E-UAE and WHDLoad installation on MorphOS

MorphOS Guides

A guide to install E-UAE and WHDLoad on MorphOS.

This guide will try to explain how to install AmigaOs 3.x and E-UAE under MorphOS and Ambient so to have a working os emulation and eventually use WHDLoad to run Amiga games. Minimal knowledge of Amiga emulator UAE is implied but if you want to learn more there are many website in which you can find all informations about it.

1 Starting.

We will start downloading E-UAE by Fabien Coeurjoly, one of the MorphOS developers and the author of the uae port. The files are located here: http://fabportnawak.free.fr/uae/ and it is possible to download different versions of the emulator chosing from the MorphOS port to MorphOS G5 specific port.

Picture 1

Download E-UAE_0.8.29-WIP4.lha and extract the archive in Ram and copy it wherever you want or extract directly on your hard disk. Now you have the directory base in which you have to insert all the necessary files[1] to make emulator work without problems. Since Yannick Buchy, aka Papiosaur, webmaster of WarmUp-Asso created the great Chrysalis pack (that allows novice users to install a complete working suite in Ambient), I used almost the same directory names he used for his pack, System:Emulation/UAE, to semplify things. You can obviously install E-UAE directory where you like and name it as you prefer indipendently form installing Chrysalis pack or not but remember to use the right paths and names to configure emulator later or it won't work at all. I added an icon to the executable (I am using e.uae.g5) downloading from web only to have a clean directory and a clean launch (no report window will be opened) and that is:
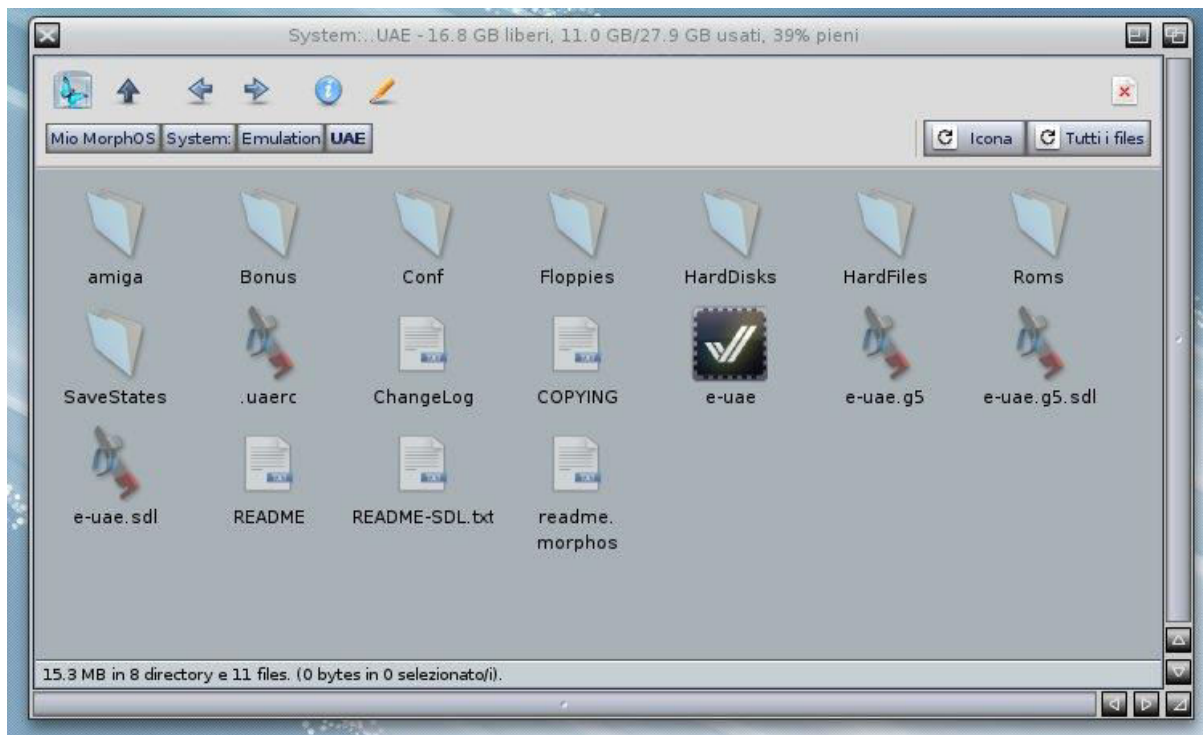
Picture 2

I have choosen specific E-UAE G5 executable since I'm running MorphOS on a PowerMacG5. Picture above shows the normal E-UAE executable. I would have liked to use the JIT version but since I wanted to launch WHDLoad games from Ambient E-UAE JIT doesn't work: selecting any game after emulator had run worked flawless while using iGame launcher from Ambient doesn't.

Now let's install all necessary files and modify e-uae configuration file to create a working Amiga machine.

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[1] Not properly correct: uaerc file has to be created as you will read later.

2 Kickstart installation and uaerc file.

As you can see in picture 2 there are several directories (or folders if you are more familiar with this word) and each one has a specific purpose: *Floppies* will be used to store your adf images, *Roms* for various kickstart roms, *HardDisks* for virtual Amiga hard disk partitions you want to create, *HardFiles* for raw images of real AmigaOS filesystem or disk, *Conf* for configuration files (there are many inside ready yet).

These are the most important to make a working Amiga machine and let's insert files inside the first one: Roms. A Rom is the core of Amiga as in a real one a Rom phisically has the necessary to start Workbench from floppy or hard disk. Since I wanted to create a base machine to boot Workbench and start WHDLoad games I decided to insert only a Kickstart rom and I chose the 3.1 (A1200 version) so to be able to install Workbench 3.1 or 3.9 but nothing prevent you to put inside Roms directory all the Rom files. Kickstart roms are not freely distributable due to copyright and to have them you have two chances: dump a real one from your real Amiga or buy Amiga Forever cd from Cloanto.
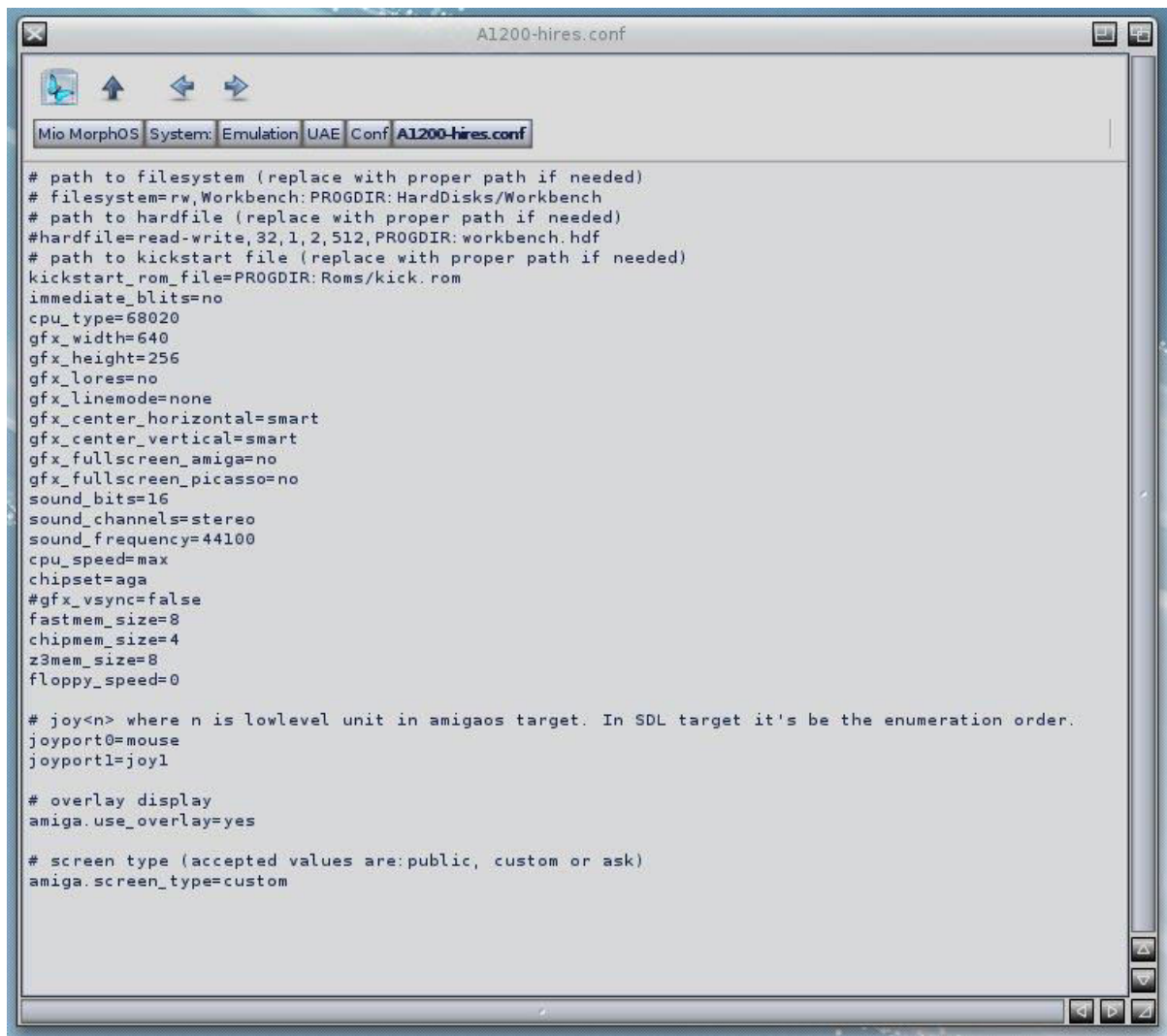
I put my Kickstartv3.1.rom (v 40.060) inside Roms directory and renamed Kick.rom and then went to Conf directory and opened: inside that there are different configuration files for A1200, A500 etc. I took the A1200-hires file, dragged & dropped into Ram Disk and once there I renamed it ".uaerc". This file is mandatory for e-uae to work correctly because it has all options that the emulated Amiga needs to work as well as paths in which Roms, hard disks, floppies, etc are. Once renamed, I put it in UAE directory. Double click on e-uae executable and you will see the Amiga 1200 early start screen:
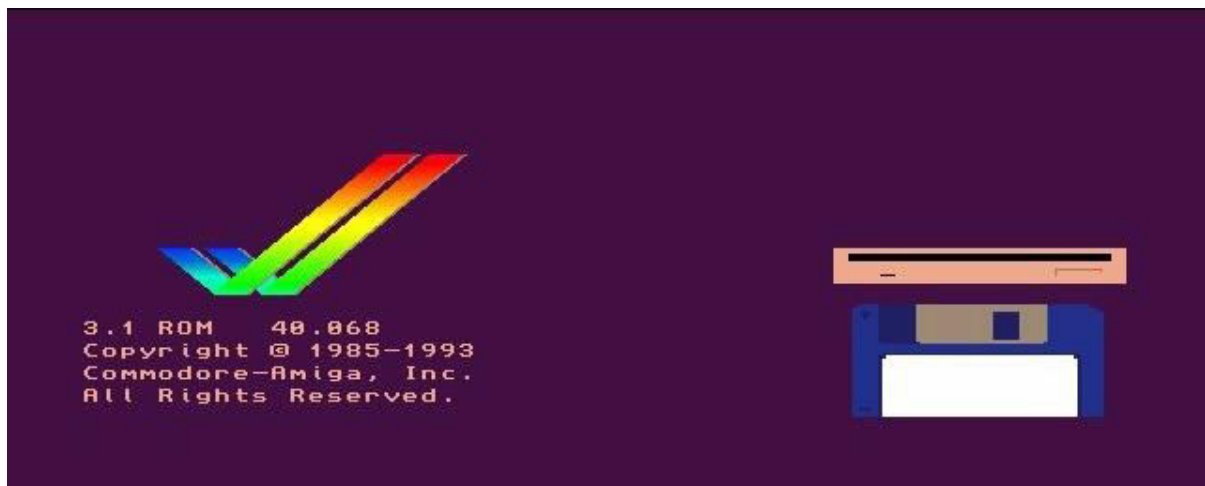
Picture 3

Now it's time to modify uaerc more.

