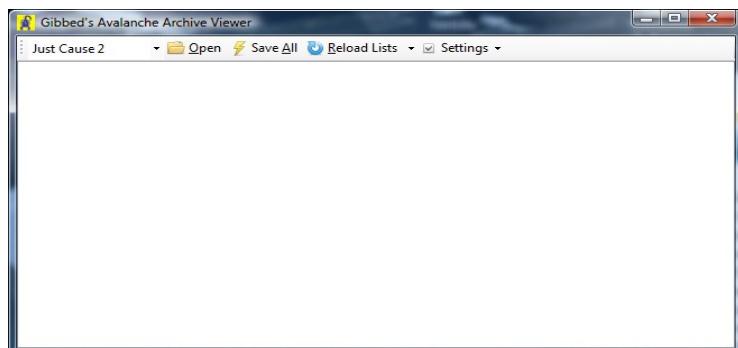
In other words : removing existing model parts, and add somes from another character.

2. Tools used

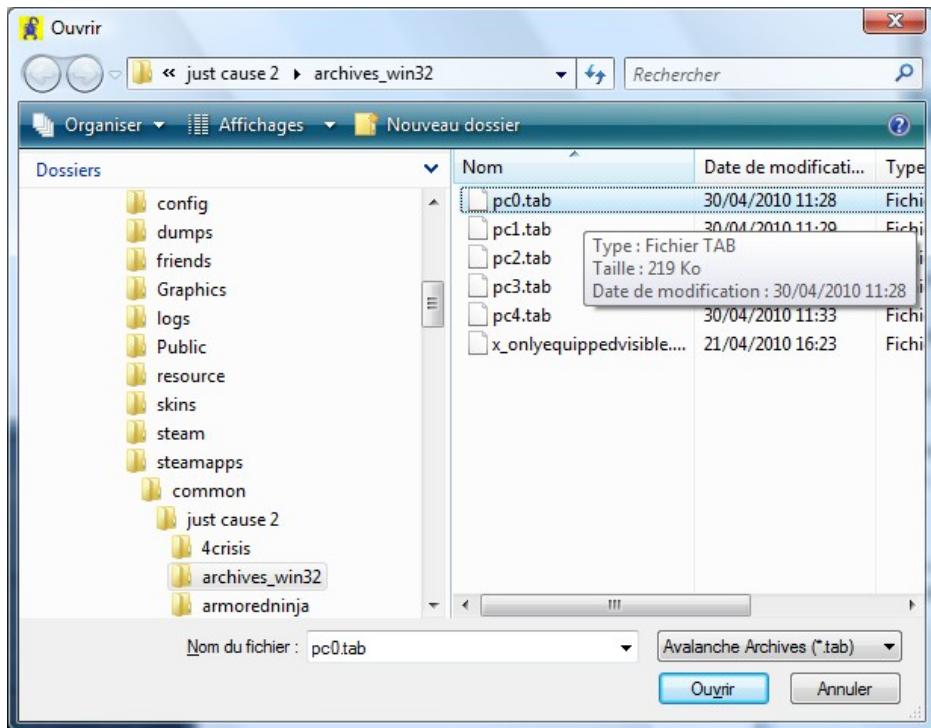
- ✓ Gibbed.Avalanche.ArchiveViewer
- ✓ Gibbed.Avalanche.ModelViewer
- ✓ Gibbed.Avalanche.SmallUnpack
- ✓ UltraEdit
- ✓ The Gimp + DDS&NormalMap

3. Grabing models

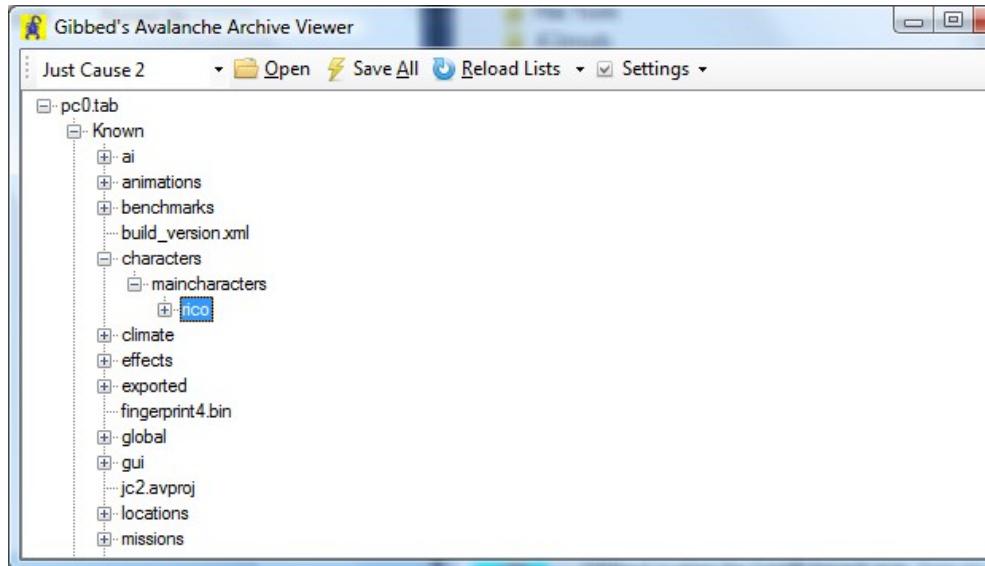
Launch **Gibbed.Avalanche.ArchiveViewer.exe**



Clic on Open and browse to ..\Just Cause 2 \archives_win32
Select pc0.tab



Extracting Rico model and textures files



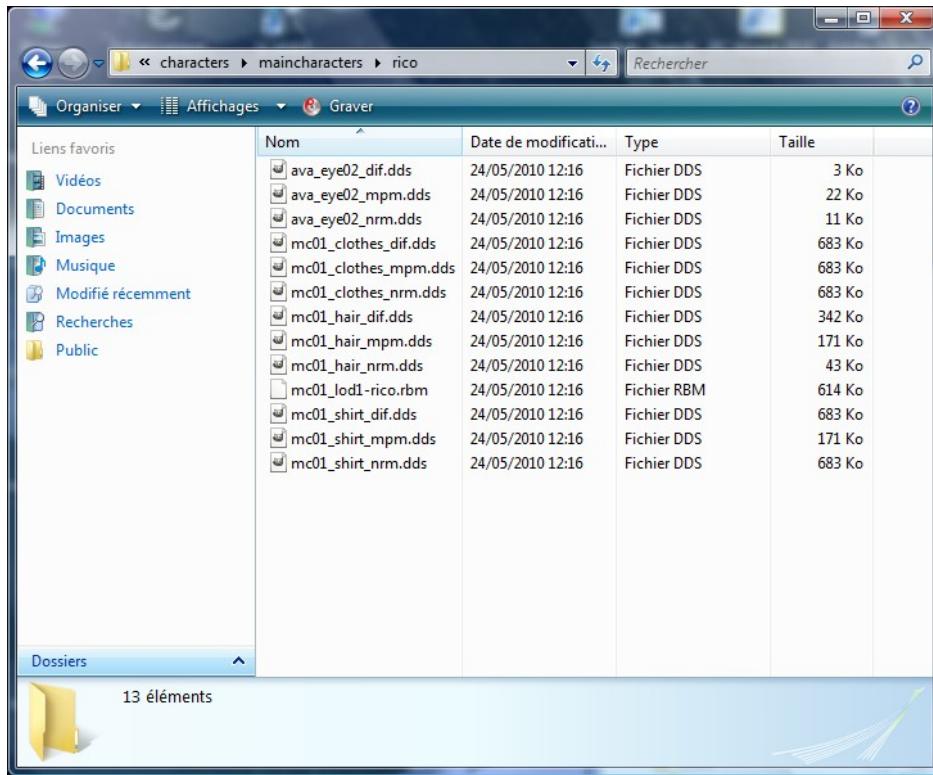
Browse to Known/characters/maincharacters/rico

Right-clic, Save

Choose an export directory that you previously created

You will have some folders like that : ..\exports\characters\maincharacters\rico

In this one you have the extracted files :



What are that files ?

- **ava_eye02*.dds** : eyes textures
- **mc01_clothes*.dds** : face, trousers, shoes, arms, hands and accessories textures
- **mc01_shirt*.dds** : shirt and bandana textures
- **mc01_hair*.dds** : additional hair textures
- **mc01_lod1-rico.rbm** : the model

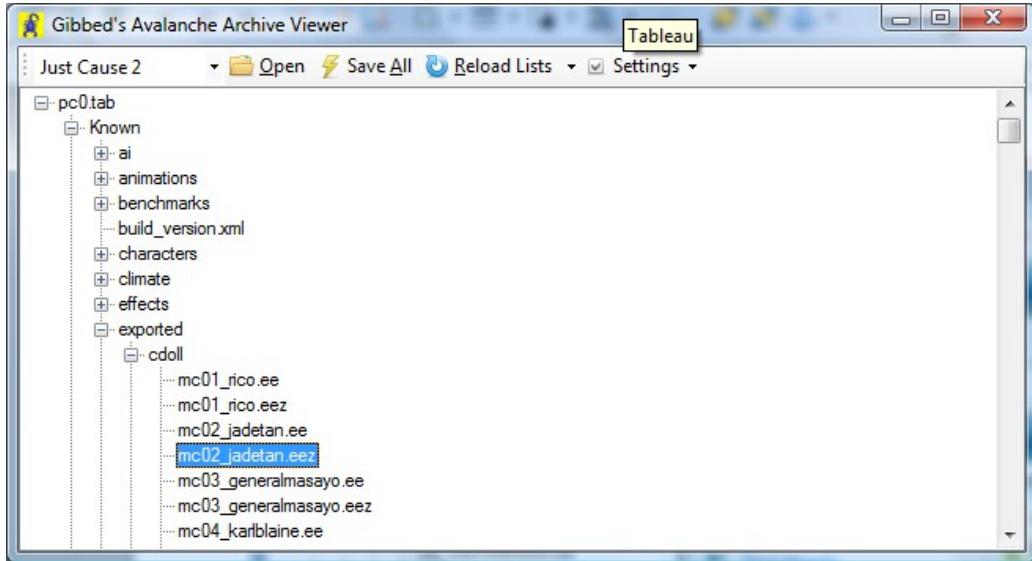
What are the dif, npm and nrm .dds files ?

- **Dif** : main texture
- **Npm** : NormalMap (bumpmapping)
- **Mpm** : Material (based on red or green channel)

Extracting NPC characters

Launch **Gibbed.Avalanche.ArchiveViewer.exe**

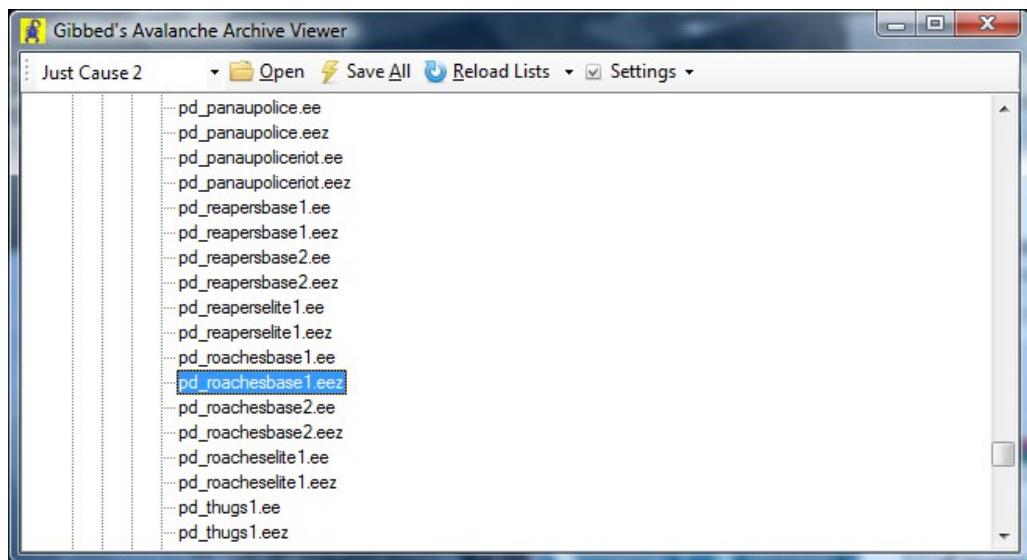
This time **browse** to Known/exported/cdoll



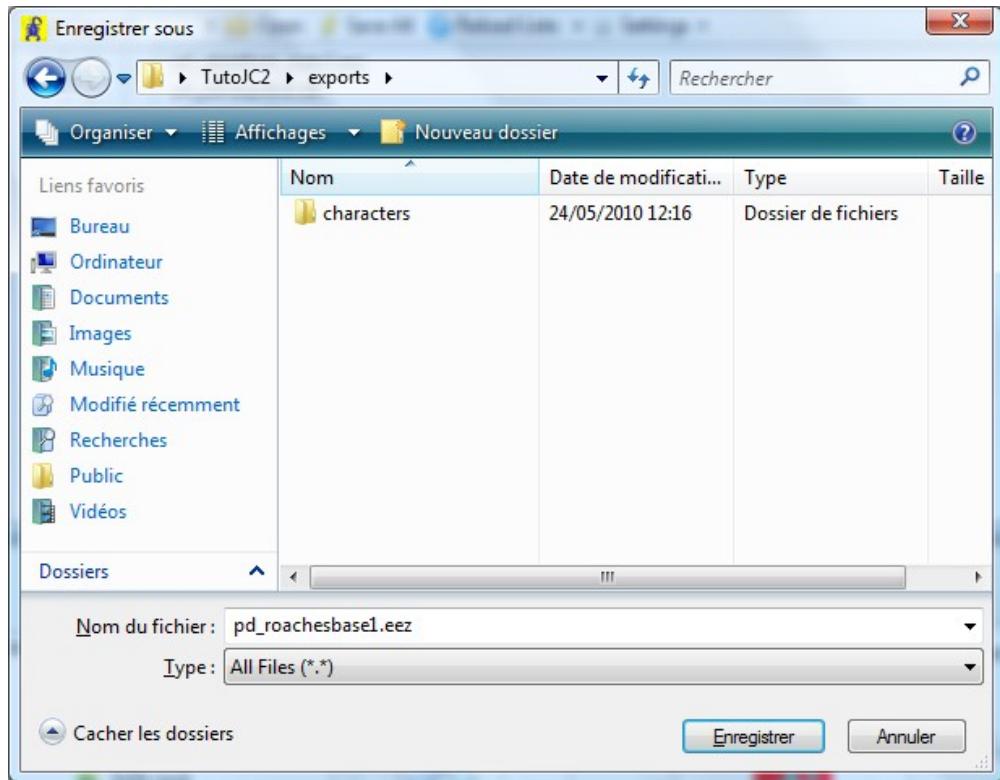
Focus on **.eez** files, there are the files we need

They got explicit names, so it's not difficult to find what we want

For our example, go to the **pd_roachesbase1.eez** file

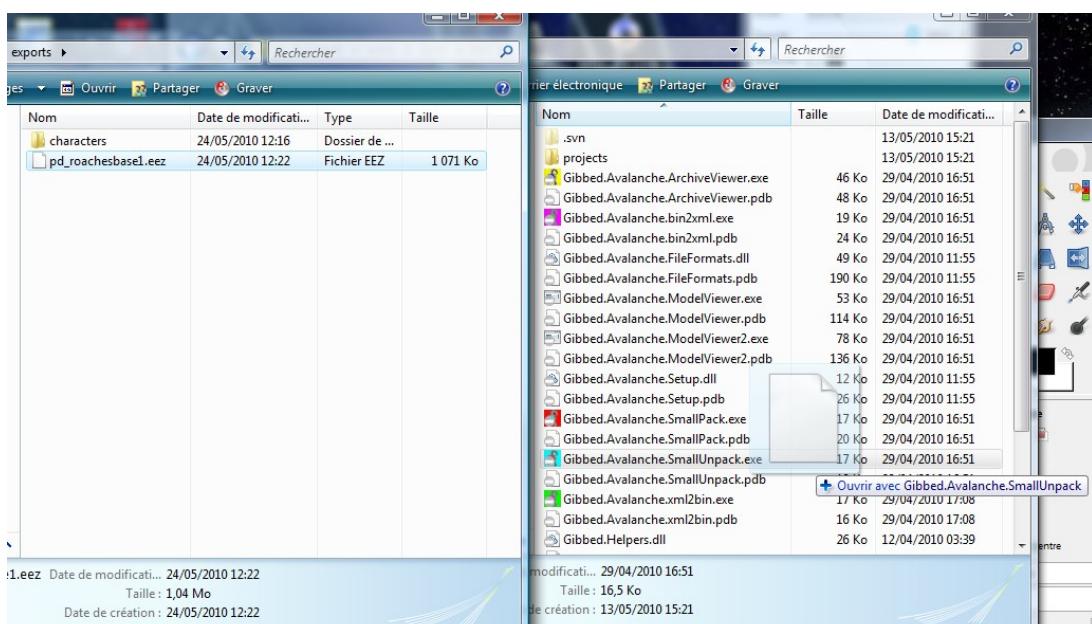


Right clic and save it to your export directory



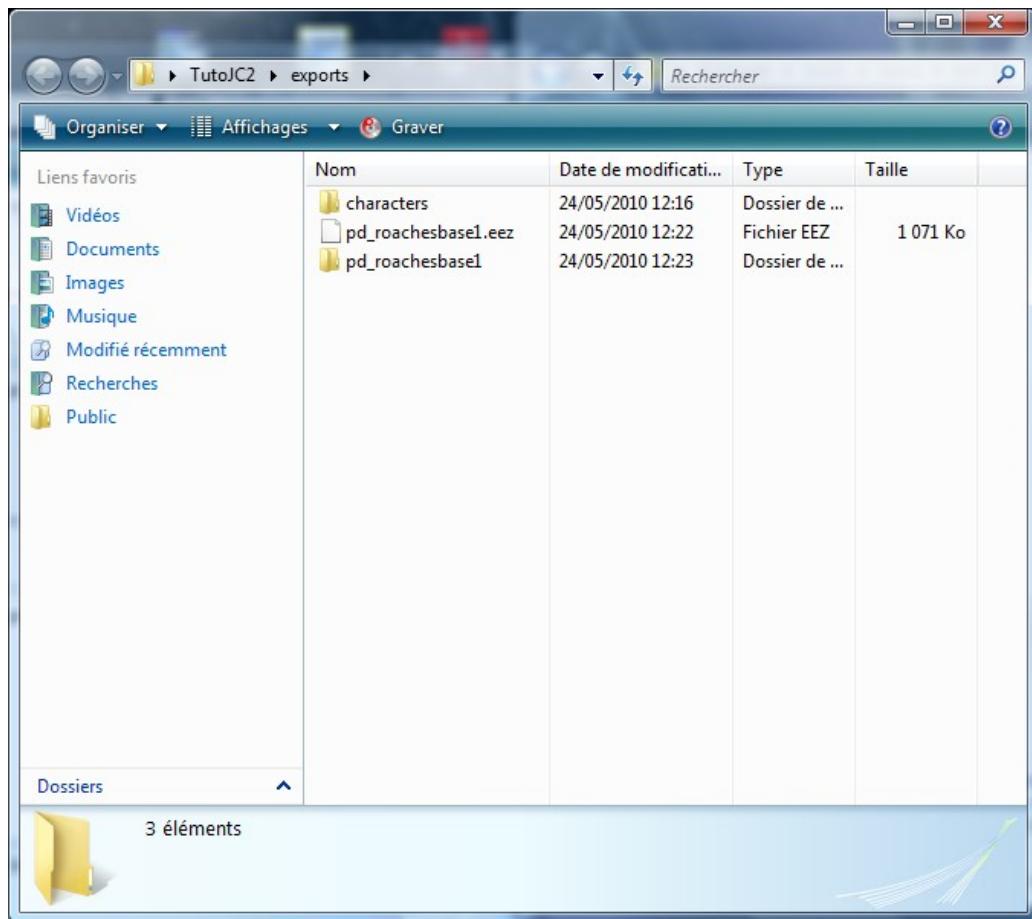
Extracted NPC files don't come as the Rico one, we have to **unpack** them