This is the uaerc file which we have created renaming Amiga1200-hires.conf file which is inside *Conf* directory:


```
# path to filesystem (replace with proper path if needed)
# filesystem=rw,Workbench:PROGDIR:HardDisks/Workbench
# path to hardfile (replace with proper path if needed)
#hardfile=read-write,32,1,2,512,PROGDIR:workbench.hdf
# path to kickstart file (replace with proper path if needed)
kickstart_rom_file=PROGDIR:Roms/kick.rom
immediate_blits=no
cpu_type=68020
gfx_width=640
gfx_height=256
gfx_lores=no
gfx_linemode=none
gfx_center_horizontal=smart
gfx_center_vertical=smart
gfx_fullscreen_amiga=no
gfx_fullscreen_picasso=no
sound_bits=16
sound_channels=stereo
sound_frequency=44100
cpu_speed=max
chipset=aga
#gfx_vsync=false
fastmem_size=8
chipmem_size=4
z3mem_size=8
floppy_speed=0

# joy<n> where n is lowlevel unit in amigaos target. In SDL target it's be the enumeration order.
joyport0=mouse
joyport1=joy1

# overlay display
amiga.use_overlay=yes

# screen type (accepted values are:public, custom or ask)
amiga.screen_type=custom
```

Picture 4

First thing to modify is the "amiga.screen_type=" from custom to public. This operation is useful during Workbench installation so to have everything in the Ambient screen when you will select adf images because e-uae will open requesters here. Simplifying, when you are going to insert floppies e-uae will go from its screen to Ambient screen where the requester for adf images selection will be displayed. After your choice you will have to come back to e-uae screen manually (CMD+M) and though this is not a real demanding action it avoids distractions[2]. The other switches to modify are "gfx_height=", from 256 to 512, and "gfx_linemode=", from "none" to "double". This changes will result in a better window display really different to what picture 3 shows:

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[2] E-UAE G5 will come back automatically. The JIT version opens requesters directly on Amiga screen.
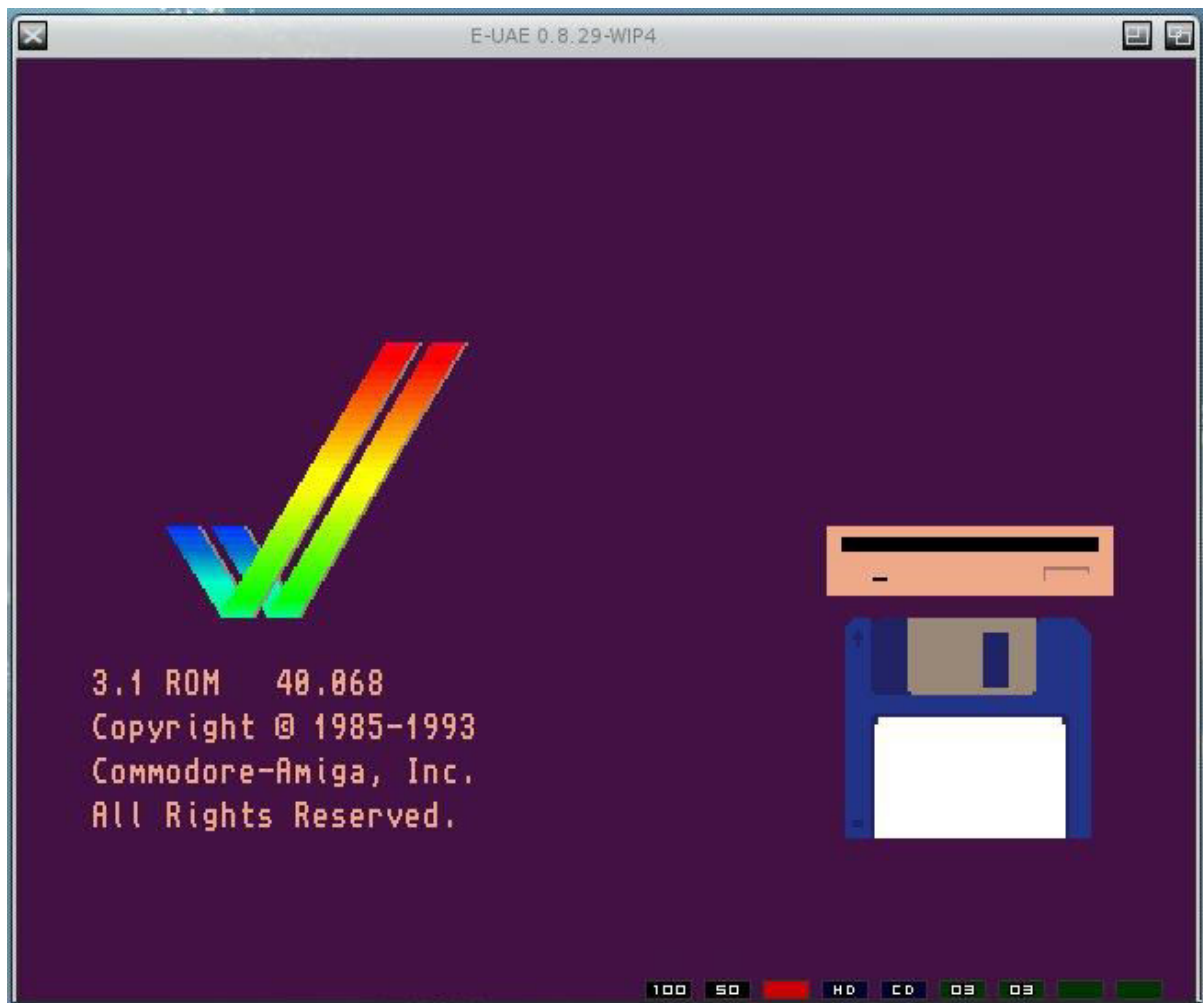
Picture 6

It looks better, I guess. I added another thing as you can notice in this picture: the leds. This because they will be useful to keep an eye on floppy disks activity. It can be done setting "show_leds=" to "true" and can be disabled later with its opposite, "false".

Now it's time to let e-uae know where it will find the hard disk partitions in which Workbench will be installed.

3 Creating hard disk partitions and setting them in uaerc.

According to the configuration.txt inside E-UAE Docs it is possible to emulate hard drive partitions and a full partitionable hard disk: the first is a virtual filesystem and the second is a raw image of a real Amiga hard disk or filesystem. It is possible to create the first directly in Ambient, inside a partition and using Ambient window menu, but it is not possible to do the same with the second.

Let's start from the first option: as seen in picture 2 we have *HardDisks* directory useful to create Amiga partition. A double click to open it and a right mouse click to pop up window menu. Select "New Directory" and call it Workbench, to store Amiga os, then repeat the procedure creating a new one and call it Games, to store your WHD games. As usual, choice

depends to your personal taste so feel free to use different names. Once you did it, you should have something like this:

Picture 7

Hard disk partitions for your virtual Amiga are ready and now it is necessary to tell they exist to E-UAE. This can be done via uaerc configuration file using this command:

filesystem2=<access>,<device>:<volume>:<path>,<bootpri>[3]

where <acces> to make volume writeable or not, <device> to specify the virtual Amiga device, <volume> the name of virtual Amiga device which will be displayed on Workbench screen, <path> the directory created previously where os will be installed, <bootpri> the boot priority of the virtual partition. In this case it will be:

filesystem2=rw,DH0:System:HardDisks/Workbench,1

Do the same with Games directory:
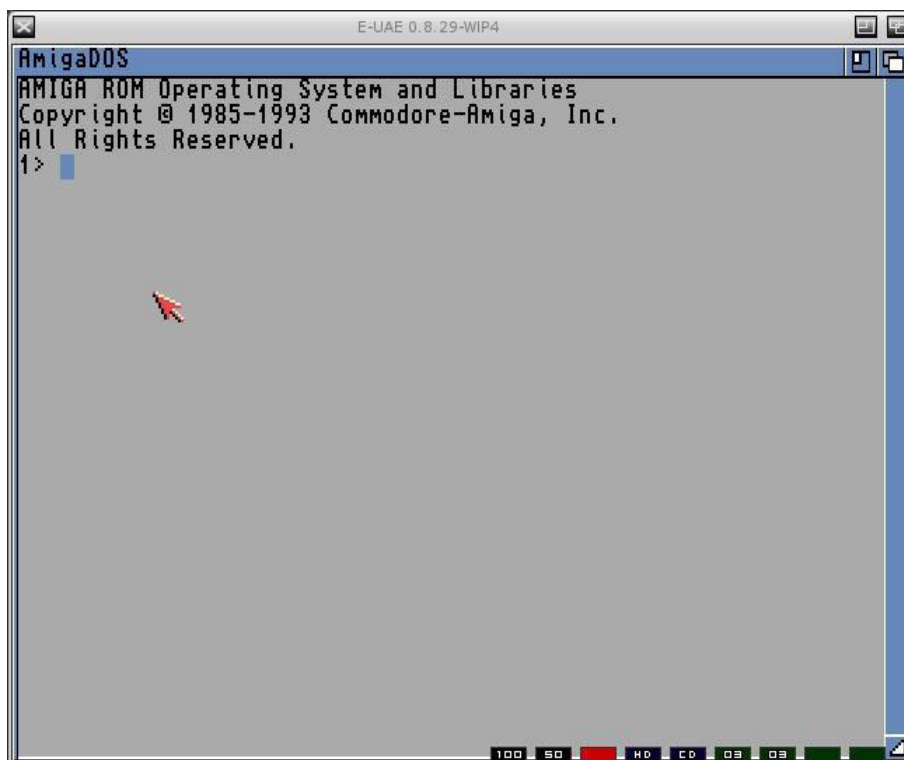
filesystem2=rw,DH1:Games:HardDisks/Games,0