Open a window of the Gibbed tool directory



Drag and drop the .eez file on Gibbed.Avalanche.SmallUnpack.exe

That creates a new directory :



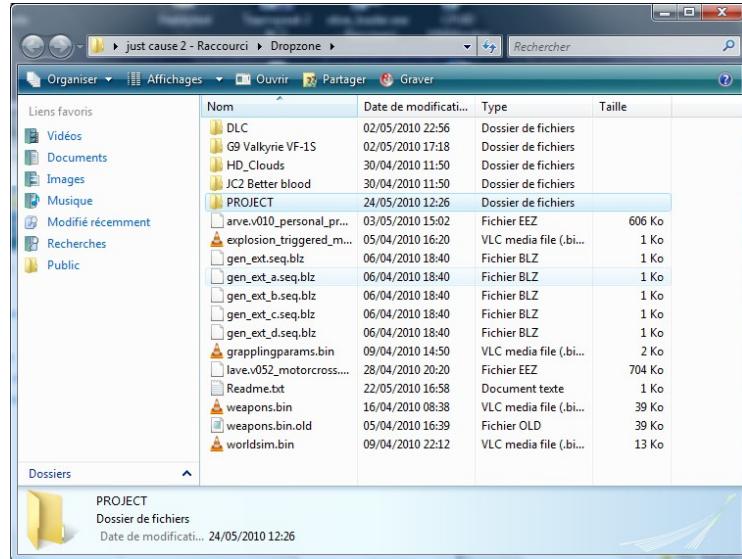
I recommand you to save and unpack all the npc files for further purposes

4. Making our project

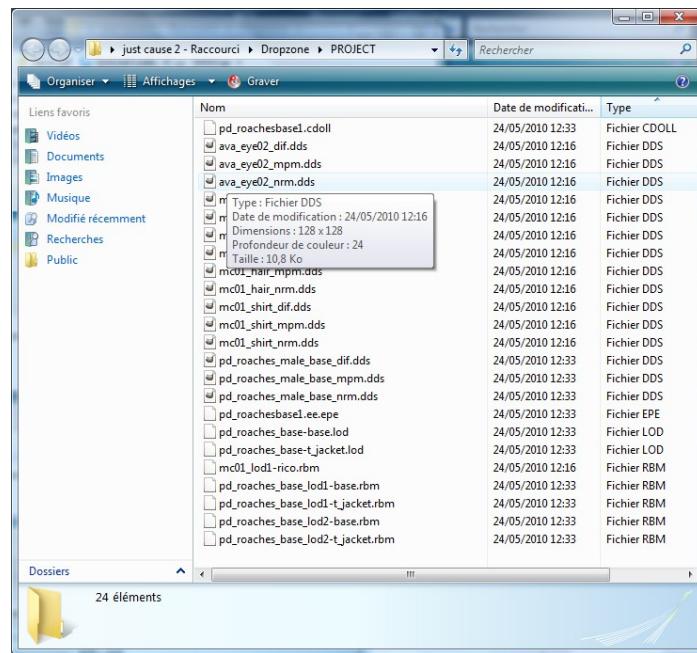
Create a new **subdirectory** in the **dropzone** folder

(This will be our working directory, any changes to this files will be done in the game)

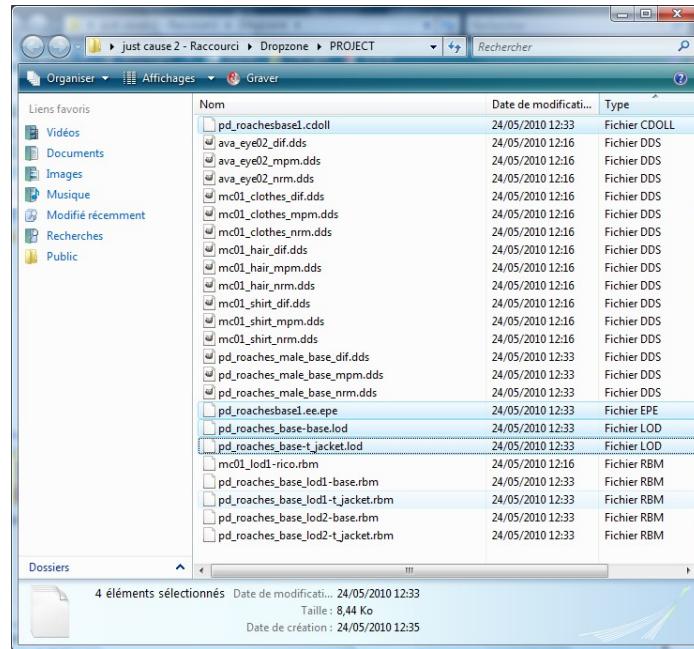
I give it the « **PROJECT** » name



Copy all the files we have previously exported and unpacked (Rico an pd_roachesbase1) to this new directory

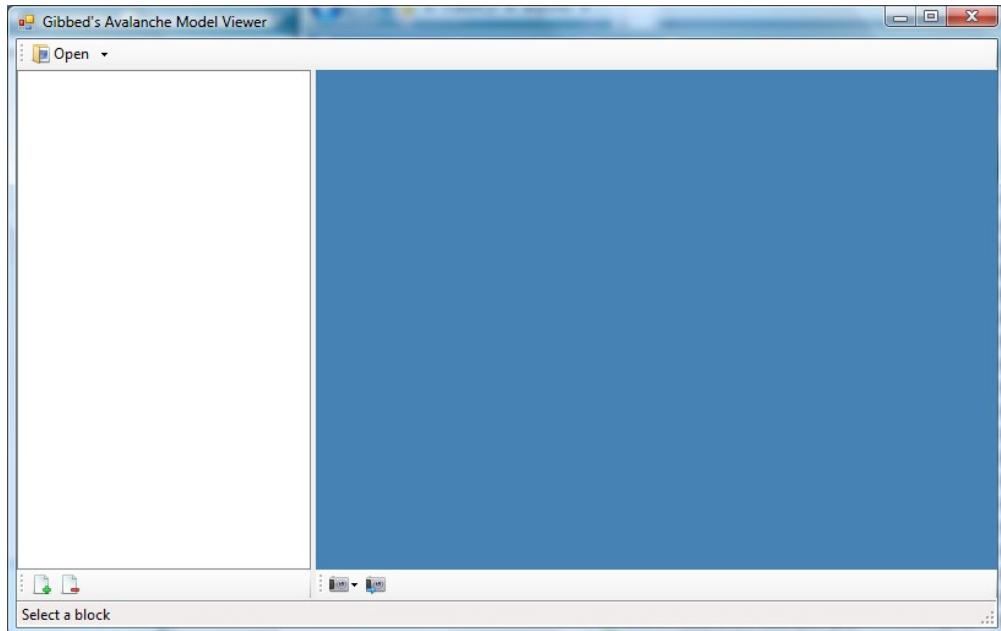


We could delete some useless files : *.epe ; *.lod ; *,cdoll



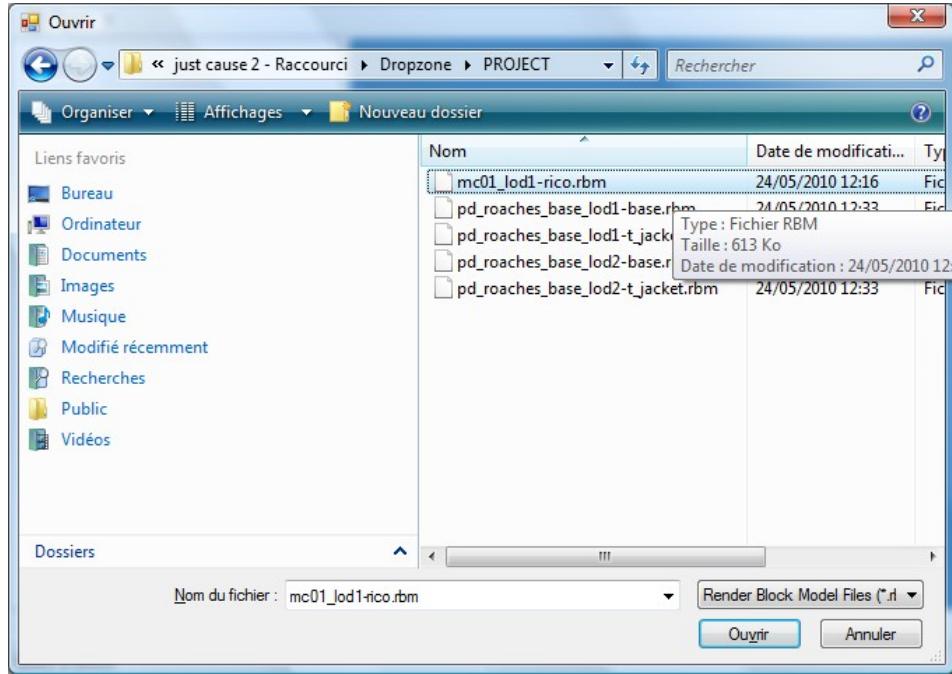
5. Rendering a model

Launch Gibbed.Avalanche.ModelViewer

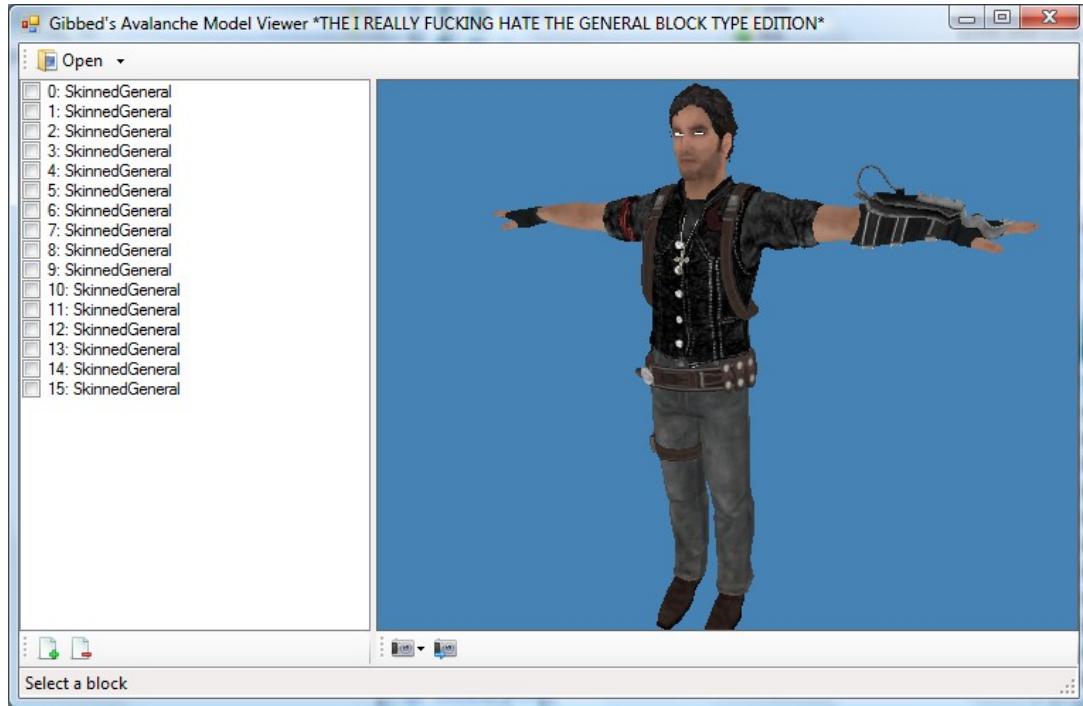


Viewing the Rico model

Click on **Open** and **browse** to \dropzone\PROJECT



Select « mc01_lod1-rico.rbm »

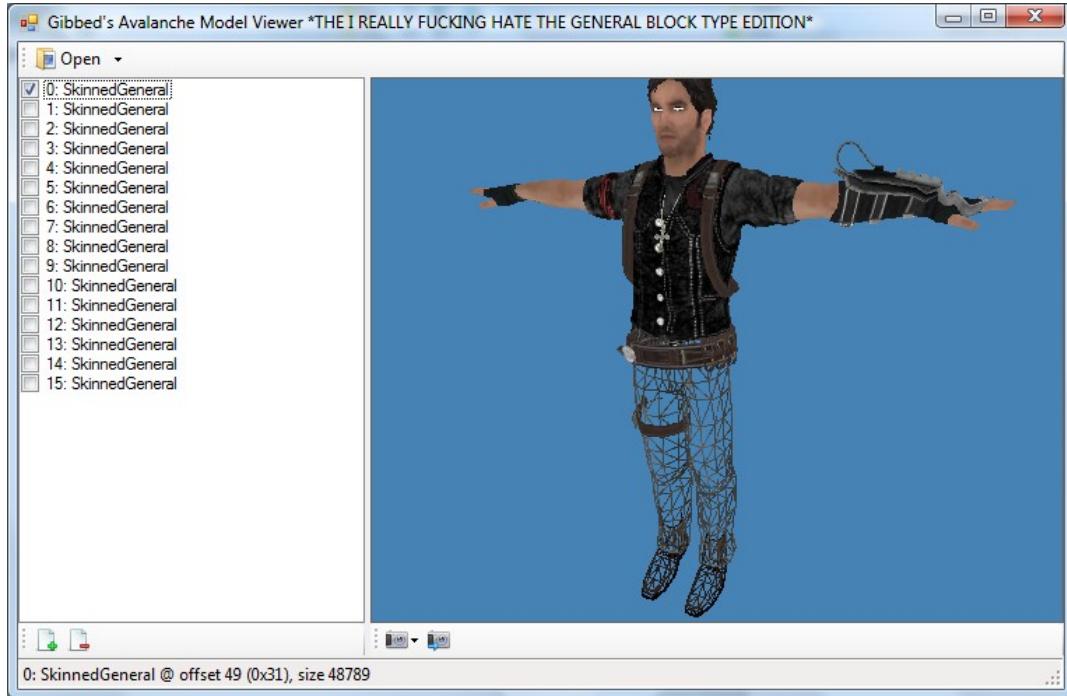


The Rico model is rendered

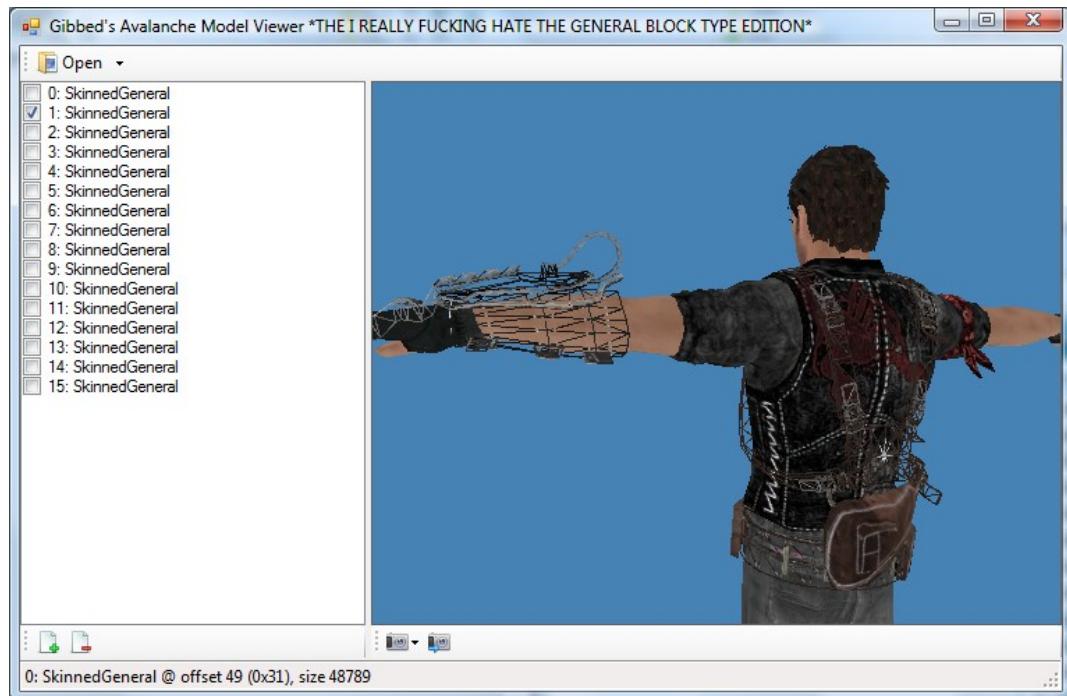
(You can move the camera using the arrowkeys and clic-moving with the left mouse button)

The original model of rico includes 16 parts (first is numbered 0)

If you select a part on the left side, the render goes in wireframe



Here we see that the first (number 0) part includes the legs and feet.



In our project we want to remove the parachute and the harness from the rico model.

We can see that the grapple is also included in the part that include the harness. The parachute is included in the part 0 (with the legs).

As we want to keep to the grapple, we can't delete this part, and have to delete it in the texture files. We will see that later.

We also want to delete the extra hair from the Rico's head.

Good news it's possible by removing parts as we saw there :

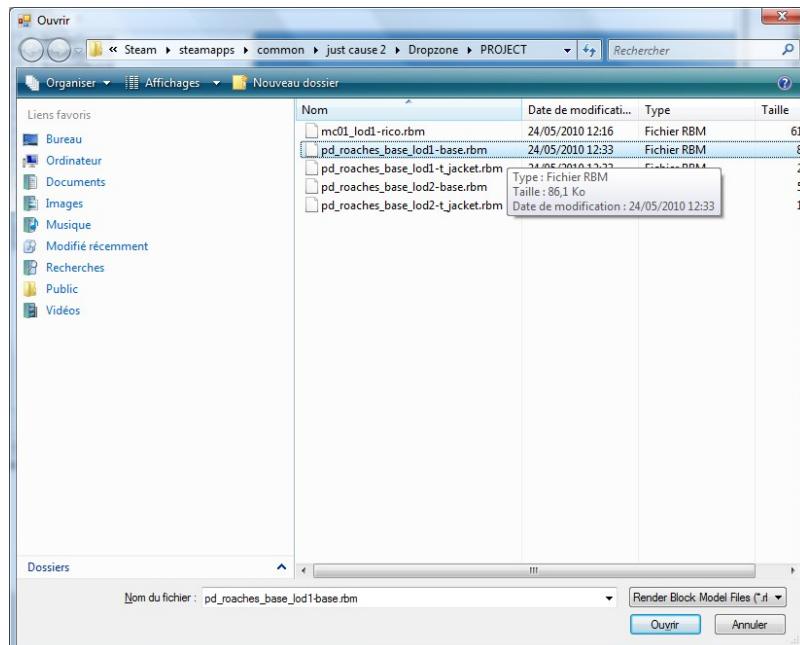


Two parts are used : number **14** and **15**.

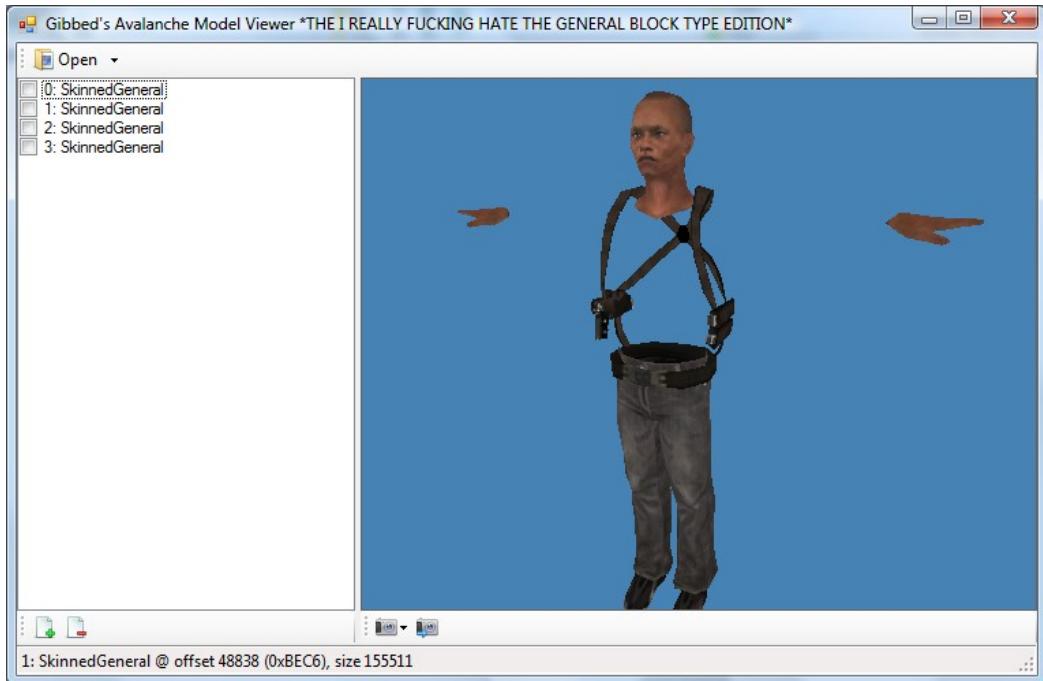
Ok, now let's see the roachesbase1 model

Clic on Open and select « pd_roaches_base_lod1-base.rbm »

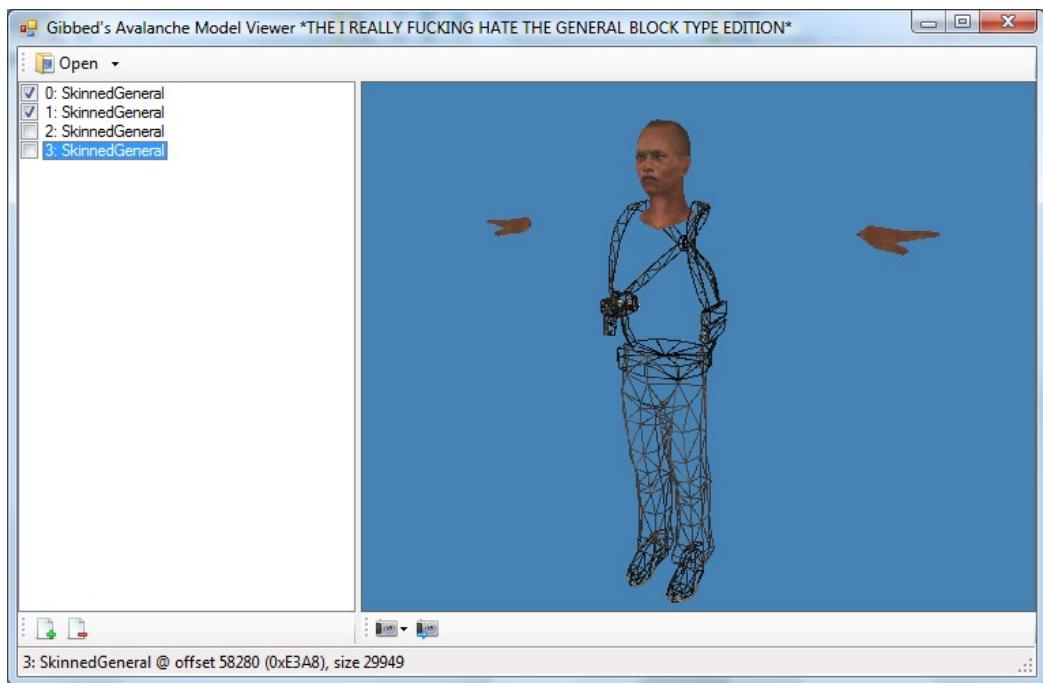
(You can launch an other instance of the modelviewer if you want to keep Rico displayed)



The model is rendered :



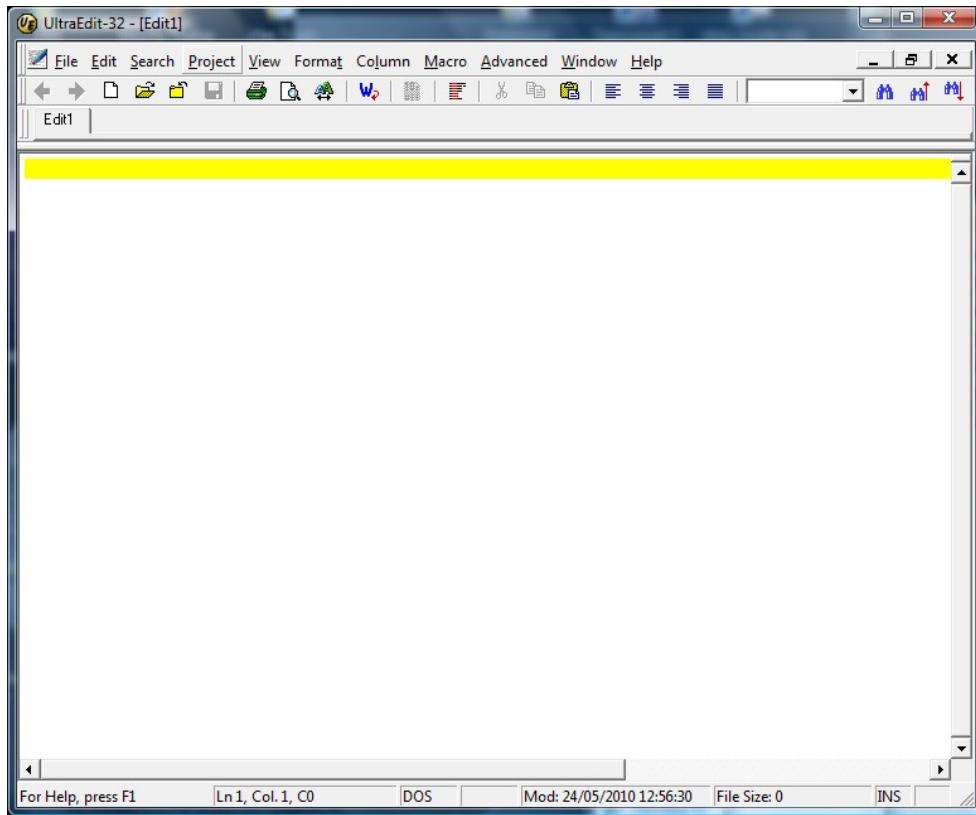
In our project we want to put the holster on Rico. We can see it there :



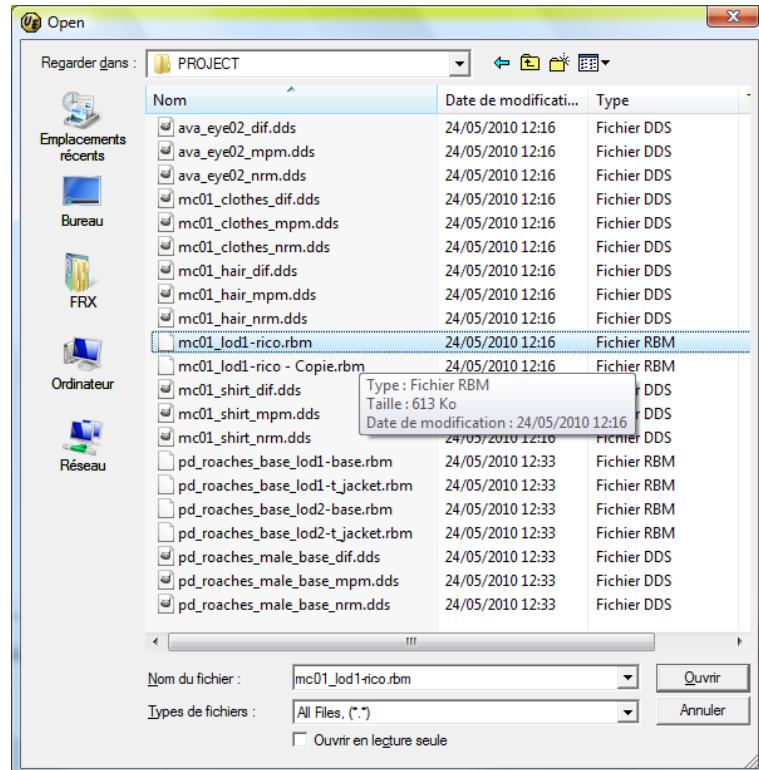
Ok, two parts are needed, and that include the trousers (that we don't want)
That's the parts **0** and **1**

6. Editing the model file

Launch the **hexadecimal editor** (UltraEdit here)



Browse to and **open** the « mc01_rico-lod1.rbm » file



Open it

Here is the less funny thing, but what ? We are motivated, aren't we ?

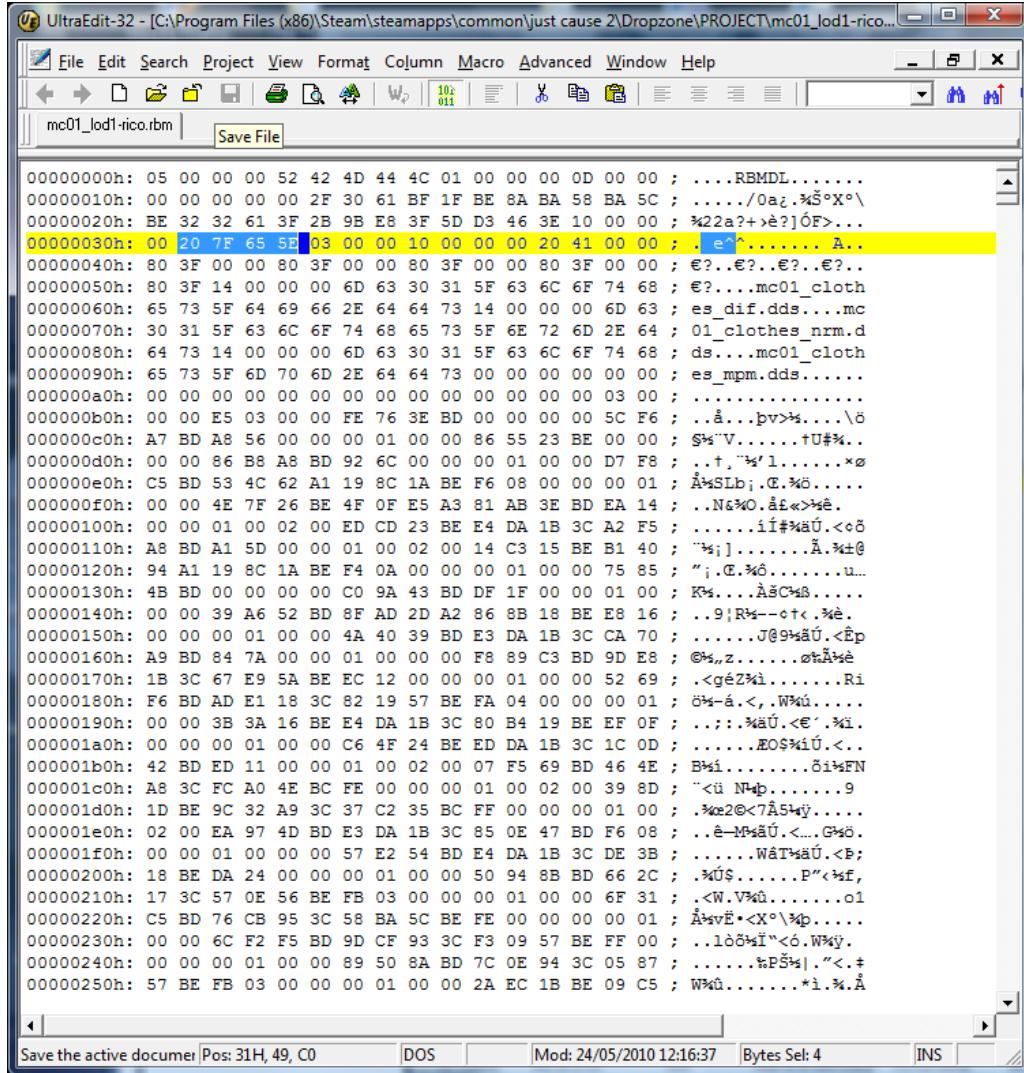
I'll try to explain what I understood about the structure of those files :

The file start with a header that include the total number of parts (3rd line and 14th column).

Each part start with « e^ » (« 20 7F 65 5E » in hexadecimal) and finish with « il%o » (« EF CD AB 89 » in hexadecimal).

The end of the file come with the end of the last part.