So, you configure this:
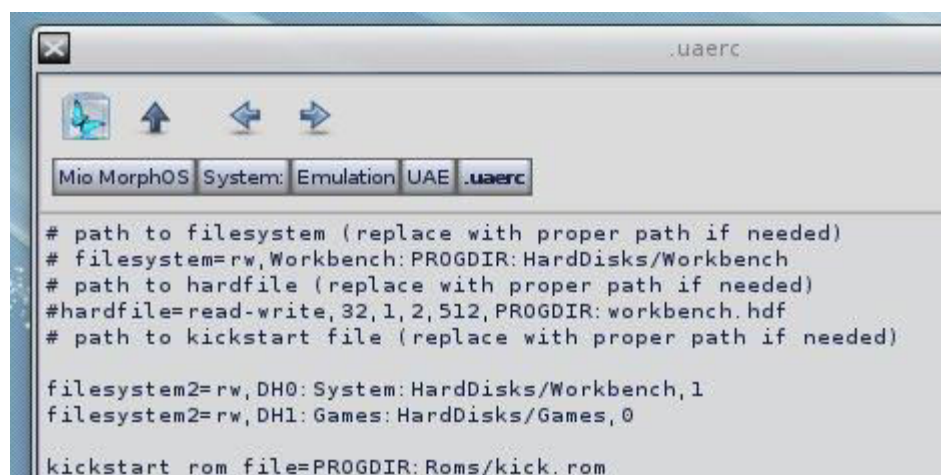
Picture 8

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[3] It's still possible to use old form to configure virtual hard disks. Read the configuration.txt file to learn more.

and launch E-UAE to have this:

Picture 9

So what now? This AmigaDOS window is normal since inside your virtual Amiga hard disk there is no os installed so nothing to load. The fact that AmigaDOS window appears is a good sign tell us that partitions are mounted without problems but to be sure it is possible to check if all went ok and E-UAE recognised partitions simply reading the report file when emulator starts. But if you assigned an icon to e-uae (see page 2) as I did the report window won't be displayed: simply open a Shell window and go in E-UAE directory with "sys:emulation/UAE" (use your path and names if they are different!) and launch emulator with a simple "e-uae" command. Inside the shell will be displayed some infos:
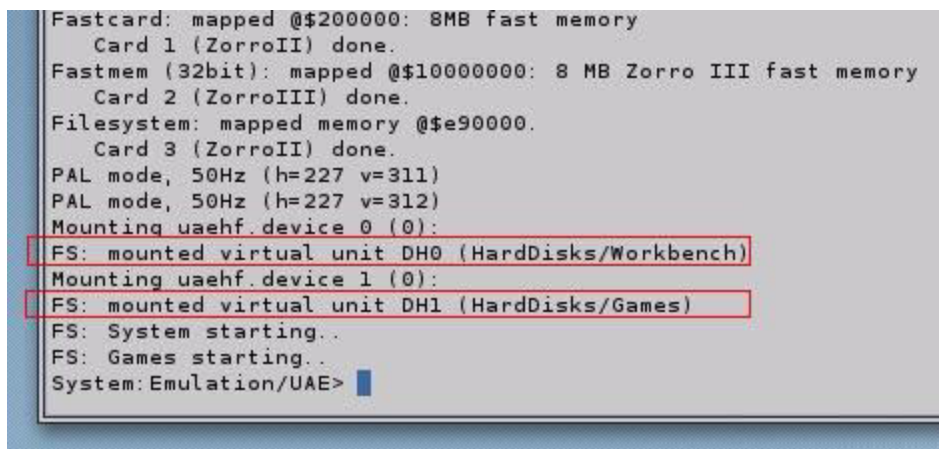
Picture 10

The red marked lines confirm us that virtual hard disk partitions are correctly mounted and ready to receive Amiga os. But let's see the second option before: the hardfile.

It's not possible to create a hdf file using MorphOS but it can be done with WinUAE . Since I would have pleased to do everything with MorphOS I did a search on the web and found this website http://scruss.com/blog/2010/02/07/amiga-blank-hdf-images/ where the author, which I thank really much, makes two hdf files avalaible to UAE users. One of them is 160 MB and the other is 80 MB. Download the one you prefer, extract and place it inside HardFiles directory (see picture 2). The only thing to do now is to let E-UAE recognize this file. Once again, we will modify uaerc file so to have hdf file recognizable by emulator. The command to set a hardfile is:
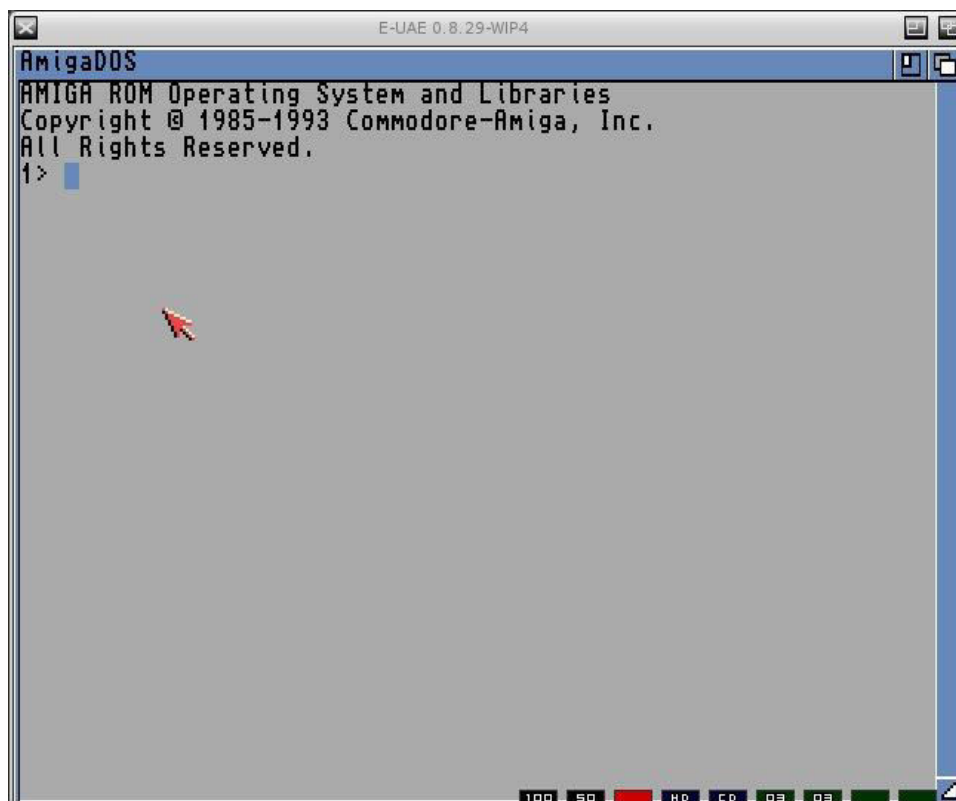
hardfile2=<access>,<device>:<path>,<sectors>,<surfaces>,<reserved>,<blocksize>,<bootpri>,<handler>

Options are almost the same for virtual hard disk except those which are specific to set hard disk geometry. So we have:

<access> for read-write or read-only, <device> for Amiga device, <path> location of your hdf file, <sectors> <surfaces> <reserved> <blocksize> to specify physical partition geometry, <bootpri> for hard disk priority, <handler> to specify a filesystem handler location if partition is formatted with filesystem that is not in kickstart. As you can see in picture 8 uaerc has a command for hardfile yet, with hard disk geometry ready so uncomment it and modify in:

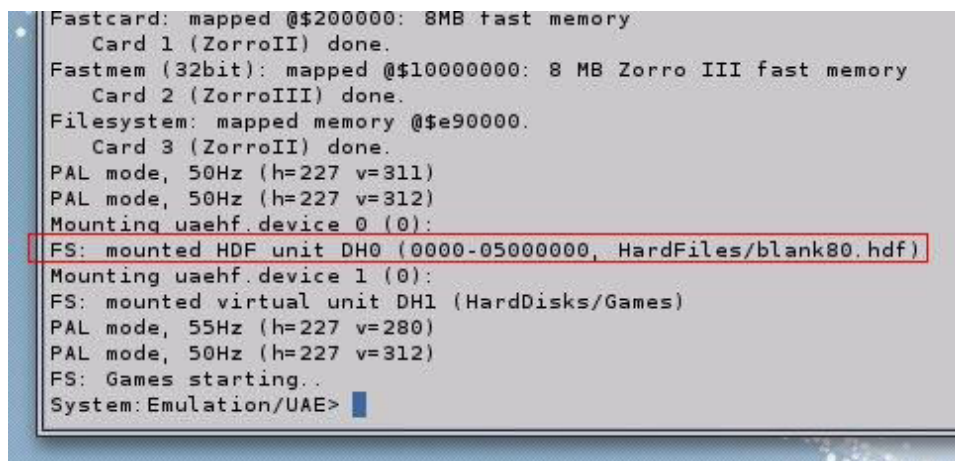hardfile2=rw,DH0:PROGDIR:HardFiles/HD160.hdf,32,1,2,512,1 [4]

Now launch E-UAE and you should see this:

Picture 11

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[4] You can even leave out PROGDIR. E-UAE will search in the right directory (HardFiles).

Once again only the AmigaDOS window will be displayed for the same reason that you have read before (no os inside hard disk) and once again you can check if all went well in the same way I described before:


```
Fastcard: mapped @$200000: 8MB fast memory
    Card 1 (ZorroII) done.
Fastmem (32bit): mapped @$10000000: 8 MB Zorro III fast memory
    Card 2 (ZorroIII) done.
Filesystem: mapped memory @$e90000.
    Card 3 (ZorroII) done.
PAL mode, 50Hz (h=227 v=311)
PAL mode, 50Hz (h=227 v=312)
Mounting uaehf.device 0 (0):
FS: mounted HDF unit DH0 (0000-05000000, HardFiles/blank80.hdf)
Mounting uaehf.device 1 (0):
FS: mounted virtual unit DH1 (HardDisks/Games)
PAL mode, 55Hz (h=227 v=280)
PAL mode, 50Hz (h=227 v=312)
FS: Games starting..
System:Emulation/UAE> █
```

Picture 12

The line marked in red confirm that the hdf partition is correctly mounted. Even the DH1 is mounted (see the second line after the marked one) but we had just verified this when checked virtual hard disk partitions (see picture 10). Note that hdf files and virtual partition can be used together provided that hdf is always placed before virtual disk command inside uaerc file. Hdf files access is faster than virtual partitions but having both has even other reasons we will see later.

4 Installing Workbench 3.1 into the hard disk.

The next step to complete a working Amiga machine with hard disk is to install the os, best known as Workbench[5]. I decided to choose the 3.1 version for a simple reason: since we are creating a virtual Amiga which will run WHDLoad games it is not necessary to have all the full gadgets of 3.5/3.9 versions. Once again you will need Amiga Forever cd which provides adf images of Workbench 3.1 or create them by yourself if you have the original floppies using a real Amiga machine and a dedicated program that can be found on Aminet. Procedure to install 3.1 is same both you are using virtual hard disk or hdf file.