Firstly **highlight** the begining of a part « e^ » or « 20 7F 65 5E » in the hexadecimal view

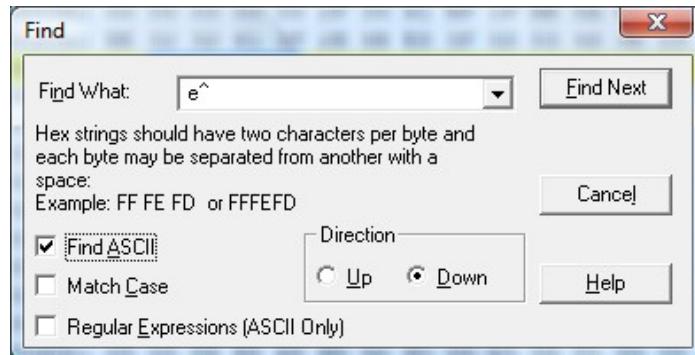


Copy it to the clipboard (Ctrl+C)

Open the « search – find » tool (Alt+F3)

Paste the clipboard (Ctrl+V) in the « find what » frame

Check « FindASCII »



Then click to « Find Next »

```

00037290h: 00 92 00 A1 00 92 00 A2 00 94 00 A3 00 94 00 A2 ; .'.i.'.'.o.".£.".¢
000372a0h: 00 A2 00 A4 00 A3 00 A2 00 A5 00 A6 00 A1 00 A5 ; .o.£.£.¢.¥.|.¡.¥
000372b0h: 00 A2 00 A7 00 A2 00 A6 00 A4 00 A2 00 A7 00 A1 ; .o.¢.¢.|.h.¢.¢.¢.¢
000372c0h: 00 A0 00 A8 00 A1 00 A8 00 A5 00 A0 00 A9 00 A8 ; . .'.i."¥. .¢."
000372d0h: 00 A0 00 AA 00 A9 00 9F 00 AA 00 A0 00 AA 00 9F ; . .'.¢.¢.¥.¢. .'.¢.¢
000372e0h: 00 AB 00 9E 00 AB 00 9F 00 AB 00 9D 00 AB 00 9E 00 9D ; .«.ž.«.¥..«.ž.
000372f0h: 00 9C 00 AC 00 AC 00 AB 00 9D 00 9C 00 AD 00 AC ; .œ.-.¬.«.œ.-.¬
00037300h: 00 AC 00 AD 00 AE 00 AC 00 AF 00 AB 00 AE 00 AF ; .¬.-.ø.¬.«.ø.-.
00037310h: 00 AC 00 B0 00 AA 00 AB 00 AF 00 B0 00 B0 00 B0 ; .¬.°.¤.«.¬.°.«.°
00037320h: 00 B1 00 AA 00 A9 00 AA 00 B1 00 B2 00 B3 00 A9 ; .±.¢.¢.±.¢.¢.¢
00037330h: 00 B1 00 B2 00 A9 00 A8 00 A9 00 B3 00 A8 00 B4 ; .±.¢.¢.¢.¢.¢.¢
00037340h: 00 A5 00 A8 00 B3 00 B5 00 A8 00 B5 00 B4 00 A5 ; .¥.¬.¤.µ.¬.µ.¬.¥
00037350h: 00 B6 00 A6 00 B7 00 B6 00 A5 00 A5 00 B4 00 B7 ; .¶.¶.¶.¶.¶.¶.¶.¶
00037360h: 00 B8 00 A6 00 B6 00 A7 00 A6 00 B8 00 B6 00 B7 ; .¶.¶.¶.¶.¶.¶.¶.¶
00037370h: 00 B9 00 B6 00 B9 00 BA 00 B8 00 B6 00 BA 00 B7 ; .¶.¶.¶.¶.¶.¶.¶.¶
00037380h: 00 BB 00 BC 00 BC 00 B9 00 B7 00 BD 00 BB 00 B7 ; .»..¶.¶.¶.¶.¶.¶
00037390h: 00 B4 00 BD 00 B7 00 B4 00 BE 00 BD 00 B5 00 BE ; .'.¢. .'.¢.¢.µ.%.
000373a0h: 00 B4 00 BF 00 B5 00 B3 00 BF 00 BE 00 B5 00 C0 ; .'.¢.µ.¢.¢.µ.Å
000373b0h: 00 BF 00 B3 00 B2 00 CO 00 B3 00 CO 00 B2 00 C1 ; .¢.¢.¢.Å.¢.Å.¢.Å
000373c0h: 00 EF CD AB 89 20 7F 65 5E 03 00 00 10 00 00 00 ; .ifat e[.....]
000373d0h: 20 41 00 00 80 3F 00 00 80 3F 00 00 80 3F 00 00 00 ; A..€?..€?..€?..
000373e0h: 80 3F 00 00 80 3F 14 00 00 00 6D 63 30 31 5F 63 ; €?..€?....mc01_c
000373f0h: 6C 6F 74 68 65 73 5F 64 69 66 2E 64 64 73 14 00 ; lothes_dif.dds..
00037400h: 00 00 6D 63 30 31 5F 63 6C 6F 74 68 65 73 5F 6E ; ..mc01_clothes_n
00037410h: 72 6D 2E 64 64 73 14 00 00 00 6D 63 30 31 5F 63 ; rm.dds....mc01_c
00037420h: 6C 6F 74 68 65 73 5F 6D 70 6D 2E 64 64 73 00 00 ; lothes_mpm.dds..
00037430h: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 ; .....
00037440h: 00 00 03 00 00 66 00 00 00 25 F5 43 3F 90 A2 ; .....f...%öC?¢
00037450h: BB 3F 74 FC 8B 3D DA 22 01 00 00 01 02 03 6A A1 ; »?tik=Ü"......ji
00037460h: 44 3F 62 1A BC 3F 42 5A 74 3D E7 17 00 00 00 01 ; D?b.¶?BZt=ç.....
00037470h: 02 00 FE 6E 3F 3F AA 5E BC 3F 42 B6 78 3D FE 00 ; ..pn??^¢?B¶x=p.
00037480h: 00 00 00 01 02 04 6F C4 39 3F 52 82 BC 3F A7 31 ; .....oÃ9?R,¶?§1
00037490h: 79 3D FF 00 00 00 01 02 04 B0 C0 3E 3F 7C 55 ; y=¥. ....°A>?|U
000374a0h: BA 3F B4 47 9B 3D FE 00 00 00 02 01 05 55 D7 ; °?`G>=p.....U×
000374b0h: 39 3F 65 20 BA 3F 84 95 92 3D FE 00 00 00 02 ; 9?e °?„'¢=p.....
000374c0h: 01 05 35 04 35 3F 6B 13 BD 3F A3 AE 7F 3D E4 1A ; ..5.5?k.¢?£@=ä.
000374d0h: 00 00 00 06 07 02 F0 37 35 3F EF 52 BA 3F 26 32 ; .....§75?ir?&2
000374e0h: 8F 3D D8 26 00 00 00 06 07 08 0F F5 2F 3F 4A 93 ; =Ø¢. ....§/J"

```

In that way we can navigate through the parts (hit « **F3** » to go to the next one)

Now we'll go to the parts of the rico hair to remove them

Go back to the begining of the file and click in the header (before the first part)

The parts for the hair, as we previously saw, are the numbers 14 and 15 which means that they are the 15th and 16th ones (the first is number 0)

Hit « F3 » 15 times so you will be at the begining of the first of the two parts

```
UltraEdit-32 - [C:\Program Files (x86)\Steam\steamapps\common\just cause 2\Dropzone\PROJECT\mc01_lod1-rico.rbm]
File Edit Search Project View Format Column Macro Advanced Window Help
mc01_lod1-rico.rbm

00070f30h: 40 04 40 04 3F 04 41 04 42 04 43 04 44 04 43 04 ; @.?.A.B.C.D.C.
00070f40h: 45 04 44 04 46 04 47 04 48 04 49 04 46 04 48 04 ; E.D.F.G.H.I.F.H.
00070f50h: 46 04 49 04 4A 04 4A 04 4B 04 4C 04 4A 04 49 04 ; F.I.J.K.L.J.I.
00070f60h: 4B 04 4D 04 4B 04 4E 04 4C 04 4B 04 4D 04 4C 04 ; K.M.K.N.L.K.M.L.
00070f70h: 4D 04 4F 04 50 04 4C 04 4F 04 51 04 4D 04 4E 04 ; M.O.P.L.Q.M.N.
00070f80h: 50 04 4F 04 52 04 53 04 50 04 52 04 52 04 4F 04 ; P.O.R.S.P.R.R.O.
00070f90h: 54 04 55 04 54 04 4F 04 53 04 52 04 56 04 57 04 ; T.U.T.O.S.R.V.W.
00070fa0h: 53 04 56 04 56 04 58 04 57 04 57 04 58 04 59 04 ; S.V.V.X.W.W.X.Y.
00070fb0h: 5A 04 5B 04 5C 04 5C 04 5B 04 5D 04 5E 04 5F 04 ; Z.[.\.\[.^.^._.
00070fc0h: 60 04 5E 04 61 04 5F 04 5F 04 61 04 62 04 63 04 ; `.^_a._.a.b.c.
00070fd0h: 5E 04 60 04 62 04 64 04 65 04 62 04 61 04 64 04 ; ^.^_b.d.e.b.a.d.
00070fe0h: 65 04 64 04 66 04 67 04 65 04 68 04 66 04 68 04 ; e.d.f.g.e.h.f.h.
00070ff0h: 65 04 67 04 68 04 69 04 6A 04 67 04 69 04 6A 04 ; e.g.h.i.j.g.i.j.
00071000h: 69 04 6B 04 6C 04 6A 04 6B 04 6D 04 6C 04 6B 04 ; i.k.l.j.k.m.l.k.
00071010h: 6E 04 6C 04 6D 04 6F 04 6E 04 6D 04 70 04 71 04 ; n.l.m.o.n.m.p.q.
00071020h: 72 04 72 04 71 04 73 04 74 04 75 04 76 04 74 04 ; r.r.q.s.t.u.v.t.
00071030h: 76 04 77 04 75 04 78 04 76 04 76 04 79 04 77 04 ; v.w.u.x.v.v.y.w.
00071040h: 77 04 79 04 7A 04 79 04 7B 04 7A 04 7C 04 7D 04 ; w.y.z.y.{.z.|}.
00071050h: 7E 04 7F 04 7C 04 7E 04 7C 04 7F 04 80 04 7F 04 ; ~..|..~|..€..
00071060h: 81 04 80 04 EF CD AB 89 20 7E 65 5E 03 01 00 01 ; .€.ii< e^.....
00071070h: 00 00 00 20 41 00 00 80 3F 00 00 80 3F 00 00 80 ; ... A..€?..€?..€
00071080h: 3F 00 00 80 3F 00 00 80 3F 11 00 00 00 6D 63 30 ; ?..€?..€?..mc0
00071090h: 31 5F 68 61 69 72 5F 64 69 66 2E 64 64 73 11 00 ; _hair_dif.dds..
000710a0h: 00 00 6D 63 30 31 5F 68 61 69 72 5F 6E 72 6D 2E ; ..mc01_hair_nrm.
000710b0h: 64 64 73 11 00 00 00 6D 63 30 31 5F 68 61 69 72 ; dds...mc01_hair
000710c0h: 5F 6D 70 6D 2E 64 64 73 00 00 00 00 00 00 00 00 ; _mpm.dds.....
000710d0h: 00 00 00 00 00 00 00 00 00 00 03 00 00 ; .....
000710e0h: FB 06 00 00 A9 96 51 3D B4 C4 DD 3F 37 4E 99 BD ; û...@-Q=ÁY?7N%?
000710f0h: A9 55 00 00 01 00 00 D4 F4 4E 3D 07 7F DD 3F ; @U.....ÓN=.Y?
00071100h: 64 11 A7 BD A9 55 00 00 00 01 00 00 D4 FE 37 3D ; d.S@U.....Óp7=
00071110h: A0 87 DE 3F 56 B1 9E BD AF 4F 00 00 00 01 00 00 ; +B?V±ž^O.....
00071120h: E1 74 7B 3D 81 F7 DC 3F EA 4A 95 BD A0 5E 00 00 ; át(=Ü?éJ^..^..
00071130h: 00 01 00 00 F8 B6 3A 3D 4C 3B DD 3F 0A 65 A7 BD ; ....ø¶:=L;Ý?.e$¶
00071140h: A9 55 00 00 00 01 00 B7 EB 30 3D B5 38 DE 3F ; @U.....é0=µ8B?
00071150h: 90 03 A9 BD AF 4F 00 00 00 01 00 00 E6 18 65 3D ; @é O.....æ.e=
00071160h: 69 64 DC 3F 4F 32 9F BD A0 5E 00 00 00 01 00 00 ; idÜ?O2Ý^..^....
00071170h: 59 33 75 3D CF A8 DC 3F A0 D3 98 BD A0 5E 00 00 ; Y3u=ÍÜ? Ó^..^..
00071180h: 00 01 00 00 19 49 23 3D 3C AF DF 3F 97 55 A5 BD ; ....I#=<ß-UÝ^..
```

If you did correctly you can view the names of the textures used in this part (mc01_hair..)

Clic and hold just after the « %o » and **move down the mouse to scroll down**

The screenshot shows the UltraEdit-32 interface with a memory dump of the file 'mc01_lod1-rico.rico'. The dump consists of hex values followed by ASCII characters and comments. A vertical scroll bar is located on the right side of the main window. The status bar at the bottom displays: 'For Help, press F1' | 'Pos: 71068H, 462952, C0' | 'DOS' | 'Mod: 24/05/2010 12:16:37' | 'Bytes Sel: 184' | 'INS'.

```
00070ff0h: 65 04 67 04 68 04 69 04 6A 04 67 04 69 04 6A 04 ; e.g.h.i.j.g.i.j.
00071000h: 69 04 6B 04 6C 04 6A 04 6B 04 6D 04 6C 04 6B 04 ; i.k.l.j.k.m.l.k.
00071010h: 6E 04 6C 04 6D 04 6F 04 6E 04 6D 04 70 04 71 04 ; n.l.m.o.n.m.p.q.
00071020h: 72 04 72 04 71 04 73 04 74 04 75 04 76 04 74 04 ; r.r.q.s.t.u.v.t.
00071030h: 76 04 77 04 75 04 78 04 76 04 76 04 79 04 77 04 ; v.w.u.x.v.v.y.w.
00071040h: 77 04 79 04 7A 04 79 04 7B 04 7A 04 7C 04 7D 04 ; w.y.z.y.{z.|.}.
00071050h: 7E 04 7F 04 7C 04 7E 04 7F 04 80 04 7F 04 ; ~.|~.|..€...
00071060h: 81 04 80 04 EF CD AB 89 20 7F 65 5E 03 01 00 01 ; .€.ii<^ e^... .
00071070h: 00 00 00 20 41 00 00 80 3F 00 00 80 3F 00 00 80 ; ... A..€?..€?..€
00071080h: 3F 00 00 80 3F 00 00 80 3F 11 00 00 00 6D 63 30 ; ?..€?..€?....mc0
00071090h: 31 5F 68 61 69 72 5F 64 69 66 2E 64 64 73 11 00 ; 1_hair_dif.dds..
000710a0h: 00 00 6D 63 30 31 5F 68 61 69 72 5F 6E 72 6D 2E ; ..mc01_hair_nrm.
000710b0h: 64 64 73 11 00 00 00 6D 63 30 31 5F 68 61 69 72 ; dds....mc01_hair
000710c0h: 5F 6D 70 6D 2E 64 64 73 00 00 00 00 00 00 00 00 ; _mpm.dds.....
000710d0h: 00 00 00 00 00 00 00 00 00 00 00 00 03 00 00 00 ; .....
000710e0h: FB 06 00 00 A9 96 51 3D B4 C4 DD 3F 37 4E 99 BD ; Ú...@=Q='ÁÝ?7N%?
000710f0h: A9 55 00 00 00 01 00 00 D4 F4 4E 3D 07 7F DD 3F ; @U.....ÔðN=.Ý?
00071100h: 64 11 A7 BD A9 55 00 00 00 01 00 00 D4 FE 37 3D ; d.S%&U.....Ôþ7=
00071101h: A0 87 DE 3F 56 B1 9E BD AF 4F 00 00 01 00 00 ; #B?V±ž%~O.....
00071102h: E1 74 7B 3D 81 F7 DC 3F EA 4A 95 BD A0 5E 00 00 ; át{=-Ü?èJ*%~^..
00071103h: 00 01 00 00 F8 B6 3A 3D 4C 3B DD 3F 0A 65 A7 BD ; ....øT:=L;Ý?.eS%
00071104h: A9 55 00 00 01 00 00 B7 EB 30 3D B5 38 DE 3F ; @U.....·ë0=µ8þ?
00071105h: 90 03 A9 BD AF 4F 00 00 00 01 00 00 E6 18 65 3D ; .@%~O.....æ.e=
00071106h: 69 64 DC 3F 4F 32 9F BD A0 5E 00 00 00 01 00 00 ; idÜ?O2Ý%~^.....
00071107h: 59 33 75 3D CF A8 DC 3F A0 D3 98 BD A0 5E 00 00 ; Y3u=i~Ü? Ó~%~^..
00071108h: 00 01 00 00 19 49 23 3D 3C AF DF 3F 97 55 A5 BD ; .....I#=<~B2-U%?
00071109h: C8 36 00 00 01 00 00 58 63 1C 3D AE C7 DD 3F ; È6.....Xc.=@çÝ?
0007110ah: 2E D5 AD BD AF 4F 00 00 00 01 00 00 45 11 16 3D ; .Ö~%~O.....E=.
0007110bh: 1B 21 DF 3F DD 7E B1 BD C8 36 00 00 00 01 00 00 ; .!B?Ý~±%~È6.....
0007110ch: 19 7A F8 3C 2B AD E0 3F 32 E4 AC BD DF 1F 00 00 ; .zo<+-à?2ä~ñB...
0007110dh: 00 01 00 00 40 86 01 3D 93 91 DE 3F 57 05 AF BD ; .....@t.=""`B?W.~_
0007110eh: C8 36 00 00 00 01 00 00 77 4B D2 3C 98 39 E0 3F ; È6.....wKÖ<~gà?
0007110fh: C9 91 B8 BD DF 1F 00 00 00 01 00 00 FE 9E 7A 3C ; É',ñB.....þz<
00071200h: EC 4A E1 3F 82 88 AF BD EE 10 00 00 00 01 00 00 ; ijá?,~ñíi.....
00071210h: C4 A7 62 3C 5B FA E0 3F 44 FA B5 BD EE 10 00 00 ; Ä$b<[úà?Díùñi...
00071220h: 00 01 00 00 E7 4E BD 3C E4 75 DF 3F 17 F0 B2 BD ; ....çNþ<åuB?.ß%~
00071230h: DF 1F 00 00 00 01 00 00 8B 13 48 3C F7 79 E1 3F ; B.....<.H<~yá?
00071240h: 1D 4A AB BD EF OF 00 00 00 01 00 00 22 58 41 3C ; .J<ñi....."XA<
```

That start to highlight the data

Tip : to increase the scroll speed, you can keep moving the mouse in circle outside the window but hold on the button !