Once you run E-UAE and AmigaDOS window will appear insert the first 3.1 floppy disk, the adf image of Install Disk, pressing CTRL+ALT+F1 and selecting the correct floppy. I suggest to put all the five floppy disks inside a dedicated directory or use the one inside E-UAE directory (see picture 2). Nothing seems to happen but floppy disk led blinking and this is ok.
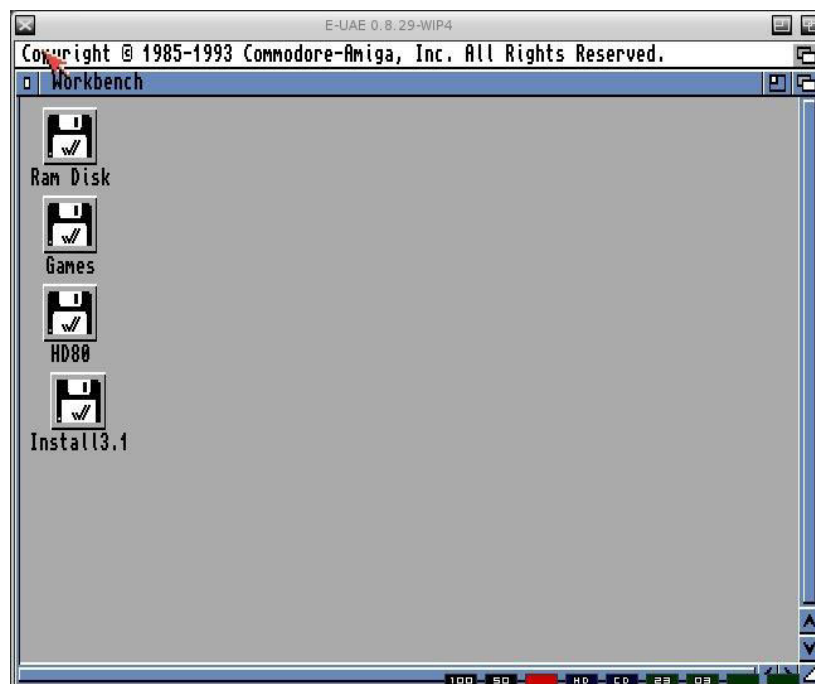
---

[5] For better explanation you can read here: http://en.wikipedia.org/wiki/AmigaOS.

Do a soft reset pressing CTRL+ALT+R. The screen will become black and DF0 will start to load until Workbench will be displayed:
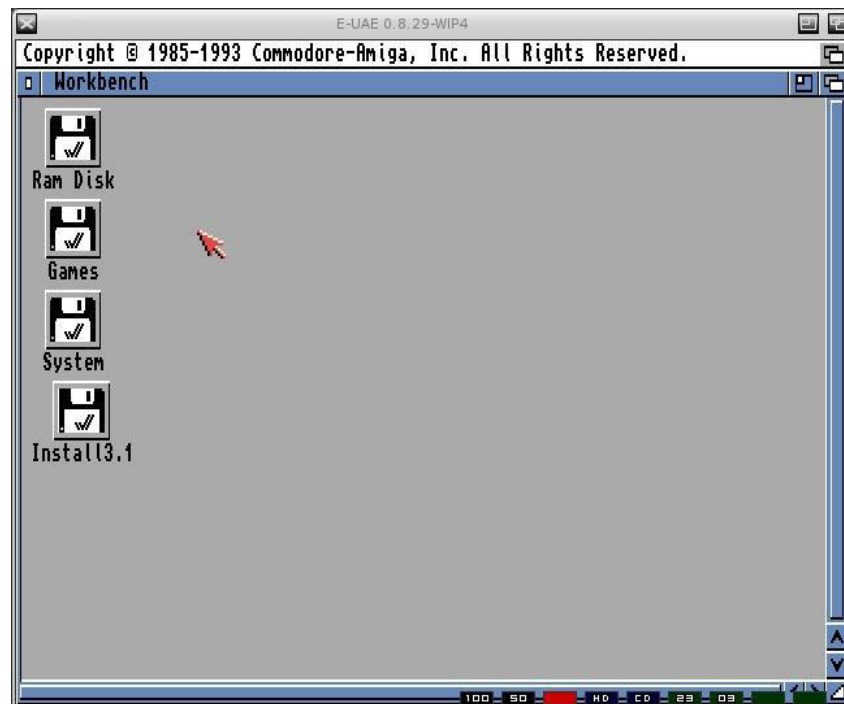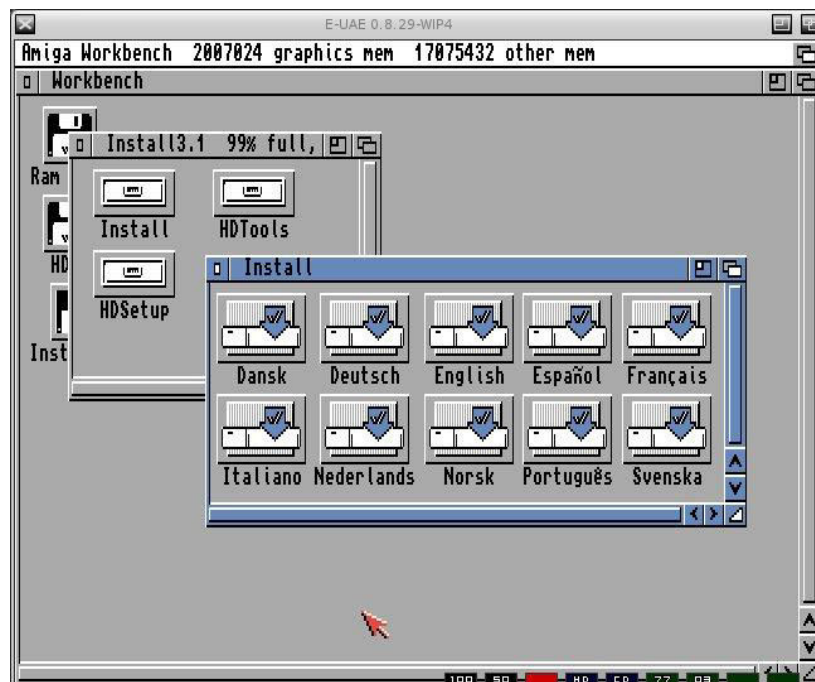

Picture 13

and this if you are using hdf file:

Picture 14

Finally we are seeing our hard disk partitions! Let's install Workbench 3.1[6]: double click on Install3.1 icon to open disk
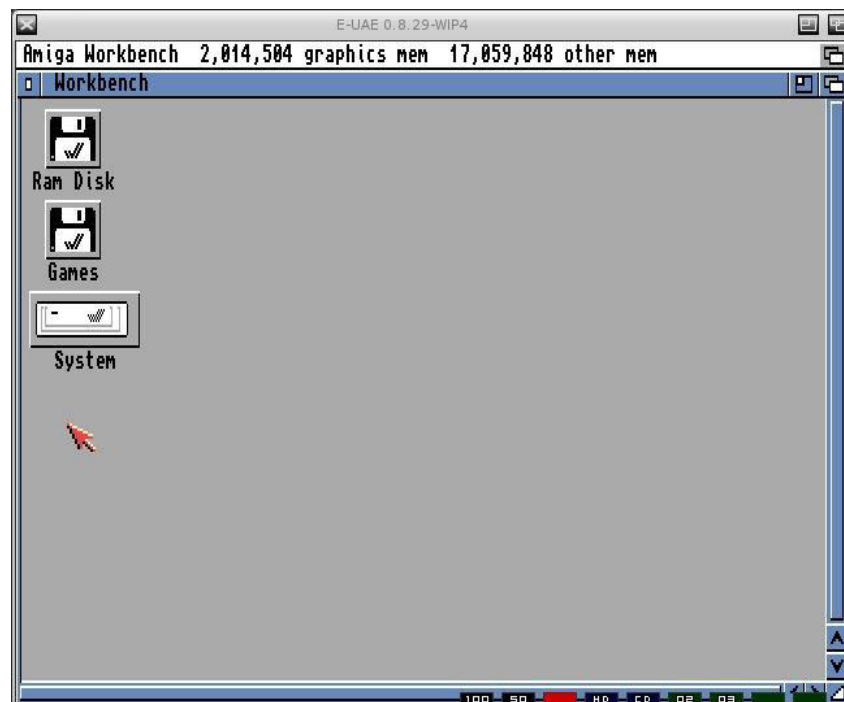

Picture 15

select your language and a requester will appear asking you to insert Locale floppy disk. To avoid a continuos disk swapping it is possible to use a second floppy unit (you can see the second green led with number inside: Df1 ready to be used) and so press CTRL+ALT+F2 to open a requester for DF1. Select Locale image and press Ok. You will see this:
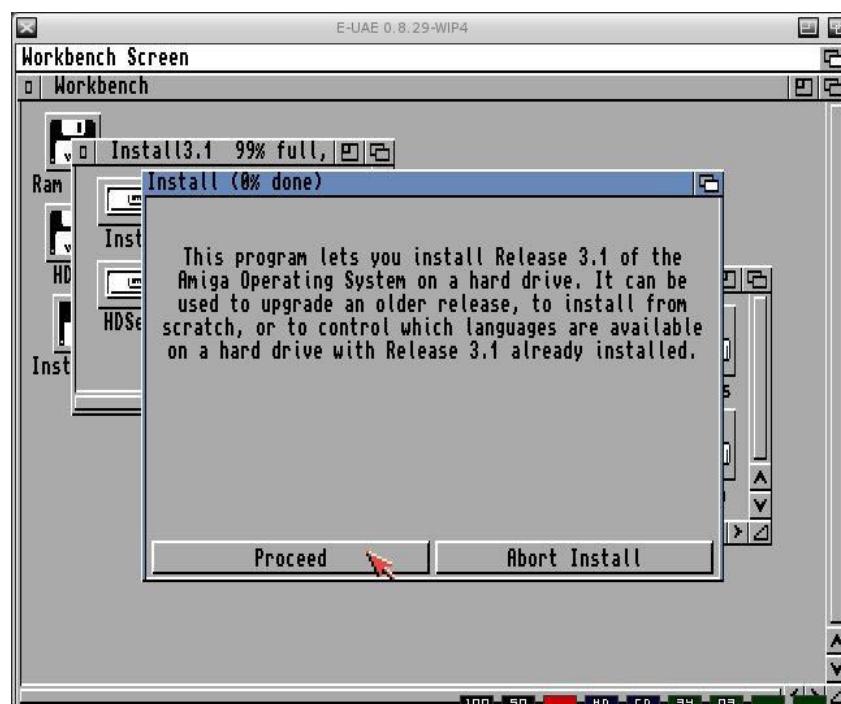
Picture 16

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[6] Though images are related to virtual hard disk, installation procedure is the same if you use hdf file.

Press "Proceed" button to install and follow it: you will be asked to insert the various floppies to store data on your hard disk. Once it will be finished you will have this:

Picture 17

Workbench 3.1 is now installed in your virtual Amiga hard disk.

# 5 Installing WHDLoad and WHDLoad games.

What is WHDLoad? WHDLoad[7] is a Amiga hardrive install package which allows a user to store programs on hard disk, program which kill the os like games, demos. This means you can store on your hard disk almost all the Amiga games and/or demos that could only be executed via floppy. WHDLoad is a must to play old Amiga games so let's install:

Picture 18

[7] There is a read me section really well done here.