As we want to highlight the two last parts for deleting, **keep scroll down to the very end of the data**

The screenshot shows the UltraEdit-32 hex editor window. The title bar reads "UltraEdit-32 - [C:\Program Files (x86)\Steam\steamapps\common\just cause 2\Dropzone\PROJECT\mc01_lod1-rico...].rbm". The menu bar includes File, Edit, Search, Project, View, Format, Column, Macro, Advanced, Window, Help. The toolbar has icons for Open, Save, Find, Replace, Copy, Paste, etc. The status bar at the bottom shows "For Help, press F1", "Pos: 98ac0H, 625344, C0", "DOS", "Mod: 24/05/2010 12:16:37", "Bytes Sel: 165176", and "INS". The main pane displays assembly code in columns:

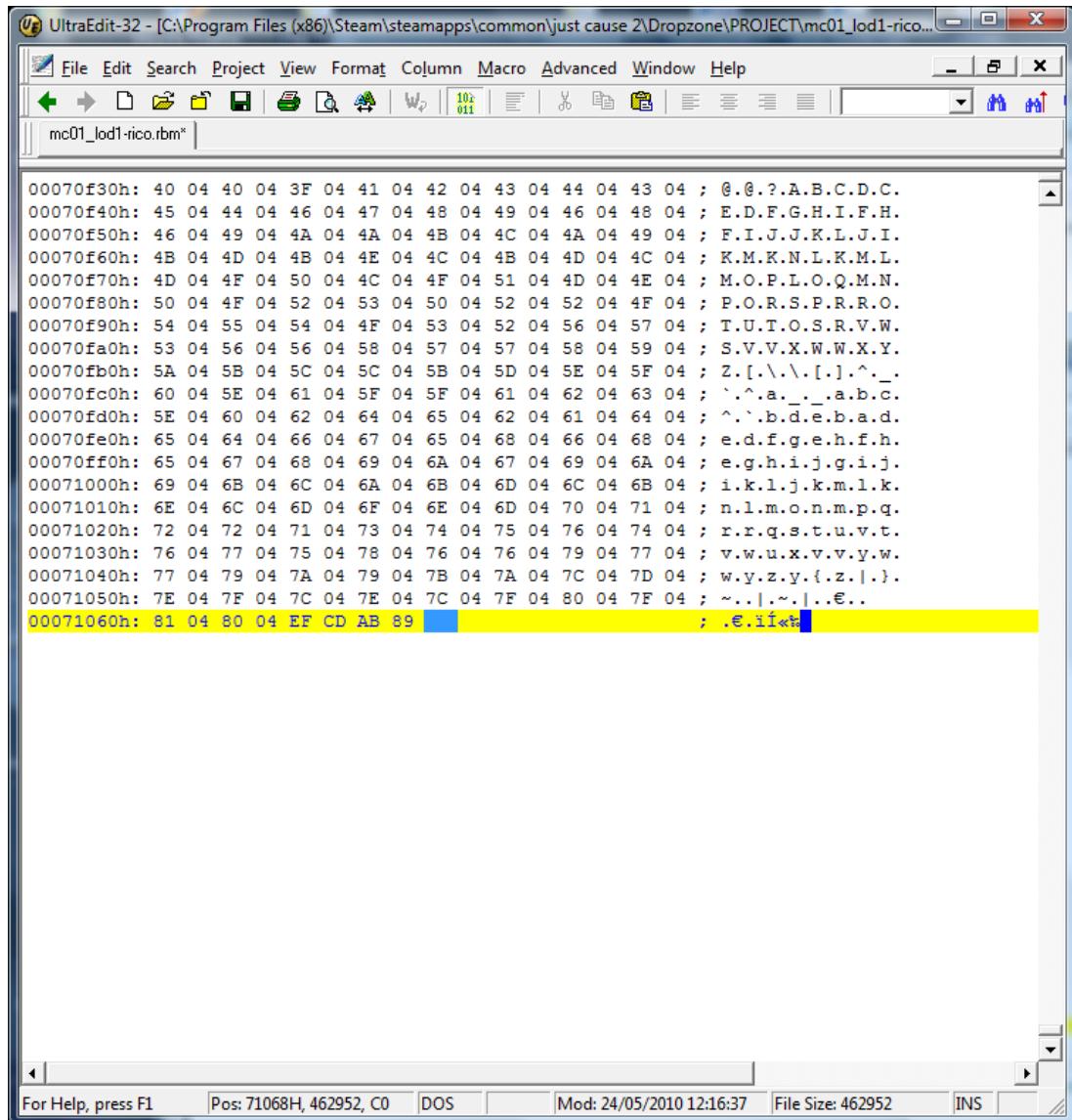
Address	Hex	ASCII
00099340h	92 06 97 06 94 06 98 06 99 06 97 06 94 06 99 06	; ' . . . " . " . " . " .
00099350h	98 06 94 06 93 06 9A 06 98 06 93 06 93 06 9B 06	; " . " . " . " . " . " .
00099360h	9C 06 9A 06 93 06 9C 06 9B 06 93 06 91 06 98 06	; æ.å. "æ.">. " . " .
00099370h	9D 06 9E 06 99 06 98 06 9E 06 98 06 9A 06 9F 06	; .ž. "ž. "š. Y.
00099380h	9D 06 98 06 9F 06 A0 06 9F 06 9A 06 9C 06 A0 06	; .ž. Y. .ž. æ. .
00099390h	9A 06 8D 06 A1 06 8B 06 A2 06 8B 06 A1 06 A2 06	; š. . . < . c. < . j. c.
000993a0h	8C 06 8B 06 A3 06 A4 06 A5 06 A6 06 A3 06 A5 06	; €. <. £. H. ¥. . E. ¥.
000993b0h	A3 06 A6 06 A7 06 A5 06 A4 06 A8 06 A9 06 A8 06	; £. . \$. ¥. H. . Ø. .
000993c0h	A4 06 A7 06 A6 06 AA 06 AB 06 AC 06 AD 06 AD 06	; H. S. . a. <. n. - . - .
000993d0h	AC 06 AE 06 AD 06 AE 06 AF 06 B0 06 AF 06 AE 06	; -ø. - . ø. - . - . ø.
000993e0h	B0 06 B1 06 AF 06 B2 06 B1 06 B0 06 B3 06 B4 06	; .±. - .±. °. . .
000993f0h	B5 06 B5 06 B4 06 B6 06 B7 06 B3 06 B8 06 B7 06	; u. u. ' . ¶. - . ' . .
00099400h	B4 06 B3 06 B4 06 B9 06 B6 06 BA 06 B7 06 BB 06	; ' . ' . ' . ¶. °. . .
00099410h	BB 06 BC 06 BD 06 BE 06 BB 06 BD 06 BB 06 BF 06	; » . ¼. ¾. > . ¾. » . ž.
00099420h	BC 06 BC 06 BF 06 CO 06 BF 06 C1 06 CO 06 C2 06	; ¼. ¼. ž. Á. Á. Á. Á.
00099430h	C0 06 C1 06 C3 06 C4 06 C5 06 C6 06 C7 06 C4 06	; Á. Á. Á. Á. Á. È. C. Á.
00099440h	C4 06 C7 06 C5 06 C6 06 C8 06 C9 06 C9 06 C7 06	; Á. C. Á. È. È. É. È. C.
00099450h	C6 06 CA 06 C9 06 C8 06 CB 06 CC 06 CD 06 CC 06	; È. È. È. È. È. Í. Í. Í.
00099460h	CE 06 CF 06 CF 06 CD 06 CC 06 D0 06 CE 06 D1 06	; Í. Í. Í. Í. Í. Ó. Í. Ñ.
00099470h	D2 06 CE 06 DO 06 D2 06 CF 06 CE 06 D3 06 D4 06	; Ò. Ó. Ó. Ó. Ó. Ó. Ó.
00099480h	D5 06 D6 06 D3 06 D5 06 D5 06 D4 06 D7 06 D8 06	; Õ. Õ. Õ. Õ. Õ. Õ. ×. Ø.
00099490h	D3 06 D6 06 D9 06 D8 06 D6 06 D7 06 D4 06 DA 06	; Õ. Õ. Ù. Ø. Ø. ×. Ø. Ú.
000994a0h	DB 06 DC 06 DD 06 DE 06 DB 06 DD 06 DF 06	; Û. Û. Ý. ß. Û. Ý. ß. B.
000994b0h	DE 06 EO 06 DB 06 DE 06 DB 06 E0 06 E1 06 DB 06	; ß. à. Û. ß. Û. à. à. Û.
000994c0h	E1 06 DC 06 E1 06 E2 06 DC 06 E2 06 E1 06 E3 06	; á. Ü. á. á. Ü. á. á. á. á.
000994d0h	E3 06 E1 06 E4 06 E4 06 E1 06 E5 06 E1 06	; á. á. á. á. á. á. á. á.
000994e0h	E0 06 E6 06 E7 06 E0 06 E8 06 E6 06 E0 06 E8 06	; á. æ. ç. á. è. æ. á. è.
000994f0h	E0 06 DE 06 E5 06 E0 06 E7 06 E9 06 E8 06 DE 06	; á. Þ. á. á. ç. é. Þ. B.
00099500h	DF 06 E9 06 DE 06 EA 06 EB 06 E8 06 E6 06 E8 06	; á. á. Þ. á. á. è. æ. è.
00099510h	EB 06 EA 06 E8 06 E9 06 EC 06 E5 06 E7 06 E4 06	; è. á. è. á. l. á. ç. á.
00099520h	E5 06 EC 06 ED 06 E4 06 EC 06 EE 06 E4 06 EF 06	; á. i. i. á. i. i. á. i.
00099530h	ED 06 EF 06 E4 06 EE 06 E3 06 F0 06 E2 06	; i. i. á. á. i. á. á. á.
00099540h	E3 06 F1 06 E3 06 EE 06 E3 06 F1 06 F0 06 EE 06	; á. á. á. á. á. á. á. á.
00099550h	F2 06 F3 06 EF 06 F2 06 EE 06 F4 06 EE 06 F3 06	; á. ó. í. á. í. á. í. á.
00099560h	F1 06 EE 06 F4 06 F1 06 F5 06 F6 06 F4 06 F5 06	; á. á. á. á. á. á. á. á.
00099570h	F1 06 F6 06 F0 06 F1 06 F7 06 F4 06 F8 06 F5 06	; á. á. á. á. á. á. á. á.
00099580h	F4 06 F7 06 F3 06 F8 06 F4 06 F9 06 FA 06 F3 06	; á. á. á. á. á. á. á. á.
00099590h	F2 06 F9 06 F3 06 FA 06 F8 06 F3 06 EF CD AB 89	; á. á. á. á. á. á. á. á.

So you reach the « %o »

Release the button

Yes I know, that's pain in the ass and it probably have a better way to navigate but I don't know it..

Cut the highlighted selection (Ctrl+X)



UltraEdit-32 - [C:\Program Files (x86)\Steam\steamapps\common\just cause 2\Dropzone\PROJECT\mc01_lod1-rico.rbm]

File Edit Search Project View Format Column Macro Advanced Window Help

mc01_lod1-rico.rbm

00070f30h: 40 04 40 04 3F 04 41 04 42 04 43 04 44 04 43 04 ; @.€.?A.B.C.D.C.
00070f40h: 45 04 44 04 46 04 47 04 48 04 49 04 46 04 48 04 ; E.D.F.G.H.I.F.H.
00070f50h: 46 04 49 04 4A 04 4A 04 4B 04 4C 04 4A 04 49 04 ; F.I.J.J.K.L.J.I.
00070f60h: 4B 04 4D 04 4B 04 4E 04 4C 04 4B 04 4D 04 4C 04 ; K.M.K.N.L.K.M.L.
00070f70h: 4D 04 4F 04 50 04 4C 04 4F 04 51 04 4D 04 4E 04 ; M.O.P.L.O.Q.M.N.
00070f80h: 50 04 4F 04 52 04 53 04 50 04 52 04 52 04 4F 04 ; P.O.R.S.P.R.R.O.
00070f90h: 54 04 55 04 54 04 4F 04 53 04 52 04 56 04 57 04 ; T.U.T.O.S.R.V.W.
00070fa0h: 53 04 56 04 56 04 58 04 57 04 57 04 58 04 59 04 ; S.V.V.X.W.W.X.Y.
00070fb0h: 5A 04 5B 04 5C 04 5C 04 5B 04 5D 04 5E 04 5F 04 ; Z.[\.\.[.]^._.
00070fc0h: 60 04 5E 04 61 04 5F 04 5F 04 61 04 62 04 63 04 ; `.^a._.a.b.c.
00070fd0h: 5E 04 60 04 62 04 64 04 65 04 62 04 61 04 64 04 ; ^.^b.d.e.b.a.d.
00070fe0h: 65 04 64 04 66 04 67 04 65 04 68 04 66 04 68 04 ; e.d.f.g.e.h.f.h.
00070ff0h: 65 04 67 04 68 04 69 04 6A 04 67 04 69 04 6A 04 ; e.g.h.i.j.g.i.j.
00071000h: 69 04 6B 04 6C 04 6A 04 6B 04 6D 04 6C 04 6B 04 ; i.k.l.j.k.m.l.k.
00071010h: 6E 04 6C 04 6D 04 6F 04 6E 04 6D 04 70 04 71 04 ; n.l.m.o.n.m.p.q.
00071020h: 72 04 72 04 71 04 73 04 74 04 75 04 76 04 74 04 ; r.r.q.s.t.u.v.t.
00071030h: 76 04 77 04 75 04 78 04 76 04 76 04 79 04 77 04 ; v.w.u.x.v.v.y.w.
00071040h: 77 04 79 04 7A 04 79 04 7B 04 7A 04 7C 04 7D 04 ; w.y.z.y.{z.|}.
00071050h: 7E 04 7F 04 7C 04 7E 04 7C 04 7F 04 80 04 7F 04 ; ~..|..~|..€..
00071060h: 81 04 80 04 EF CD AB 89 ; .€.ri@t

For Help, press F1 Pos: 71068H, 462952, C0 DOS Mod: 24/05/2010 12:16:37 File Size: 462952 INS

If you did it right, the « %o » still close the data.

We deleted two parts in that RBM files but the header (that contains the total number of parts) still have a 16 count

Back to the begining of the file, look at the 3rd line and 14th column in the hexadecimal view.

```

00000000h: 05 00 00 00 52 42 4D 44 4C 01 00 00 00 0D 00 00 ; ....RBMDL.....
00000010h: 00 00 00 00 00 2F 30 61 BF 1F BE 8A BA 58 BA 5C ; ...../0a\x50\x0\.
00000020h: BE 32 32 61 3F 2B 9B E8 3F 5D D3 46 3E 10 00 00 ; %22a?+>è?]ÓF>...
00000030h: 00 20 7F 65 5E 03 00 00 10 00 00 00 20 41 00 00 ; .e^..... A..E
00000040h: 80 3F 00 00 80 3F 00 00 80 3F 00 00 80 3F 00 00 ; €?..€?..€?..
00000050h: 80 3F 14 00 00 00 6D 63 30 31 5F 63 6C 6F 74 68 ; €?....mc01_cloth
00000060h: 65 73 5F 64 69 66 2E 64 64 73 14 00 00 00 6D 63 ; es_dif.dds....mc
00000070h: 30 31 5F 63 6C 6F 74 68 65 73 5F 6E 72 6D 2E 64 ; 01_clothes_nrm.d
00000080h: 64 73 14 00 00 00 6D 63 30 31 5F 63 6C 6F 74 68 ; ds....mc01_cloth
00000090h: 65 73 5F 6D 70 6D 2E 64 64 73 00 00 00 00 00 00 ; es_mpm.dds.....
000000a0h: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 03 00 ; .....
000000b0h: 00 00 E5 03 00 00 FE 76 3E BD 00 00 00 00 5C F6 ; ..å...pv>å...ö
000000c0h: A7 BD A8 56 00 00 00 01 00 00 86 55 23 BE 00 00 ; $%~V.....+U#%..
000000d0h: 00 00 86 B8 A8 BD 92 6C 00 00 00 01 00 00 D7 F8 ; ...t,"%l.....*ø
000000e0h: C5 BD 53 4C 62 A1 19 8C 1A BE F6 08 00 00 01 ; ÅSLb;.€.%ö.....
000000f0h: 00 00 4E 7F 26 BE 4F 0F E5 A3 81 AB 3E BD EA 14 ; ..Né%O.å£<>åé.
00000100h: 00 00 01 00 02 00 ED CD 23 BE E4 DA 1B 3C A2 F5 ; .....íí#%åÚ.<çö
00000110h: A8 BD A1 5D 00 00 01 00 02 00 14 C3 15 BE B1 40 ; "åj].....Å.%±@
00000120h: 94 A1 19 8C 1A BE F4 0A 00 00 00 01 00 00 75 85 ; "j.E.%ö.....u..
00000130h: 4B BD 00 00 00 CO 9A 43 BD DF 1F 00 00 01 00 ; Ké....ÀšCéB.....
00000140h: 00 00 39 A6 52 BD 8F AD 2D A2 86 8B 18 BE E8 16 ; ..9|Ré--ctx.%é.
00000150h: 00 00 00 01 00 00 4A 40 39 BD E3 DA 1B 3C CA 70 ; .....J@9%åÚ.<Ép
00000160h: A9 BD 84 7A 00 00 01 00 00 00 F8 89 C3 BD 9D E8 ; @é,,z.....ø%åé
00000170h: 1B 3C 67 E9 5A BE EC 12 00 00 00 01 00 00 52 69 ; .<géZhi.....Ri
00000180h: F6 BD AD E1 18 3C 82 19 57 BE FA 04 00 00 00 01 ; ö%å-å.<,W%ú.....
00000190h: 00 00 3B 3A 16 BE E4 DA 1B 3C 80 B4 19 BE EF 0F ; ...:åéÚ.<€'.%i.
000001a0h: 00 00 00 01 00 00 C6 4F 24 BE ED DA 1B 3C 1C 0D ; .....æOS%åÚ.<..
000001b0h: 42 BD ED 11 00 00 01 00 02 00 07 F5 69 BD 46 4E ; Béi.....åéi%FN
000001c0h: A8 3C FC A0 4E BC FE 00 00 00 01 00 02 00 39 8D ; "<ü Nép.....9
000001d0h: 1D BE 9C 32 A9 3C 37 C2 35 BC FF 00 00 00 01 00 ; .%æ2@<7Å54ý.....
000001e0h: 02 00 EA 97 4D BD E3 DA 1B 3C 85 0E 47 BD F6 08 ; ..é-MéåÚ.<...Géö.
000001f0h: 00 00 01 00 00 57 E2 54 BD E4 DA 1B 3C DE 3B ; .....WåTéåÚ.<ß;
00000200h: 18 BE DA 24 00 00 00 01 00 00 50 94 8B BD 66 2C ; .%Ú$.....P"é%f,
00000210h: 17 3C 57 0E 56 BE FB 03 00 00 01 00 00 6F 31 ; .<W.V%ú.....o1
00000220h: C5 BD 76 CB 95 3C 58 BA 5C BE FE 00 00 00 00 01 ; ÅévÉ•<X°\ép.....
00000230h: 00 00 6C F2 F5 BD 9D CF 93 3C F3 09 57 BE FF 00 ; ..lòééí"é. W%ý.
00000240h: 00 00 00 01 00 00 89 50 8A BD 7C OE 94 3C 05 87 ; .....%Péé|."<..‡
00000250h: 57 BE FB 03 00 00 00 01 00 00 2A EC 1B BE 09 C5 ; W%ú.....*i.%å.