Go to http://whdload.de website, download WHDLoad_usr_small.lha and expand archive in Ram Disk or wherever you prefer. This archive is really enough to use WHDLoad for launching games since it has all the necessary files to work. Open the directory and you will find:
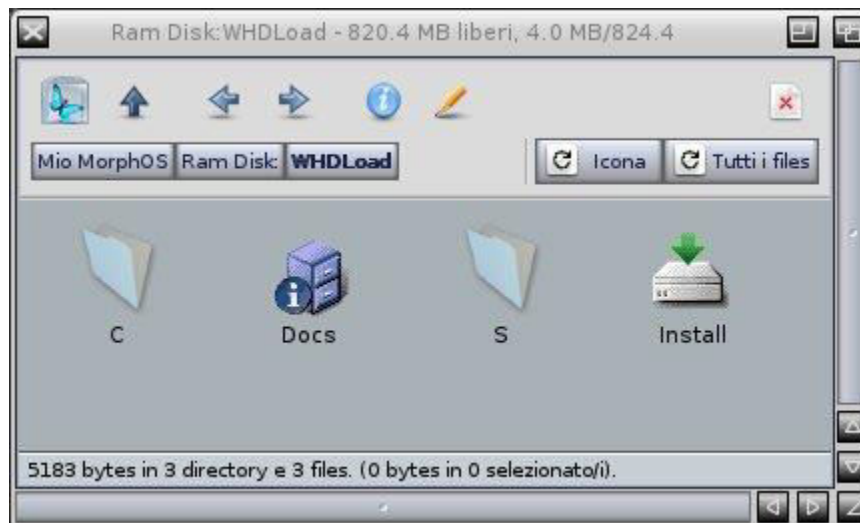
Picture 19

You have to install C and S content inside the corresponding directories you will find in your previously installed Workbench 3.1 and to do this you have to consider what kind of hard disk you have created before, the virtual or the hdf.

If you have used the virtual hard disk (see page 6, picture 7) you can simply open your Workbench dir, open the Workbench:C directory, drag & drop the files from WHDLoad:C to Workbench:C directory and repeat for S directory. That's all. You can even put all the WHDLoad directory inside your Workbench hard disk, run E-UAE and install it directly from Workbench screen using install icon
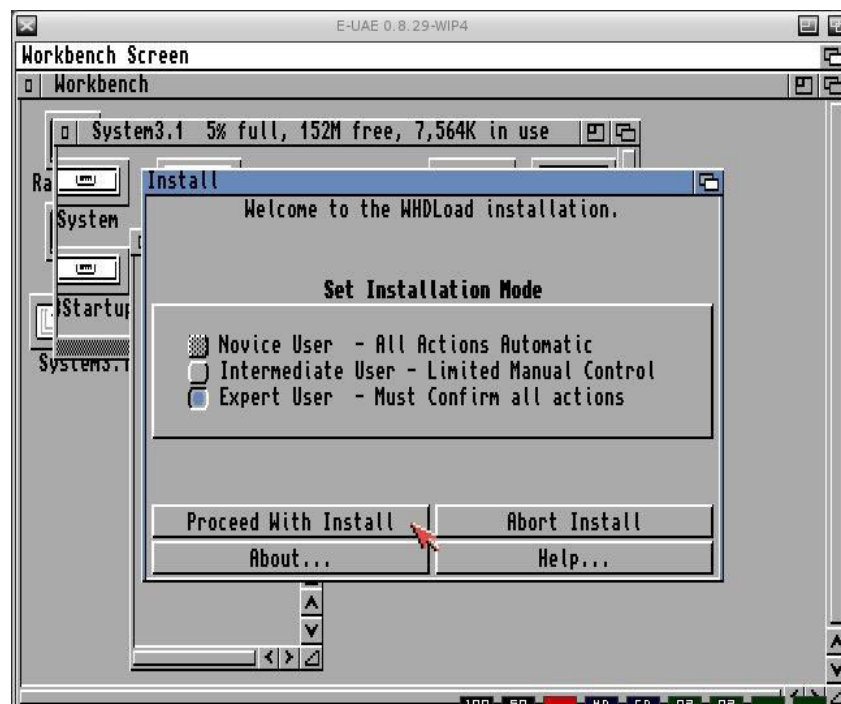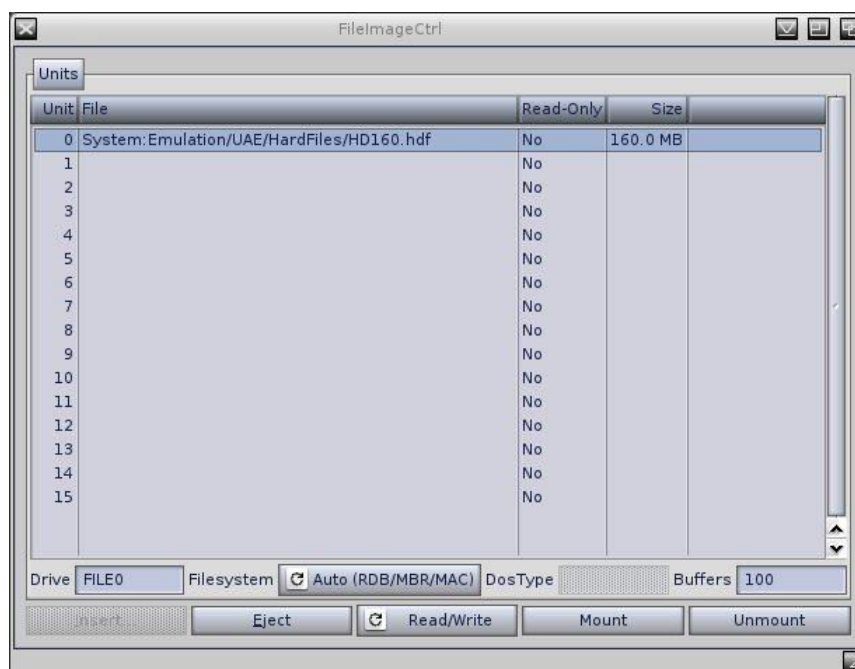

Picture 20

But download the installer before[8] and place it inside your Amiga Workbench installation otherwise you won't be able to do anything. You will find it here on Aminet:

http://aminet.net/package/util/misc/Installer-43_3.

If you have used hdf file instead, you have two methods to install WHDLoad files: you can put your WHDLoad directoy inside your virtual Amiga partitions "Game" (see picture 7), run E-UAE and once Workbench is ready operate in the same way as for the virtual disk installation. But we can operate in a different and more comfortable way too using MorphOS tools: FileImageCtrl and Mounter.

The first one allows user to mount disk images and since hdf is a hard disk image this can be done. Open your MorphOS System:Tools and run FileImageCtrl, select the first line, press Insert button and select your hdf Images in which there is Workbench 3.1 installed.

Warning: if you named the directory of Workbench 3.1 with "System" or with another name that matches exactly with your MorphOS system directory change it before you perform this operation because when you will mount your hdf file opening the System directory (assuming you named so) will result in showing Workbench directory content inside your MorphOS system directory. Renaming, copy or what else in this situation could be done inside your MorphOS directory and not in Workbench directory.

Picture 21

After you selected the hdf image (the one in the picture is the biggest I've used not the 80 MB) run Mounter (always in your System:Tools), select the listed fileimage.device and press Mount button

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[8] Yes, after Workbench 3.1 installation you have Install command inside C directory but not Installer.
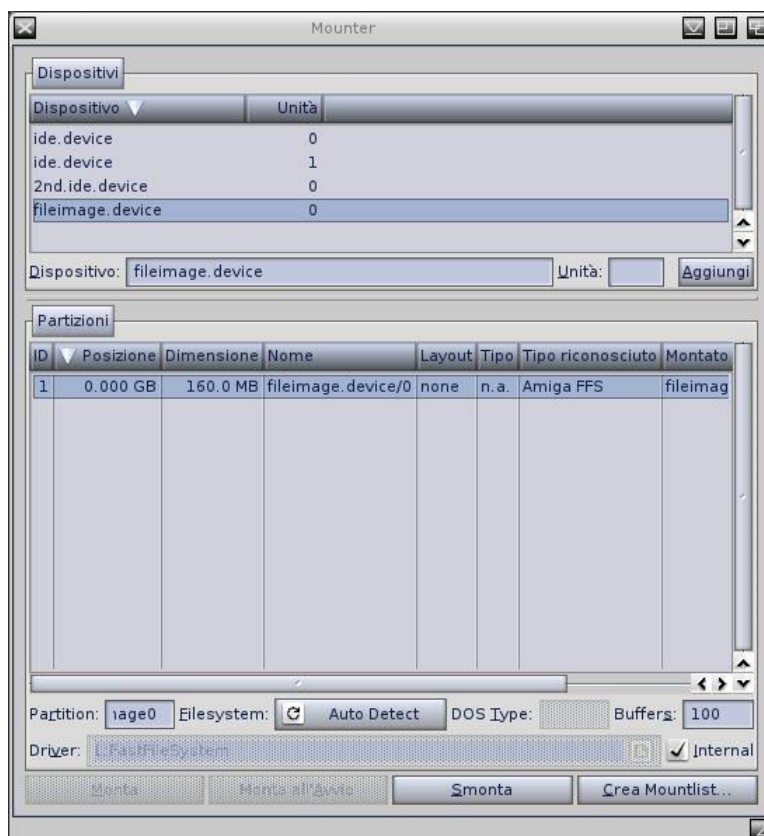
Picture 22

The Workbench 3.1 icon will be displayed on your Ambient screen ready to be normally used

Picture 23

Now you can install the WHDLoad files exactly in the way you have read for virtual hard disk installation. Your WHDLoad is installed but something else is necessary to make it work: requested kickstart image with a relocation file and obviously any game to play. The kickstart file is required by some installs[9] to have a complete AmigaOS environment and those kickstarts are images extracted from real Amigas. For more informations:

http://www.whdload.de/docs/en/need.html

and to download the file with needed kickstart:

http://www.aminet.net/pub/aminet/util/boot/skick346.lha.

Take care to put the appropiate kickstart image and matching relocated (rtb) files inside your Workbench:Devs/Kickstarts directory, the place where WHDLoad will search them. The files we need from the archive are "kick34005.a500" and "kick34005.a500.rtb"

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[9] Every WHDLoad directory has a ReadMe file explainig both if a kickemu is required and which one. Last versions of AmigaForever have several kickemu and relocated files.

As I wrote at page 13 WHDLoad allows you to store your floppy content inside hard disk. You can do this by yourself downloading the specific installer for your game or demo from WHDLoad website, provided that game you are going to install is original and not a copy[10]. You can enjoy yourself to perform this using a real Amiga machine to convert floppies in adf images and then install them with the dedicated installer but there is a faster way and it is to download WHDLoad games from this website:

http://www.whdownload.com

Select a game, extract zip archive and put the game directory inside your virtual hard disk you have previously created and named Games (see picture 7). Run E-UAE and open Games, open WHD game you have downloaded (in this example Xenon) and double click to its icon to run the game. Note that WHDLoad games can run flawless from a hdf hard disk image. It is possible to create a Game directory inside your hdf file and install there your games using the same procedure we saw before (read page 14). If your purpose is to run E-UAE and start WHDLoad games from Workbench this will work fine but if you will decide to use iGame interface to automatically start a game from Ambient this won't work. I will explain this later.