```

We see « 10 »

WTF ? You said they are 16 parts ! Why I see « 10 » ?

Hey, we are in Hexadecimal !

Here is a little concordance :

Deci	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Hexa	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	10	11

You see ? « 10 » in hexadecimal is « 16 » in decimal

We deleted 2 parts, so it remains 14 parts. That give « E » in hexadecimal

UltraEdit-32 - [C:\Program Files (x86)\Steam\steamapps\common\just cause 2\Dropzone\PROJECT\mc01_lod1-rico.rbm]

File Edit Search Project View Format Column Macro Advanced Window Help

mc01_lod1-rico.rbm Close File

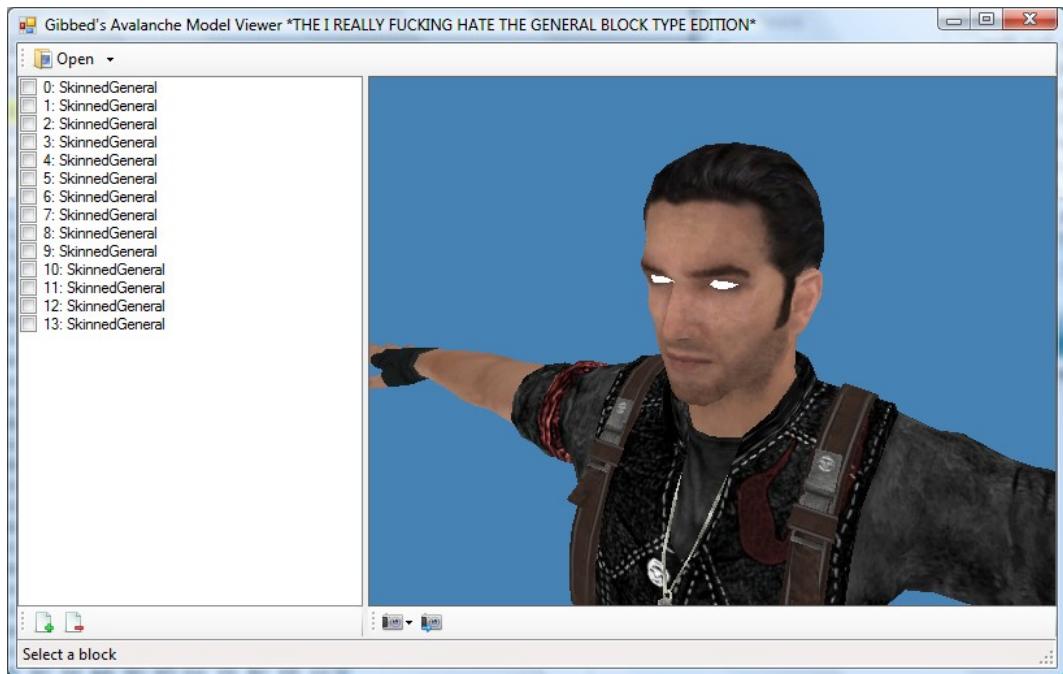
00000000h: 05 00 00 00 52 42 4D 44 4C 01 00 00 00 0D 00 00 ;RBMDL.....
00000010h: 00 00 00 00 00 2F 30 61 BF 1F BE 8A BA 58 BA 5C ;/0a;.%\$^X^
00000020h: BE 32 32 61 3F 2B 9B E8 3F 5D D3 46 3E 0E 00 00 ; %22a?+>?>...
00000030h: 00 20 7F 65 5E 03 00 00 10 00 00 20 41 00 00 ; . e^..... A..E
00000040h: 80 3F 00 00 80 3F 00 00 80 3F 00 00 ; €?..€?..€?..
00000050h: 80 3F 14 00 00 00 6D 63 30 31 5F 63 6C 6F 74 68 ; €?....mc01_cloth
00000060h: 65 73 5F 64 69 66 2E 64 64 73 14 00 00 00 6D 63 ; es_dif.dds....mc
00000070h: 30 31 5F 63 6C 6F 74 68 65 73 5F 6E 72 6D 2E 64 ; 01_clothes_nrm.d
00000080h: 64 73 14 00 00 00 6D 63 30 31 5F 63 6C 6F 74 68 ; ds....mc01_cloth
00000090h: 65 73 5F 6D 70 6D 2E 64 64 73 00 00 00 00 00 00 ; es_mpm.dds.....
000000a0h: 00 00 00 00 00 00 00 00 00 00 00 00 00 03 00 ;
000000b0h: 00 00 E5 03 00 00 FE 76 3E BD 00 00 00 00 5C F6 ; ..å...pv>...ö
000000c0h: A7 BD A8 56 00 00 00 01 00 00 86 55 23 BE 00 00 ; \$%V.....+U#%..
000000d0h: 00 00 86 B8 A8 BD 92 6C 00 00 00 01 00 00 D7 F8 ; ..+,“%’1.....×ø
000000e0h: C5 BD 53 4C 62 A1 19 8C 1A BE F6 08 00 00 01 ; Å%SLb;.€.%ö.....
000000f0h: 00 00 4E 7F 26 BE 4F OF E5 A3 81 AB 3E BD EA 14 ; ..Né%O.å<>é.
00000100h: 00 00 01 00 02 00 ED CD 23 BE E4 DA 1B 3C A2 F5 ;ii#%äÜ.<oö
00000110h: A8 BD A1 5D 00 00 01 00 02 00 14 C3 15 BE B1 40 ; “%;].....Å.%±@
00000120h: 94 A1 19 8C 1A BE F4 0A 00 00 01 00 00 75 85 ; “;i.€.%ö.....u..
00000130h: 4B BD 00 00 00 C0 9A 43 BD DF 1F 00 00 01 00 ; K%.....ÅSCñB.....
00000140h: 00 00 39 A6 52 BD 8F AD 2D A2 86 8B 18 BE E8 16 ; ..9|R%--ct<.%è.
00000150h: 00 00 01 00 00 4A 40 39 BD E3 DA 1B 3C CA 70 ;J@9%äÜ.<Ép
00000160h: A9 BD 84 7A 00 00 01 00 00 00 F8 89 C3 BD 9D E8 ; @%,z.....ø%Å%é
00000170h: 1B 3C 67 E9 5A BE EC 12 00 00 01 00 00 52 69 ; .<géZ%í.....Ri
00000180h: F6 BD AD E1 18 3C 82 19 57 BE FA 04 00 00 01 ; ö%–á.<,Wñü.....
00000190h: 00 00 3B 3A 16 BE E4 DA 1B 3C 80 B4 19 BE EF 0F ; ..;:.%äÜ.<€’.%i.
000001a0h: 00 00 00 01 00 00 C6 4F 24 BE ED DA 1B 3C 1C 0D ;EO%ñiÜ.<..
000001b0h: 42 BD ED 11 00 00 01 00 02 00 07 F5 69 BD 46 4E ; Bñi.....öi%FN
000001c0h: A8 3C FC A0 4E BC FE 00 00 00 01 00 02 00 39 8D ; <ü Nñp.....9
000001d0h: 1D BE 9C 32 A9 3C 37 C2 35 BC FF 00 00 00 01 00 ; .%œ2@<7Å54ý.....
000001e0h: 02 00 EA 97 4D BD E3 DA 1B 3C 85 0E 47 BD F6 08 ; ..é-M%äÜ.<....G%ö.
000001f0h: 00 00 01 00 00 00 57 E2 54 BD E4 DA 1B 3C DE 3B ;WñT%äÜ.<ß;
00000200h: 18 BE DA 24 00 00 00 01 00 00 50 94 8B BD 66 2C ; .%Ü\$.....P”<%f,
00000210h: 17 3C 57 0E 56 BE FB 03 00 00 00 01 00 00 6F 31 ; .<W.Vñü.....ol
00000220h: C5 BD 76 CB 95 3C 58 BA 5C BE FE 00 00 00 00 01 ; Å%vÉ*<X^%\%p.....
00000230h: 00 00 6C F2 F5 BD 9D CF 93 3C F3 09 57 BE FF 00 ; ..lòö%í”<ó.Wñý.
00000240h: 00 00 00 01 00 00 89 50 8A BD 7C 0E 94 3C 05 87 ;%Pñ%|.”<.%
00000250h: 57 BE FB 03 00 00 00 01 00 00 2A EC 1B BE 09 C5 ; Wñü.....*i.%å.

So change the « 10 » to « 0E » in the hexa view

Save the file (Ctrl+S)

Back to the modelviewer

Launch it and open the « mc01_rico-lod1.rbm » you just save



We can see that there is only 14 parts and that the rico's hair is no more.

Now will add the holster to Rico.

Back to the hexadecimal editor

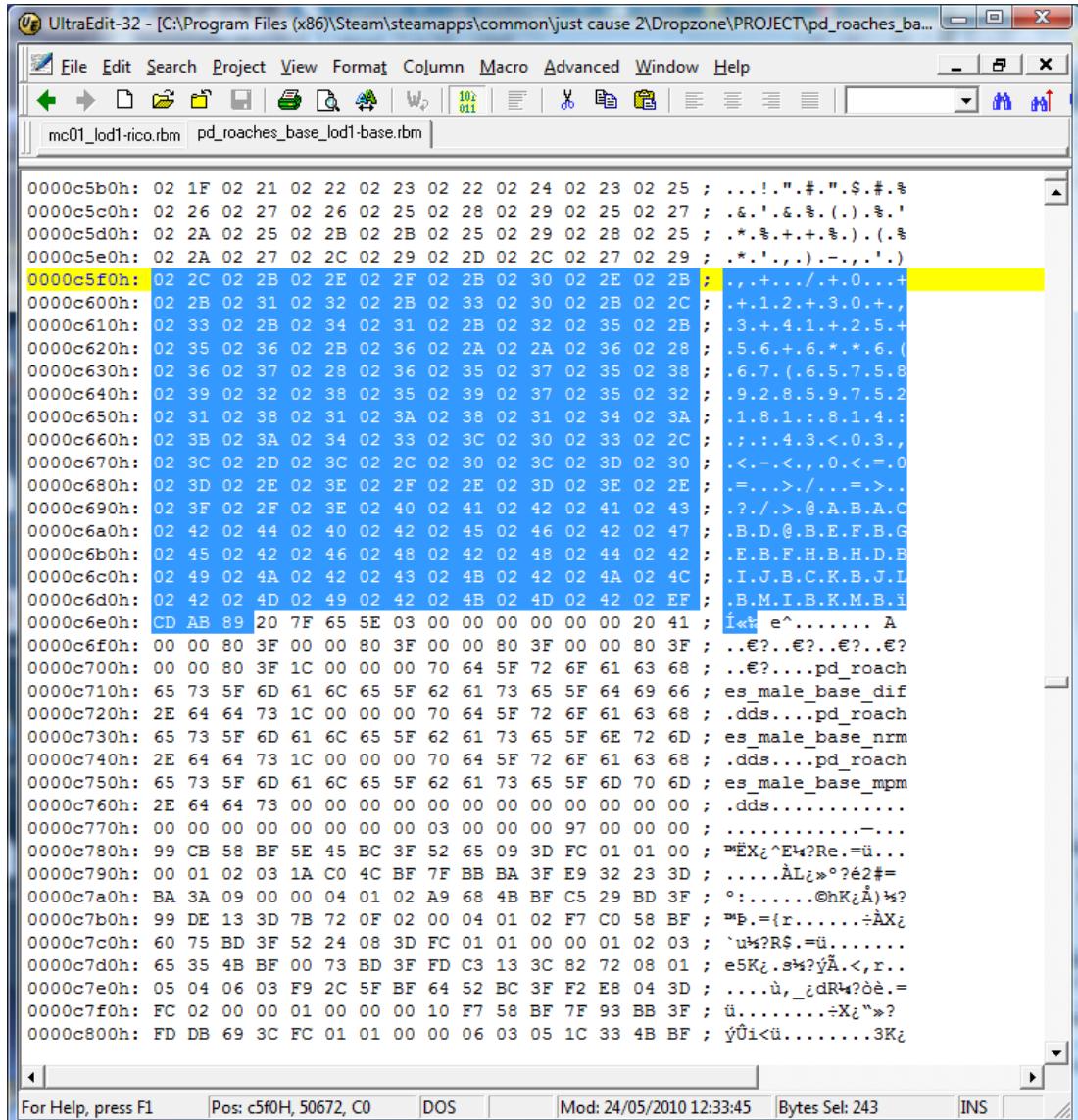
Open the « pd_roaches_base_lod1-base.rbm » file

If it's blank, refill the « **search - find** » tool with the string « e^ » as we previously did it.

If you remember, we need the two first parts of this model (numbers 0 and 1)

I suggest you position at the begining of the third part (hit « **F3** » 3 times from the header)

Clic and hold just after the « %o » and move UP the mouse to scroll UP - this time-



UltraEdit-32 - [C:\Program Files (x86)\Steam\steamapps\common\just cause 2\Dropzone\PROJECT\pd_roaches_base_lod1-base.rbm]

File Edit Search Project View Format Column Macro Advanced Window Help

mc01_lod1-rico.rbm pd_roaches_base_lod1-base.rbm

0000c5b0h: 02 1F 02 21 02 22 02 23 02 22 02 24 02 23 02 25 ; ...!.".#"\$.#.%
0000c5c0h: 02 26 02 27 02 26 02 25 02 28 02 29 02 25 02 27 ; .&.!.&.%.(.).%.'
0000c5d0h: 02 2A 02 25 02 2B 02 2B 02 25 02 29 02 28 02 25 ; .*.%.+.+.%..)(.%
0000c5e0h: 02 2A 02 27 02 2C 02 29 02 2D 02 2C 02 27 02 29 ; .*.'.,.)-.,.)
0000c5f0h: 02 2C 02 2B 02 2E 02 2F 02 2B 02 30 02 2E 02 2B ; ..+./+.0...+
0000c600h: 02 2B 02 31 02 32 02 2B 02 33 02 30 02 2B 02 2C ; .+.1.2.+.3.0.+,
0000c610h: 02 33 02 2B 02 34 02 31 02 2B 02 32 02 35 02 2B ; .3.+.4.1.+.2.5.+
0000c620h: 02 35 02 36 02 2B 02 36 02 2A 02 2A 02 36 02 28 ; .5.6.+.6.*.*.6.(
0000c630h: 02 36 02 37 02 28 02 36 02 35 02 37 02 35 02 38 ; .6.7.(.6.5.7.5.8
0000c640h: 02 39 02 32 02 38 02 35 02 39 02 37 02 35 02 32 ; .9.2.8.5.9.7.5.2
0000c650h: 02 31 02 38 02 31 02 3A 02 38 02 31 02 34 02 3A ; .1.8.1.:8.1.4.:
0000c660h: 02 3B 02 3A 02 34 02 33 02 3C 02 30 02 33 02 2C ; .:.;.4.3.<.0.3.,
0000c670h: 02 3C 02 2D 02 3C 02 2C 02 30 02 3C 02 3D 02 30 ; .<.-<.,.0.<.=.0
0000c680h: 02 3D 02 2E 02 3E 02 2F 02 2E 02 3D 02 3E 02 2E ; .=...>/...=>..
0000c690h: 02 3F 02 2F 02 3E 02 40 02 41 02 42 02 41 02 43 ; .?./>.@A.B.A.C
0000c6a0h: 02 42 02 44 02 40 02 42 02 45 02 46 02 42 02 47 ; .B.D.@.B.E.F.B.G
0000c6b0h: 02 45 02 42 02 46 02 48 02 42 02 48 02 44 02 42 ; .E.B.F.H.B.H.D.B
0000c6c0h: 02 49 02 4A 02 42 02 43 02 4B 02 42 02 4A 02 4C ; .I.J.B.C.K.B.J.L
0000c6d0h: 02 42 02 4D 02 49 02 42 02 4B 02 4D 02 42 02 EF ; .B.M.I.B.K.M.B.i
0000c6e0h: CD AB 89 20 7F 65 5E 03 00 00 00 00 00 00 20 41 ; i<^e^..... A
0000c6f0h: 00 00 80 3F 00 00 80 3F 00 00 80 3F 00 00 80 3F ; ..€?..€?..€?
0000c700h: 00 00 80 3F 1C 00 00 00 70 64 5F 72 6F 61 63 68 ; ..€?....pd_roach
0000c710h: 65 73 5F 6D 61 6C 65 5F 62 61 73 65 5F 64 69 66 ; es_male_base_dif
0000c720h: 2E 64 64 73 1C 00 00 00 70 64 5F 72 6F 61 63 68 ; .dds....pd_roach
0000c730h: 65 73 5F 6D 61 6C 65 5F 62 61 73 65 5F 6E 72 6D ; es_male_base_nrm
0000c740h: 2E 64 64 73 1C 00 00 00 70 64 5F 72 6F 61 63 68 ; .dds....pd_roach
0000c750h: 65 73 5F 6D 61 6C 65 5F 62 61 73 65 5F 6D 70 6D ; es_male_base_mpm
0000c760h: 2E 64 64 73 00 00 00 00 00 00 00 00 00 00 00 00 ; .dds.....
0000c770h: 00 00 00 00 00 00 00 03 00 00 00 97 00 00 00 00 ;-...
0000c780h: 99 CB 58 BF 5E 45 BC 3F 52 65 09 3D FC 01 01 00 ; ^Ex^E?Re.=ü...
0000c790h: 00 01 02 03 1A C0 4C BF 7F BB BA 3F E9 32 23 3D ;ÄL^?é2#=
0000c7a0h: BA 3A 09 00 00 04 01 02 A9 68 4B BF C5 29 BD 3F ; :.....@hK^?=?
0000c7b0h: 99 DE 13 3D 7B 72 0F 02 00 04 01 02 F7 C0 58 BF ; ^P.= {r.....-ÄX^?
0000c7c0h: 60 75 BD 3F 52 24 08 3D FC 01 01 00 00 01 02 03 ; `u^?RS.=ü.....
0000c7d0h: 65 35 4B BF 00 73 BD 3F FD C3 13 3C 82 72 08 01 ; e5K^?s^?yÄ.<,r..
0000c7e0h: 05 04 06 03 F9 2C 5F BF 64 52 BC 3F F2 E8 04 3D ;ù,_cdR^?òè.=
0000c7f0h: FC 02 00 00 01 00 00 10 F7 58 BF 7F 93 BB 3F ; ü.....÷X^?»?
0000c800h: FD DB 69 3C FC 01 01 00 00 06 03 05 1C 33 4B BF ; ýÜi<ü.....3K^?

For Help, press F1 Pos: c5f0H, 50672, C0 DOS Mod: 24/05/2010 12:33:45 Bytes Sel: 243 INS

Go up until the « ..» that is just before the « e^ » (that must be included in the highlighted selection)

See the pic :

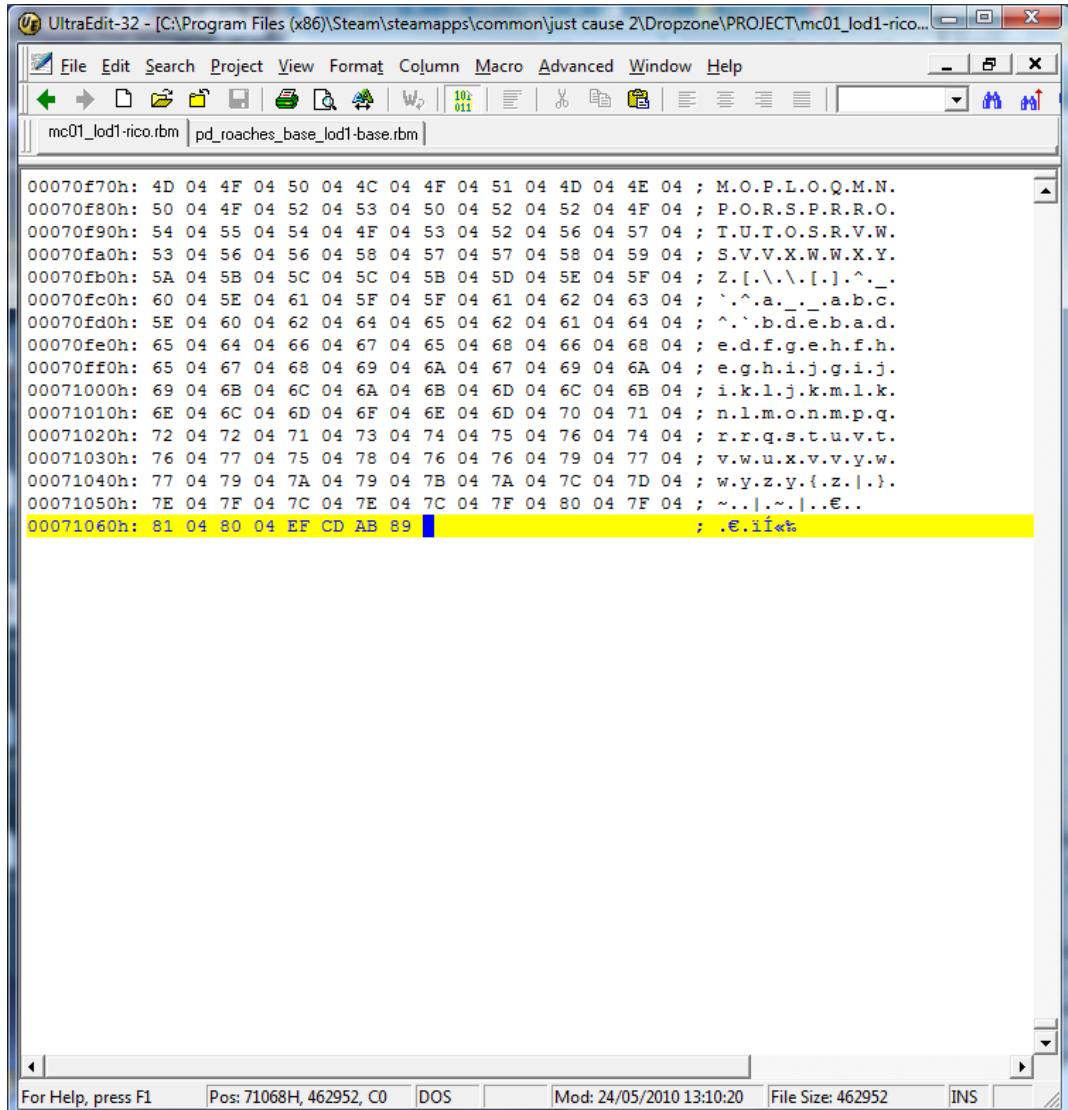
The screenshot shows the UltraEdit-32 interface with two tabs open: 'mc01_lod1-rico.rbm' and 'pd_roaches_base_lod1-base.rbm'. The main window displays assembly code in a hex dump format. A yellow selection box highlights a specific section of the code starting at address 00000030h. The assembly code includes comments such as '....RBMDL.....', '....ÍI_í.y»åä9', and '....pd_roaches'. The bottom status bar shows the current position as 'Pos: 31H, 49, C0'.

```
00000000h: 05 00 00 00 52 42 4D 44 4C 01 00 00 00 0D 00 00 ; ....RBMDL.....  
00000010h: 00 00 00 00 CD 49 5F BF B7 79 81 BB F4 E5 39 ; ....ÍI_í.y»åä9  
00000020h: BE CD 49 5F 3F AE C5 E7 3F 3B 6B 28 3E 04 00 00 ; ....ÍI_í.y»åä9  
00000030h: 00 20 7F 65 5E 03 00 00 10 00 00 00 20 41 00 00 ; ....A...  
00000040h: 80 3F 00 00 80 3F 00 00 80 3F 00 00 80 3F 00 00 ; €?..€?..€?..  
00000050h: 80 3F 1C 00 00 00 70 64 5F 72 6F 61 63 68 65 73 ; €?....pd_roaches  
00000060h: 5F 6D 61 6C 65 5F 62 61 73 65 5F 64 69 66 2E 64 ; _male_base_dif.d  
00000070h: 64 73 1C 00 00 00 70 64 5F 72 6F 61 63 68 65 73 ; ds....pd_roaches  
00000080h: 5F 6D 61 6C 65 5F 62 61 73 65 5F 64 6E 72 6D 64 ; _male_base_nrm.d  
00000090h: 64 73 1C 00 00 00 70 64 5F 72 6F 61 63 68 65 73 ; ds....pd_roaches  
000000a0h: 5F 6D 61 6C 65 5F 62 61 73 65 5F 6D 70 6D 2E 64 ; _male_base_mpm.d  
000000b0h: 64 73 00 00 00 00 00 00 00 00 00 00 00 00 00 00 ; ds.....  
000000c0h: 00 00 00 00 00 03 00 00 00 F9 01 00 00 F4 58 ; .....ü....öX  
000000d0h: BF BD 82 5A B4 3D C7 12 99 3C F4 0A 00 00 00 01 ; €?..Z'=ç.»<ö.....  
000000e0h: 00 00 3B 1B 25 BE 29 BF 92 3D C9 EA 9D BC 89 4E ; ...; €?..Z'=ç.»<ö.....  
000000f0h: 21 05 01 00 02 03 6F 87 05 BE C5 24 B2 3D 54 DE ; !....ø‡.»ÅS=TB  
00000100h: 82 BD 8D 3D 2D 05 01 02 00 03 22 CC 28 BE E3 F5 ; ,ç=...."ł(ñäö  
00000110h: 71 3D 2F 14 8F 3C 7E 6D 0F 03 01 00 02 03 5B F4 ; q=/.<-m.....[ö  
00000120h: 41 BD 3B B9 15 3D 35 98 D6 3D 7C 7C 04 02 00 01 ; A‡;¹.=5~Ö=|||....  
00000130h: 02 03 3E 98 D2 BD D3 D8 0F 3D EA 0C F8 3D 7B 7B ; ...>~Ö~ÖÖ.=è.ø={  
00000140h: 04 02 00 01 02 03 7E 6F 22 BD AB F9 AD 3D 1B 2F ; .....~o"»çù=.=/  
00000150h: 85 BD 8C 43 26 08 01 02 00 04 88 2E A3 BC 6D BF ; ..çEC&.....£imž  
00000160h: 83 3D 8A 8F 34 BC 8C 5A 11 06 01 00 02 04 4B 1E ; f=š4çCZ.....K.  
00000170h: 21 BE EC 80 1B 3D 69 79 A3 3D 79 79 08 03 00 01 ; !%i€.=iy£=yy....  
00000180h: 02 03 94 88 02 BE 6B D6 FF 3D 0F 8B 86 BD 9E 2E ; ...".ñkÖý=.+çž.  
00000190h: 24 0E 00 03 01 02 05 74 27 BE 52 C9 09 3E 78 6D ; $.....t'ñRE.>xm  
000001a0h: 00 BC B0 2D 19 07 00 01 03 02 A0 DF 24 BD 18 B9 ; ..ç=.....$çç.  
000001b0h: 00 3E 61 ED 88 BD 99 34 23 0E 00 03 01 02 7B 91 ; .>aiçm4#.....{`  
000001c0h: DF BC E5 E7 0A 3E 76 DC 85 BA C5 20 14 04 00 01 ; Bñäç.>vÜ...Å....  
000001d0h: 03 02 8A BE 5A BD AD 02 30 3E 0F BA 28 BD 99 34 ; ..ñçZç-.0>.°(çm4  
000001e0h: 23 0E 00 03 01 02 66 F5 FB BD C0 30 2E 3E 30 37 ; #.....föñä0.>07  
000001f0h: 27 BD 9E 2E 24 0E 00 03 01 02 97 7E 31 BE FB F1 ; 'çž.ç.....~1ñäñ  
00000200h: 02 3E 96 9D 22 3D 85 67 09 08 00 01 03 02 7D 05 ; .>-=..g.....pö  
00000210h: 1D BE 8F AC 92 3E CD 4F 99 3A AC 4E 01 01 03 00 ; .çç>ñOñ:-N....  
00000220h: 05 01 84 F9 30 BE 76 9D 98 3D B8 87 C2 3D 78 78 ; ...ù0ñvñ,ññ=xx  
00000230h: 07 06 00 01 03 02 59 F6 D4 BD 50 13 89 3D 64 9D ; .....YöñP.ñ=d  
00000240h: 08 3E 7A 7A 06 04 00 01 03 02 0D B6 2B BD A9 09 ; .>zz.....ç+çø.  
00000250h: 8E 3D E4 89 D3 3D 7C 7C 03 02 00 01 03 02 4D FC ; ž=ñö=||.....ñü
```

Then **copy** this selection to the clipboard (Ctrl+C)

Open the « mc01_lod1-rico.rbm » file if it's not already done (you can arrange files in tab or windows in a same ultraedit session)

Go to the very end of the data (after the « 89 » hexa character or « %o » ascii character)



The screenshot shows the UltraEdit-32 editor window. The title bar reads "UltraEdit-32 - [C:\Program Files (x86)\Steam\steamapps\common\just cause 2\Dropzone\PROJECT\mc01_lod1-rico...].rbm". The menu bar includes File, Edit, Search, Project, View, Format, Column, Macro, Advanced, Window, Help. The toolbar has icons for file operations like Open, Save, Find, and Replace. The status bar at the bottom shows "For Help, press F1", "Pos: 71068H, 462952, C0", "Mod: 24/05/2010 13:10:20", "File Size: 462952", and "INS". The main pane displays memory dump starting at address 00070f70h. The data consists of pairs of hex digits followed by ASCII characters and descriptive comments. The last visible entry is at address 00071060h, which ends with the hex value 89. The status bar indicates the current position is at byte 71068H, offset 462952, and character code C0. The file size is listed as 462952 bytes.

Paste the clipboard (Ctrl+V)

The screenshot shows the UltraEdit-32 hex editor interface. The title bar reads "UltraEdit-32 - [C:\Program Files (x86)\Steam\steamapps\common\just cause 2\Dropzone\PROJECT\mc01_lod1-rico.rbm*]". The menu bar includes File, Edit, Search, Project, View, Format, Column, Macro, Advanced, Window, Help. The toolbar has various icons for file operations like Open, Save, Find, Copy, Paste, etc. The status bar at the bottom shows "For Help, press F1", "Pos: 7d71aH, 513818, C0", "DOS", "Mod: 24/05/2010 13:10:20", "File Size: 513818", and "INS". The main window displays a hex dump of the file. The last few lines of the dump are highlighted in yellow:

```
0007d600h: 28 02 29 02 25 02 27 02 2A 02 25 02 2B 02 2B 02 ; (.) .%.*.%.+.+
0007d610h: 25 02 29 02 28 02 25 02 2A 02 27 02 2C 02 29 02 ; %.) .(%.*.'.,.).
0007d620h: 2D 02 2C 02 27 02 29 02 2C 02 2B 02 2E 02 2F 02 ; -.').,,.+./.
0007d630h: 2B 02 30 02 2E 02 2B 02 2B 02 31 02 32 02 2B 02 ; +.0...+.+1.2.+
0007d640h: 33 02 30 02 2B 02 2C 02 33 02 2B 02 34 02 31 02 ; 3.0...+,..3.+.4.1.
0007d650h: 2B 02 32 02 35 02 2B 02 35 02 36 02 2B 02 36 02 ; +.2.5.+,5.6.+.6.
0007d660h: 2A 02 2A 02 36 02 28 02 36 02 37 02 28 02 36 02 ; *.*.6. (.6.7. (.6.
0007d670h: 35 02 37 02 35 02 38 02 39 02 32 02 38 02 35 02 ; 5.7.5.8.9.2.8.5.
0007d680h: 39 02 37 02 35 02 32 02 31 02 38 02 31 02 3A 02 ; 9.7.5.2.1.8.1.::
0007d690h: 38 02 31 02 34 02 3A 02 3B 02 3A 02 34 02 33 02 ; 8.1.4.::;.:4.3.
0007d6a0h: 3C 02 30 02 33 02 2C 02 3C 02 2D 02 3C 02 2C 02 ; <.0.3.,<.-<.,.
0007d6b0h: 30 02 3C 02 3D 02 30 02 3D 02 2E 02 3E 02 2F 02 ; 0.<.=.0.=...>./.
0007d6c0h: 2E 02 3D 02 3E 02 2E 02 3F 02 2F 02 3E 02 40 02 ; ...=>...?./>@.
0007d6d0h: 41 02 42 02 41 02 43 02 42 02 44 02 40 02 42 02 ; A.B.A.C.B.D.@.B.
0007d6e0h: 45 02 46 02 42 02 47 02 45 02 42 02 46 02 48 02 ; E.F.B.G.E.B.F.H.
0007d6f0h: 42 02 48 02 44 02 42 02 49 02 4A 02 42 02 43 02 ; B.H.D.B.I.J.B.C.
0007d700h: 4B 02 42 02 4A 02 4C 02 42 02 4D 02 49 02 42 02 ; K.B.J.L.B.M.I.B.
0007d710h: 4B 02 4D 02 42 02 EF CD AB 89 ; K.M.B.i@t
```

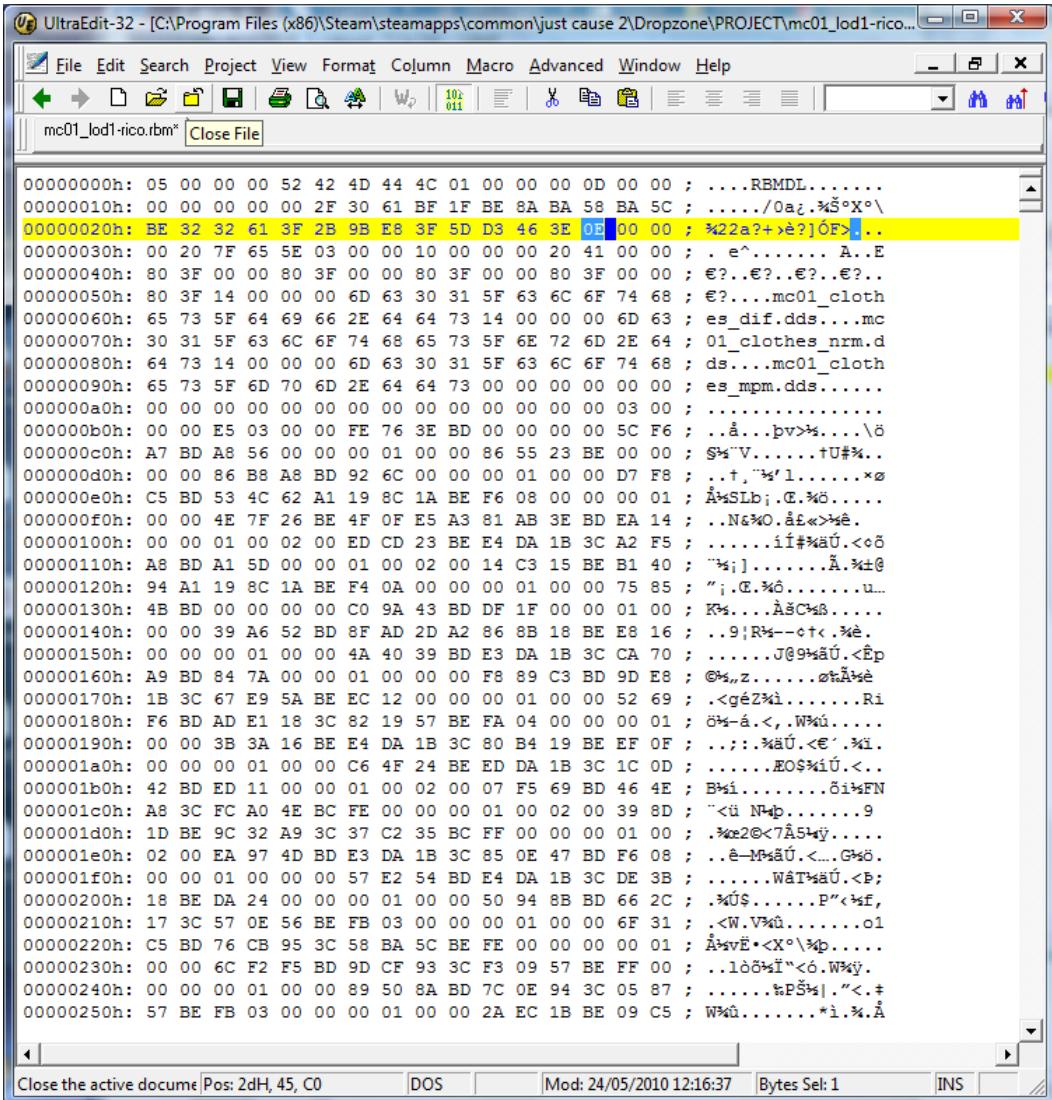
Check that the « 89 » hexa character or « %o » ascii character still close the data.