Double click to: open Games, to open WHDLoad game and to run it
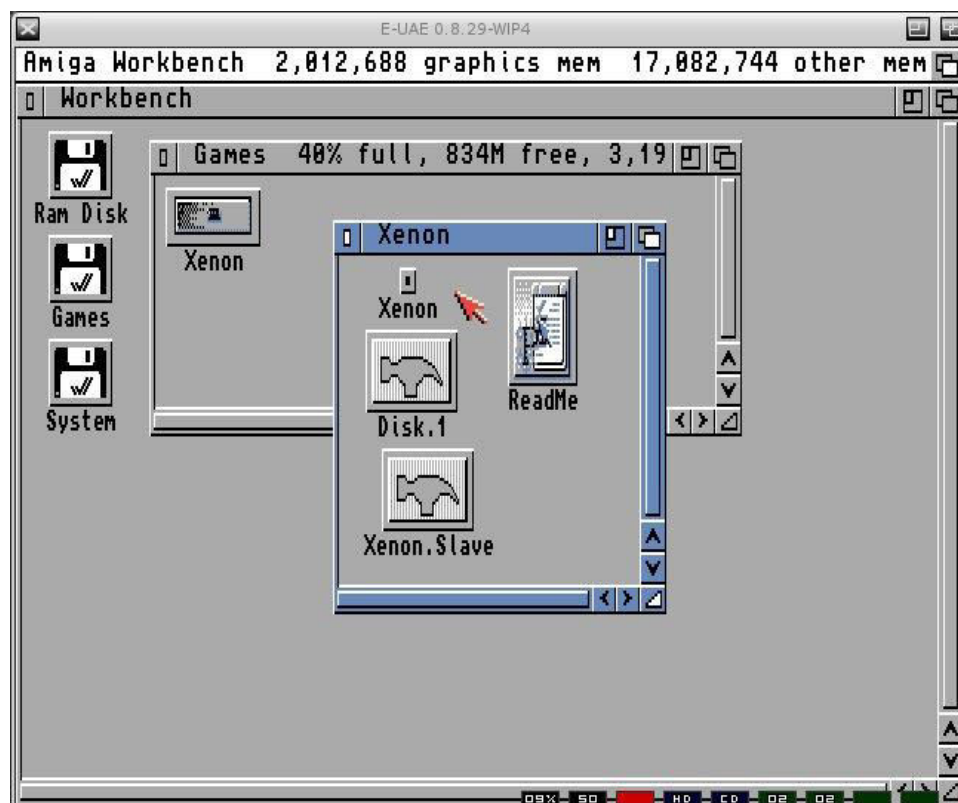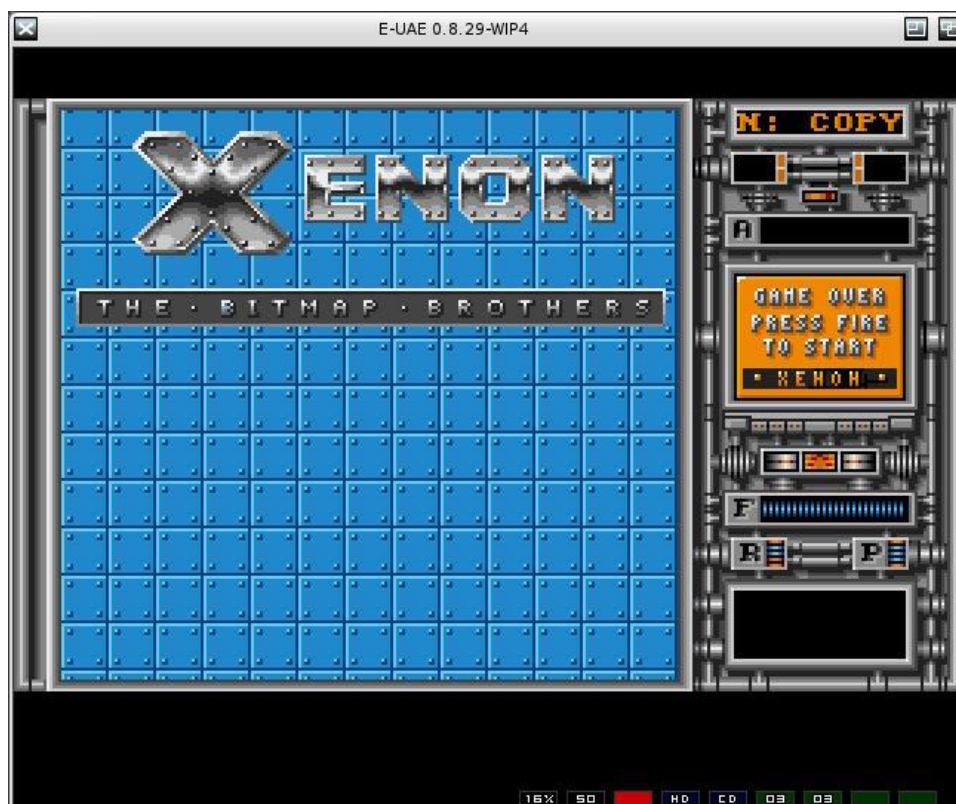

Picture 24

A message will advice you that the WHDLoad games is going to start. Since I have registered my WHDLoad the message is only one. Unregistered version will display two message (one about reason why to make a registration and one about game)

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[10] WHDLoad will perform creation of the game for hd but attempting to start it will fail with an error warning.
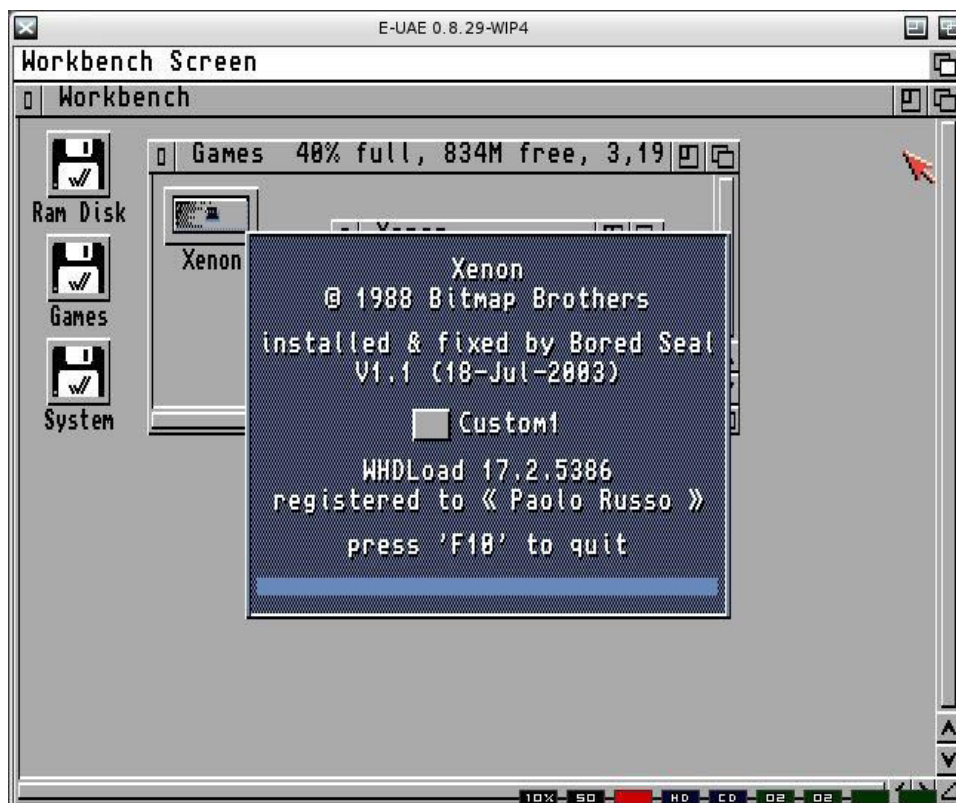
Picture 25

Game started!

Picture 26

You have finished to install WHDLoad!

If you want to play a game with keyboard I suggest you to modify another command inside uaerc file, the "joyport<n>=".

There are two: one for the port 0 and one for the port 1. The first is set to recognize the mouse and the second for joy 1 but it is possible to set it for keyboard use.

 Don't change port 0 and modify port 1 with: "joyport1=kbd1", you will be able to use numeric keypad (4-6-8-2 to move, 5 to fire); "joyport1=kbd2" for arrow keys to move and right ALT or CTRL to fire; "joyport1=kbd3" for F (left) H (right) T (up) B (down) and left ALT to fire.

Of course, it is possible to use a usb joypad to play Amiga games via Poseidon and in this case, joyport1 must be set to joy1.

6 Launching WHDLoad games from Ambient.

It is possible to run a WHDLoad game directly from Ambient? Yes and it can be done in two different ways: using a MUI based launcher called iGame or setting Ambient mime to use an arexx script. Both are not so difficult to set as long as you pay attention while typing names, paths and all is necessary to make them work.

Let's see how but keep in mind a mandatory rule for both: it's not possible to use hardfiles to store WHDLoad games. **They do need virtual hard disk to work!**[11]

Another element that is mandatory is uae_rcli, a remote CLI necessary to receive commands. Both iGame and uaeexe.rexx use it to launch WHD games. It can be found inside Amiga directory (see picture 2) and it must be placed in C directory inside your installed Workbench 3.1.

Next step is to modify the Workbench:S/Startup sequence due to add a line to call uae_rcli: after the line "C:LoadWB", write "Run >nil: C:uae_rcli" and save. All is ready to configure the whole thing.

iGame is a frontend to launch WHDLoad games written by Emmanuel Vasilakis and is downloadable here: http://aminet.net/package/util/misc/iGame and its best use is performed joining it with a wrapper which allows to start WHD games directly with a click. This wrapper is called UAELoad and it's been released by Philippe Rimauro you can download here: http://aminet.net/package/misc/emu/UAELoad .

Extract the archive wherever you want (I've chosen my Emulation directory) and double click to launch it.

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[11] See chapter 3, page 6 for how to.

Picture 27

This simple frontend must be configured so it can display a list of games to play on the left. In the right side there are genres and clicking on one of those you will see only the games included in that genre. This is configurable too. Now we must say iGame where to search the games. It is important that your games directory is a virtual hard disk that is mounted when E-UAE starts (see pictures 7 and 10) or iGame will stands there useless. Select "Games Repositories..." voice in the iGame menu:
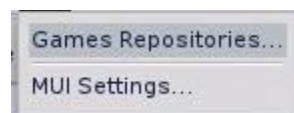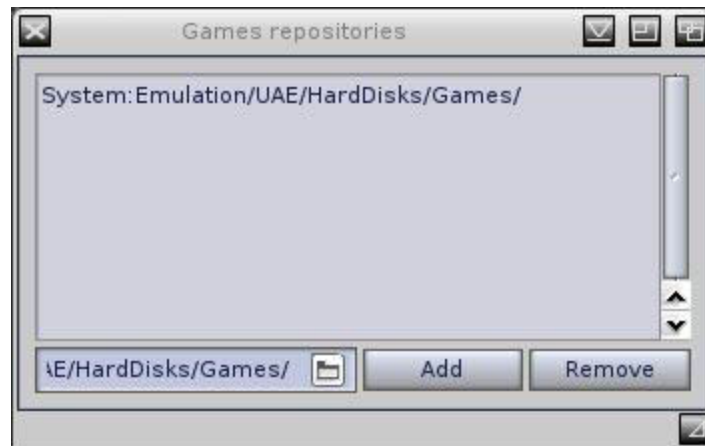

Picture 28

a window will be displayed:

Picture 30

Click on the little folder image to select your WHDLoad games directory and once you did click on "Add" button to confirm it. As at page 6, if you have created a Games dir inside your Sys:Emulation/UAE/HardDisks directory this is final result:

Picture 31

iGame will automatically create a file inside its directory called "repos.prefs" to store your games directory. Now to list the games open this menu:
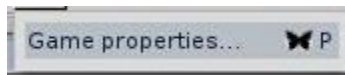

Picture 32

and select "Scan repositories". This operation must be done only one time and repeated if you add or remove games. Once you have done you will have a list of games:

Picture 33

For each game is possible to edit its properties using the apposite menu voice:

Picture 34

This includes name of the game, genre, favorite or not, hidden or not. Window will show how many time did you played that game, its complete path and the name of the slave associated to that game. Now we are going to use the wrapper to double click on a game listed and play it with E-UAE.

Once you will have extracted the UAELoad (Ram disk will be ok as we will copy files inside Sys), open its directory and inside you will find three other directories: C, with the WHDLoad command to launch games from Ambient; env, with UAELoad.cfg file in which we will store necessary E-UAE informations; Bonus, with two configuration files and a lite Startup-Sequence. Copy the WHDLoad file from UAELoad:C to System:C. This command will call E-UAE passing it complete path and game to play. To make this possible open UAELoad:env directory, right mouse on UAELoad.cfg to open file menu and select "Open with..." selecting MOSSYS:C/Ed with the requester. Then modify:

- uaexe = <the full path to your E-UAE executable> (mandatory)

- uaecfg = <the full path to the E-UAE configuration file you want to use> (mandatory)

and ignore the rest. Save the file in your System:Prefs/Env-Archive and inside Ram Disk:ENV (to immediately check if everything work without reboot system). The config files are not really necessary since you have your uaerc file telling E-UAE where are your virtual hard disks (see picture 10) and even the Startup-Sequence light which is identical to that inside your Workbench installation. Time to test: double click on a game in the list and game should run.

Warning: don't use PROGDIR to set the complete path of your hard disks! While this works with normal E-UAE launch it will fail for iGame. So if you are using virtual hard disk "filesystem2=" you have to write:

filesystem2=rw,DH0:Workbench:System:Emulation/UAE/HardDisks/Workbench,1 [12]

filesystem2=rw,DH1:Games:System:Emulation/UAE/HardDisks/Games,0

This sintax is accepted too:

filesystem2=rw,DH0:Workbench:HardDisks/Workbench,1

filesystem2=rw,DH1:Games:HardDisks/Games,0

If you created virtual hard disks with old "filesystem=" then use:

filesystem=rw,Workbench:System:Emulation/UAE/HardDisks/Workbench

filesystem=rw,Games:System:Emulation/UAE/HardDisks/Games

or:

filesystem=rw,Workbench:HardDisks/Workbench

filesystem=rw,Games:HardDisks/Games

---

[12] Remember hard disk priority! Partition with booting system must have the higher one.

If you created a Workbench installation inside a hardfile iGame will work the same provided you use a virtual hard disk configured with "filesystem2=". So the four lines above would be:

hardfile2=rw,DH0:HardFiles/<your name of file>.hdf,32,1,2,512,1

filesystem2=rw,DH1:Games:System:Emulation/UAE/HardDisks/Games,0

or:

hardfile2=rw,DH0:HardFiles/<your name of file>.hdf,32,1,2,512,1

filesystem2=rw,DH1:Games:HardDisks/Games,0

If something goes wrong and iGame shouldn't be able to find the game directory, which has the slaves inside, check again if games repository path you set is the same in which you have your WHDLoad games or launcher will try to run a game it doesn't find and you will receive this error message:

Picture 35

iGame has another interesting feature: as you can see in picture 32 it is able to include non-whdload games in its list becoming a frontend for almost every game you have on your hard disk. Now let's see how to start a WHDLoad game directly from Ambient using contextual menu.

As you can see in picture 2 inside E-UAE directory there is a folder named Bonus. Inside this you will find other directories with different files inside: two mime type files, two arexx scripts files and a read me file. Open Ambient/filetypes/internal and you will find a mime file[13] "x-morphos-globalaction-file"
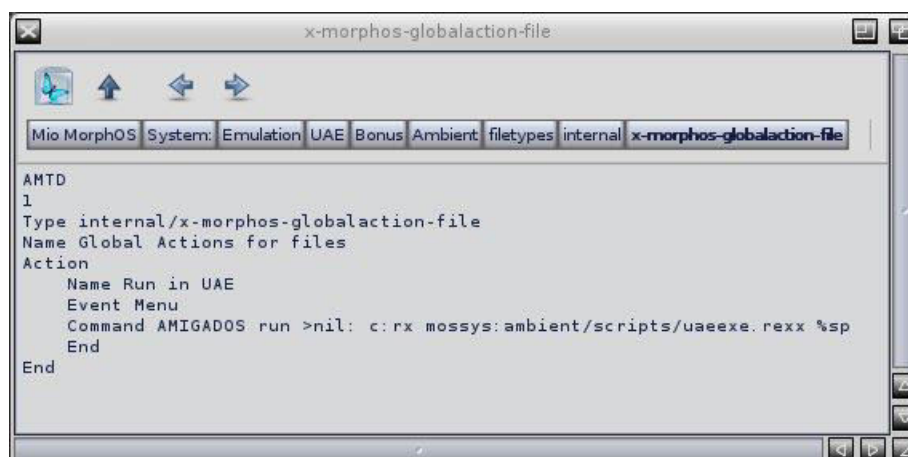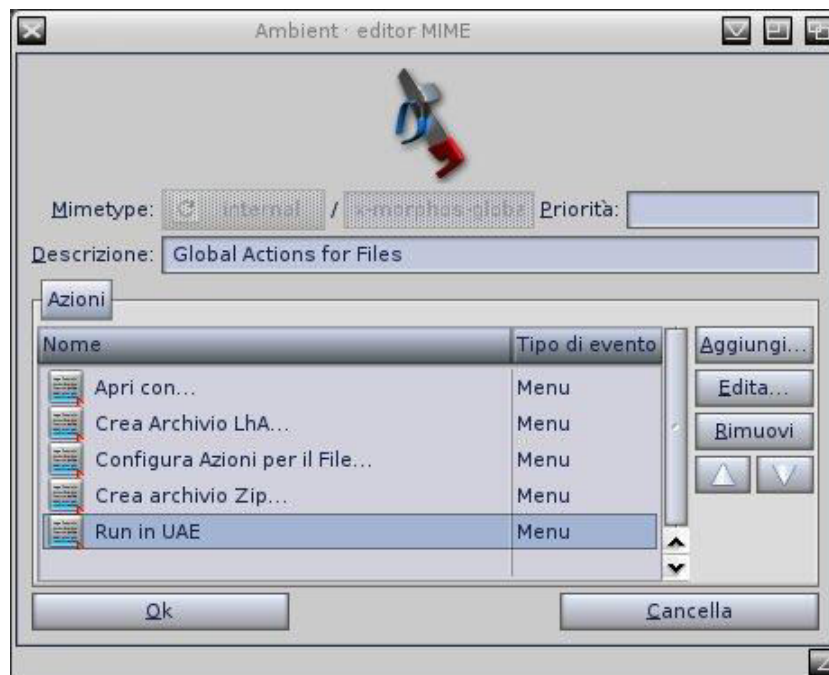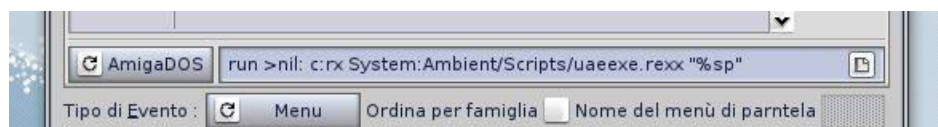

Picture 36

---

13 To learn more about mime:
http://library.morphzone.info/JPV%27s_MorphOS_2_Review or http://www.meta-morphos.org/faq.php?id_cat=4&myfaq=yes&categories=Ambient#22

This file will configure Ambient pop up menu so you will be able to click right mouse button over a WHDLoad game, select a new added voice, Run in UAE, and start the game straight from Ambient. You have to copy this file inside your System:Prefs/Ambient/filetypes/internal to add a new voice inside Ambient Settings:Mime/x-morphos-globalaction-file
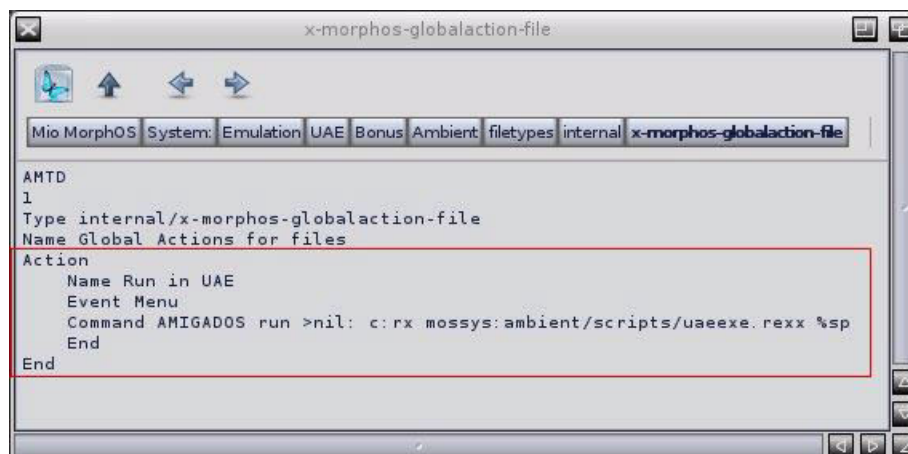

Picture 37

and double clicking on Run in UAE or clicking Edit button once selected you will see this:

Picture 38

If you already have a x-morphos-globalaction-file inside your directory you onloy have to add this part to your existing file:

Picture 39

Once again Mosys:C/Ed will do the simple copy and paste work and when done pay attention to another thing: in picture 38 the suffix %sp is inside reversed commas, in picture 36 and 39 (a script grab image) is not. **This is mandatory: use reversed commas** or the arexx script we are going to see won't be able to launch the game at all.

To make the work complete we will even need of two libraries: parm.library and wbstartup.library (see Obligement tutorial, link at note 15, page 25). You will find them on Aminet: http://aminet.net/util/wb/ParM_V6.02.lha and http://aminet.net/util/libs/WBStart.lha. You have to put only the libraries inside your Workbench:Libs installation.

As I previously wrote there is a Bonus directory with two arexx script released by Fabien Coeurjoly, MorphOS developer and E-UAE porting author. One of this two scripts is uae.rexx and allows to automatically assign all adf floppies of a game to emulator mounted floppy drives (see read me for more infos). The other is uaeexe.rexx and allows to run applications inside E-UAE directly from Ambient with the above mentioned command inside mime. This give us the chance to run a WHDLoad game using the Ambient menu.

Rules for this arexx script are more strict than those used for iGame settings (see page 18 and following) and are:

- it's not possible to use virtual hard disk with "filesystem2=". Only "filesystem=" will work with the script. As I wrote previously, no hdf file;
- your Ambient directory in which you have stored E-UAE must be specified in a complete form in the configuration file and must report no PROGDIR inside path;
- avoid use of DHx to specify your Ambient volume for the same reason you have read above;
- WHDLoad games must be placed exclusively inside your installed Workbench directory or the script won't be able to execute the command (run the game).

If you take a look to the E-UAE read me you will notice the emulator can be started via CLI[14] and this is exactly what the uaeexe.arexx script does: it takes some data you have to configure inside the arexx script and it uses them to execute the "e-uae -f <uaeconfig>" command. Let's edit uaeexe.arexx file[15].