We just add two parts to the rico model so what we have to do now ?

...

You still forgot the numbers of parts in the header ?

Let's go back to the header



We added two parts so we have to change the count to ..

To ?

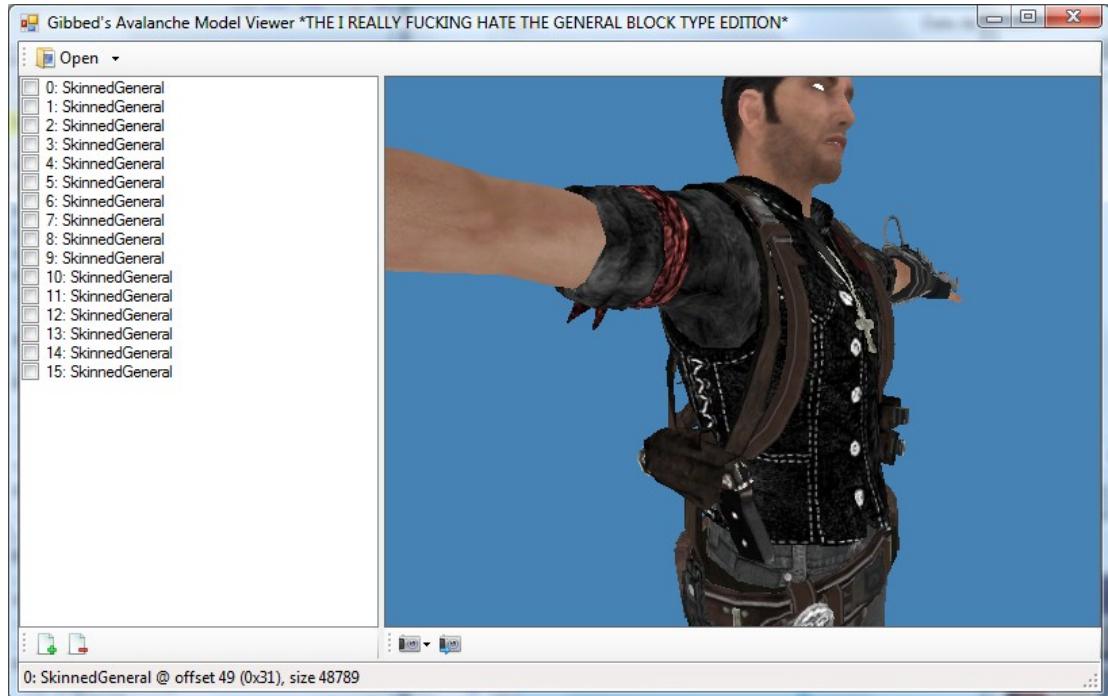
TO ?

« **10** » that's it ! 0E (14) +1 = 0F (15) +1 = **10** (16)

Save the file (Ctrl+S)

Let's see the result in the modelviewer

Launch it and open the « mc01_rico-lod1.rbm » you just save



Yeahh that seems to work ! Gratz !

But the job is not finish.

We still have the harness, the parachute and some strange trousers.

We'll remove them by editing the textures.

7. Editing the textures

Open the « **mc01_clothes_dif.dds** » with your favorite paint tool (must support DDS format)
Paint.net don't need any plugin, Photoshop and The Gimp need one.

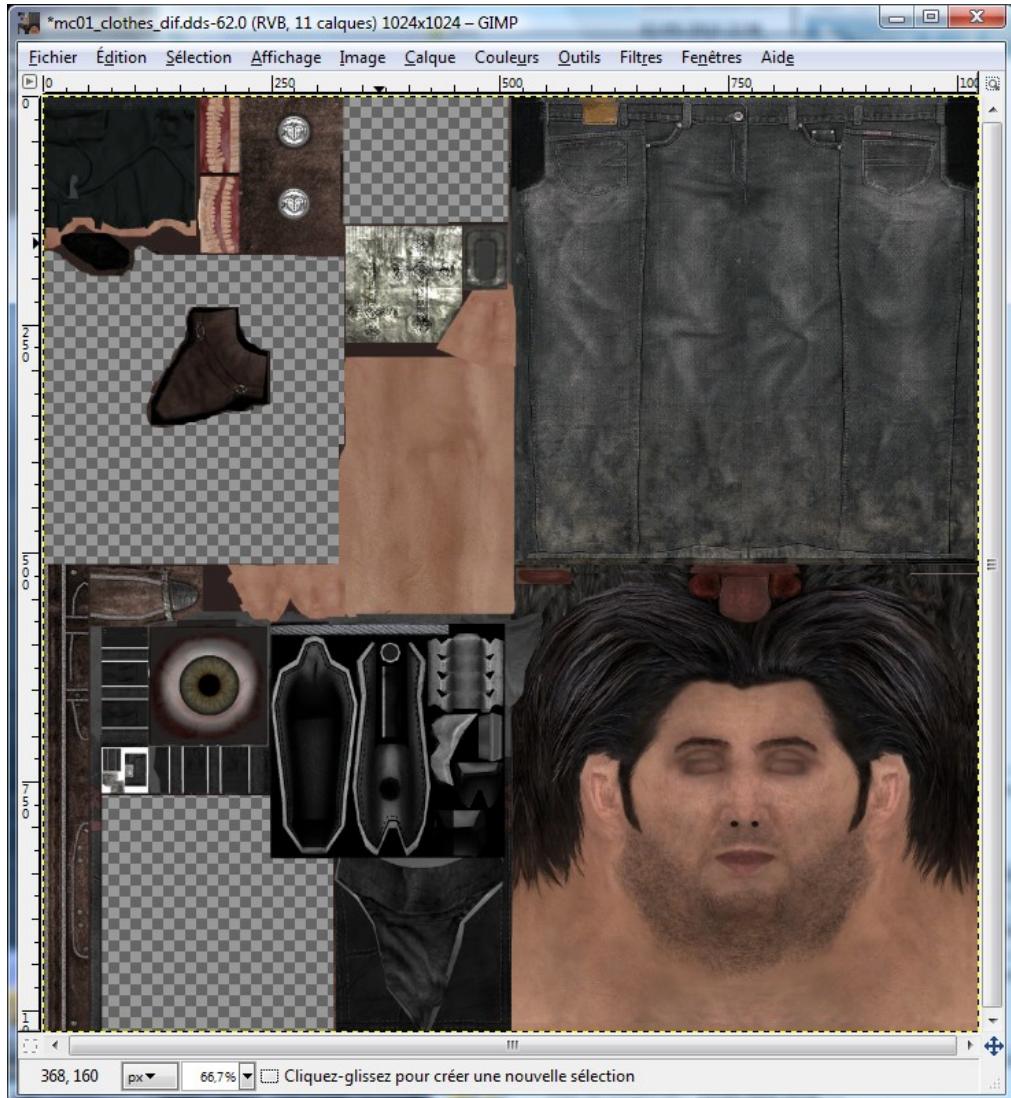
Personally, I use The Gimp (free)

Here is the texture



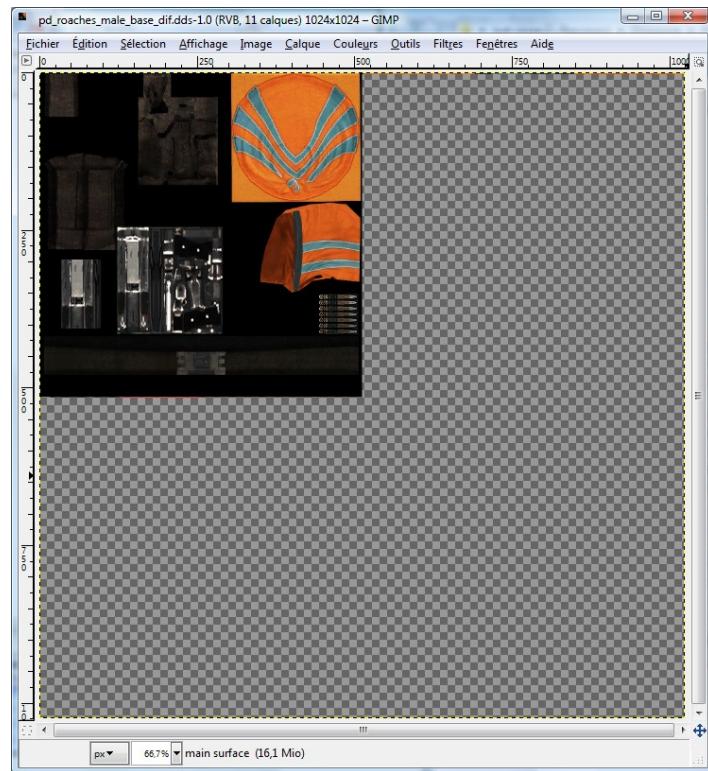
I will not tell you what is each thing, you have to find them by yourself (Personally I color some parts in a flashy color, to see what it is in the modelviewer or in game rendering)

To make part invisible, you have to « **erase** » it.



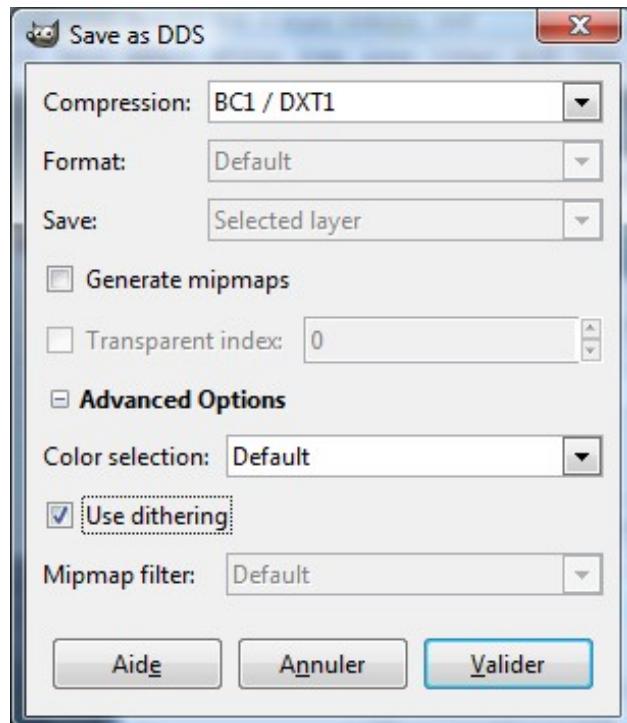
The « **checkerboard thing** » is what I erased
That's including the whole harness and the parachute.

Same thing with the « pd_roaches_male_base_dif.dds » file



This time is for removing the trousers, but as we only need the holster, we could erase more thing easily.

Save those files and use **DXT1 compression**



Let's view an ingame rendering (the modelviewer can't hold the transparency)



There is an overlap between the holsterbelt and the rico belt but that's not so bad.

Of course there is a lot of work to do in texturing to remove glitches..

Is the job finish ? Can we leave ?

Nearly.

Did you remember that we erased a big part of the « pd_roaches_male_base_dif.dds » ?

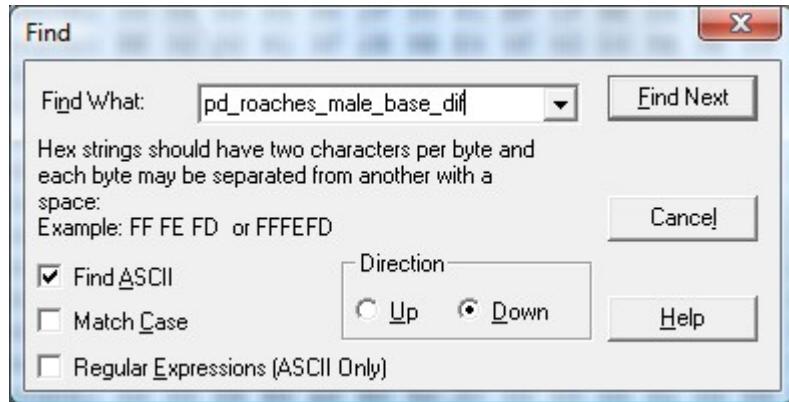
To keep those poor Roaches unharmed we have to rename this file. So the original game file will be used for the roaches model,

In our « PROJECT » folder, rename « pd_roaches_male_base_dif.dds » to another name keeping the **same number of characters** ex: « modroaches_male_base_dif.dds »

Once done, back the **hexadecimal editor**

Open the modified « mc01_lod1-rico.rbm » file

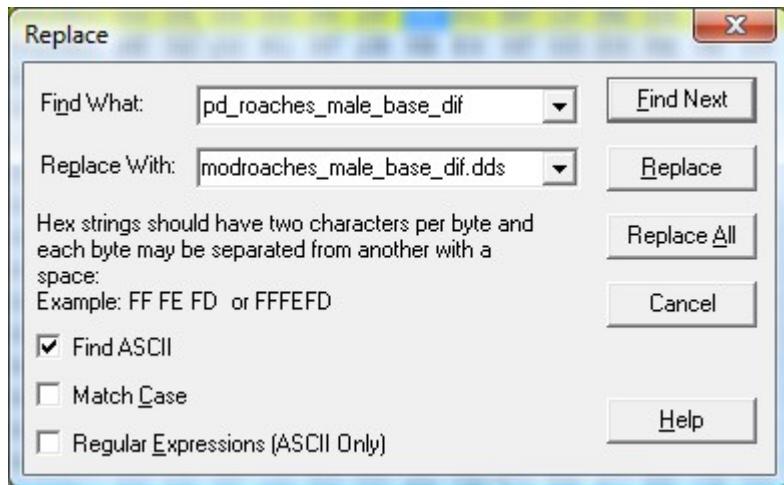
Search for the string « pd_roaches_male_base_dif.dds » (That's the only one we modified)



Clic Find Next

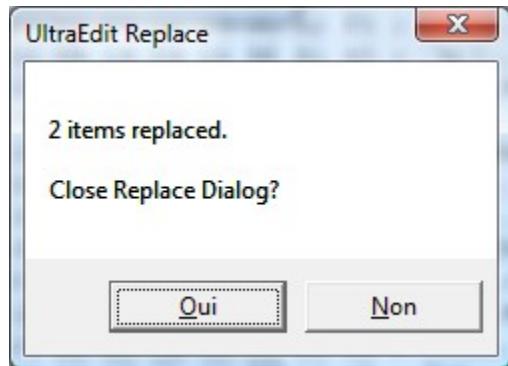
Back to the **begining of the file**, clic somewhere in the header

Use the « **Search - Replace** » tool (Ctrl+R)



Type the name you chose for the modified roaches texture file (here it's :
« **modroaches_male_base_dif.dds** »)

Hit « Replace All »



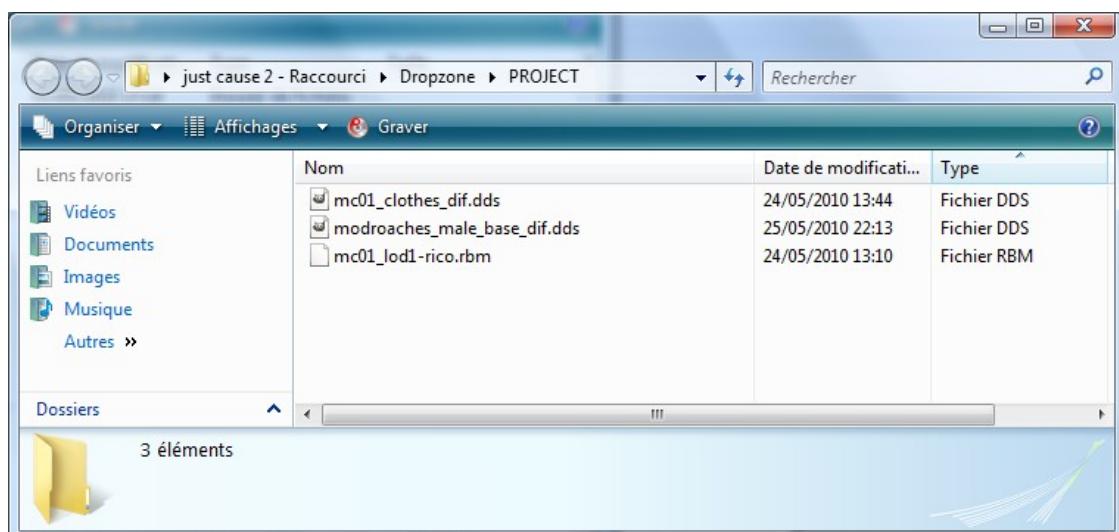
Answer « Yes »

Job's done.

Cleaning the PROJECT folder

We don't need all the files we have in the PROJECT folder

Just keep the ones we have modified :



Zip that and you are ready to upload your mod. **Gratz.**

8. Using other models

You can use other model than the rico one.

First render the .rbm file that you think is the model.in order to be sure that is complete (you saw that the roachesbase1 is not)

Then you just need to **rename it to « mc01_lod1-rico.rbm »**

Instead of loading the rico model, the game will load this one and you'll play as it.

If it's incomplete, you can import other parts (*lod1.rbm)to this model by using the same way we saw previously.

NB:

- *Many of civilians models or accessories can't be used cause they seems to have a different model configuration.*
- *Always choose the *lod1.rbm files, *lod2 and *lod3 are the same but with less polygons.*

Sorry for bad english, I hope this is understandable and helpful.

FRX

See you on www.justcause2mods.com