Open uaeexe.arexx file with Mossys:C/Ed and take a look to the first lines of the script. You will notice a commented line, /* configure these */, followed by five lines in which must be set the necessary arguments that will be used by arexx script. Starting from the upper line we have:

- uaeport = "UAE" as you can read in the comment don't touch this;
- uaedir = "your complete directory in which you placed E-UAE". Following our example, we will have: "System/Emulation/UAE/". Don't forget (or erase) inverted commas;
- uaepath = "your complete E-UAE path pointing to executable". Then: "System/Emulation/UAE/uae";
- uaeconfig = "your complete path pointing to configuration file". Then: "System:Emulation/UAE/Conf/WB.conf".
- uaestarttime = "seconds before WHDLoad game starts". It's been set to 15 but it can be modified. Don't go under 10/12 seconds or game won't start.

[14] Inside E-UAE Docs directory there is cmd-line.txt file with all command line options.
[15] THere is an excellent guide (in french) on Obligement website: http://obligement.free.fr/articles/integrer_euae_ambient.php

Once you have finished save the modified script.

As you can see in pictures 36, 38 and 39 the complete path of mime script is Mossys:Ambient/Scripts/uaeexe.rexx "%sp" but this is not mandatory and you can place the arexx script wherever you want provided that you change the right path inside your mime script, editing it or using Ambient Settings/MIME.

For example, I've created a directory called Ambient inside my System directory and a subdirectory called Scripts in which I've stored the uaeexe.rexx script.

This is useful when you will upgrade your MorphOS installation because Mossys files will be backed up and stored on your hard disk with the uaeexe.arexx script but you won't find the script in the upgraded Mossys:Ambient/Script anymore. Not a big problem since you can move it or copy it but this will avoid you to take care of this in future system upgrade and still have your Ambient menu:
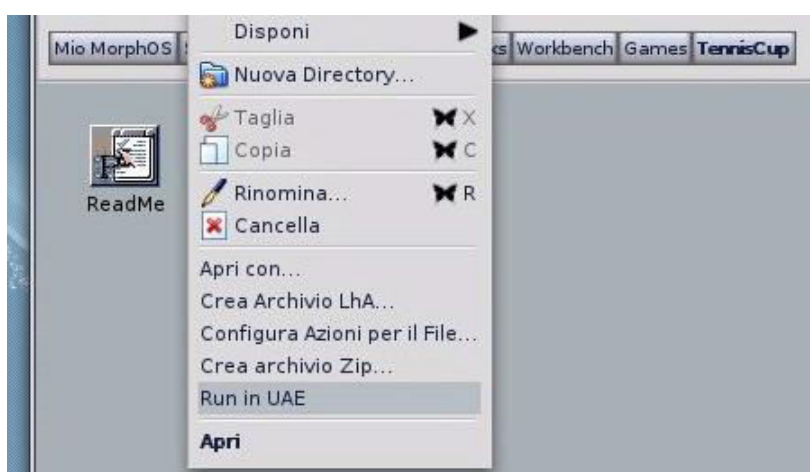
Picture 40

As seen above uaeexe.arexx script needs the configuration file to work and the example is "System/Emulation/UAE/Conf/WB.conf". It works even if you use .uaerc file (read page 3 and following) but I suggest to use the file inside Conf directory because nothing prevents you to use both iGame launcher and Run in UAE inside Ambient menu.

But while uaerc file could be used for normal E-UAE launch, for iGame and for rhLaunch[16] (and maybe you want to modify it sometime providing you do it properly), the configuration file used by uaeexe.arexx script must be untouched.

It is possible to create different configuration files so to start different Amigas for different purposes (rhLaunch allows to use different configuration files and select them) or use only the WB.conf file for all (maybe renaming it if necessary). So, according to which Amiga you want to emulate you can let your fantasy lead you with configuration files.

You have finished your work and now it's time to play some good old games!

---

[16] rhLaunch is Rupert "NatMeg" Hausberger GUI launcher well configurable. It is basically adf oriented and can be downloaded here:
http://www.219.dic.at/pid=detail&cat=software&type=projects&id=983d154c&img=1&text=r
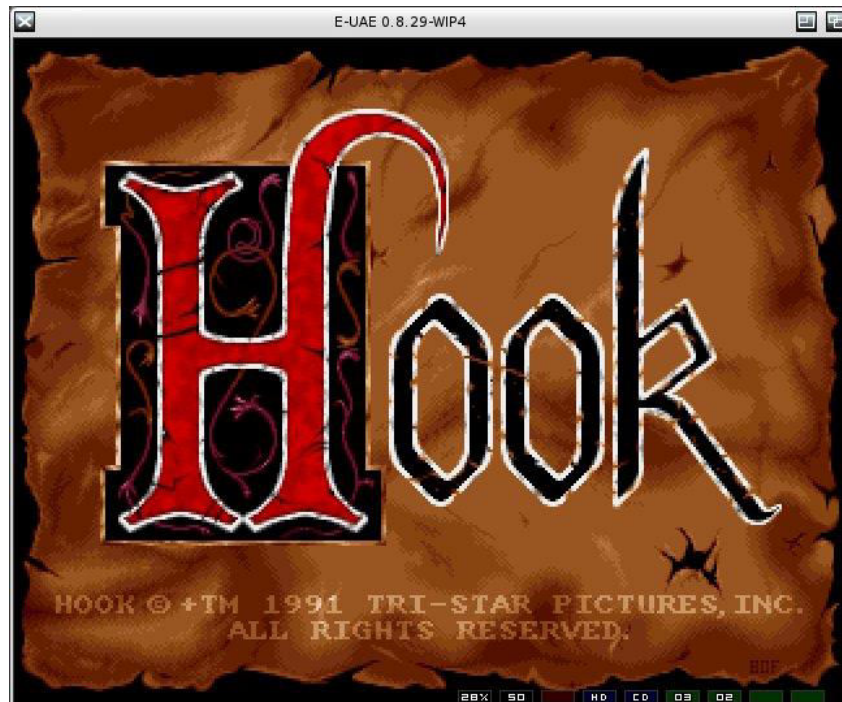
Picture 41

Well, not really finished...

There is something more that it is possible to do: create a very minimal Workbench installation to launch WHDLoad games without loading the os.

7 The basic: a minimal Workbench installation.

Surfing and googling here and there on the internet I've found an interesting article on English Amiga Board in which some users were discussing if was possible to start a WHDLoad game without Workbench.

My interest reached the top when one of the user answered "Yes" and explained that he used to make some WHDLoad adfs to run games which fit on one floppy, using compression[17].

Fascinating. I decided to try using Workbench 3.1 previously installed on the hard disk and see if this would have worked.

According to what I have read on that thread I would have only needed of three directories, few commands and some compressors libraries.

This part seemed not that useful for my purpose as I was going to try this on my hard disk and compression would have been useless.

So, after some tests, I've decided to use:

---

[17] You can read the discussion here: http://eab.abime.net/showthread.php?t=25880&styleid=1

- S:
  - WHDLoad.prefs
  - Startup-Sequence
  - WHDLoad.key (if you have one)
- C:
  - Assign
  - Execute
  - MakeDir
  - uae_rcli
  - WBRun
  - WHDLoad
  - WHDLoadCD32
- Devs:
  - Keymaps directory (not strictly necessary)
  - Kickstarts directory (with kickemu file, see page 16)
- Libs: (used only by "Run in UAE")
  - commodities.library
  - parm.library
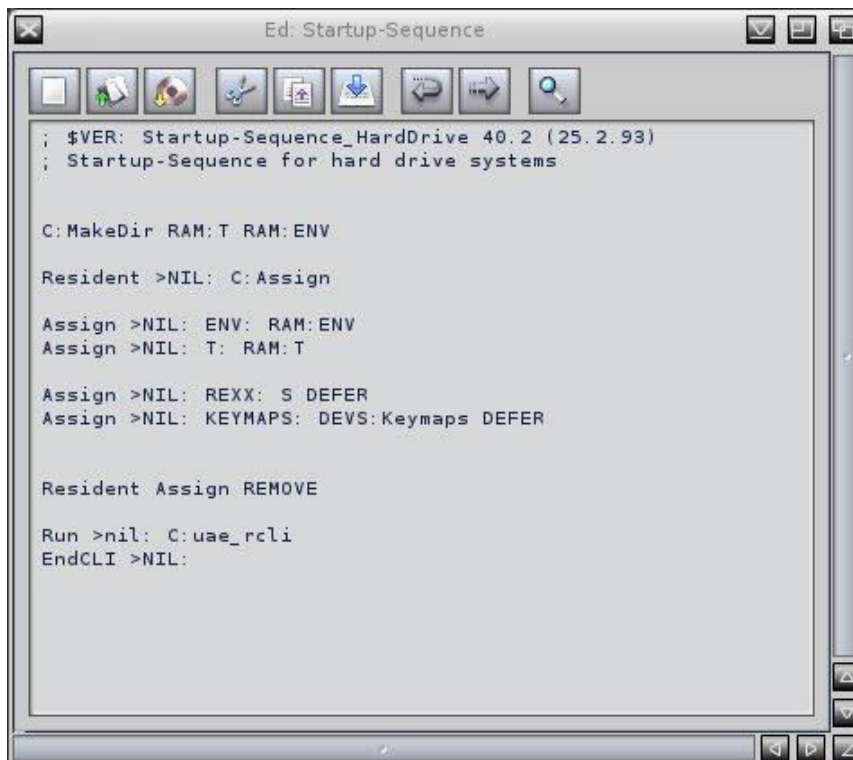- Games:
  - WHDLoad games
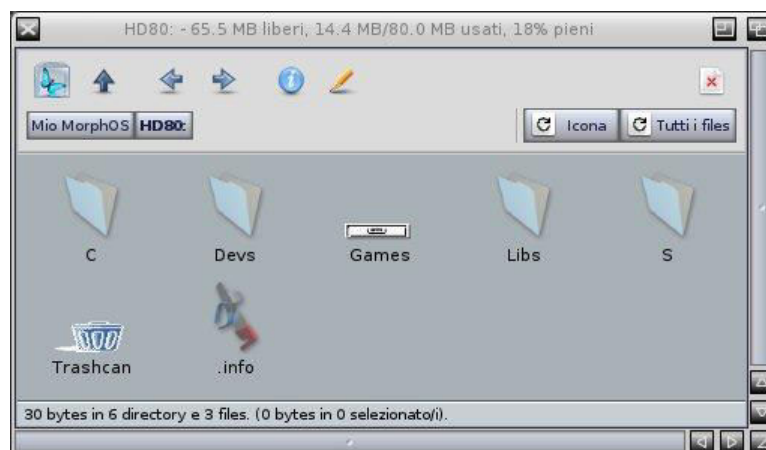
Picture 42

This reduced Workbench installation works with both virtual hard disk and hdf file if you are going to use iGame launcher.

For "Run in UAE" Ambient menu command the rule is the same we have seen at page 24: only virtual hard disk will work (picture shows a hdf installation for example purpose).

So mounting the Workbench 3.1 adf files (see pages 14 and 15, pictures 21 and 22 for how to) you can drag and drop or copy necessary files in your Workbench virtual hard disk or hardfile, providing that this one is mounted too (using the same procedure).

After you stored the necessary files you must modify the Startup-Sequence since you will need few lines to make all working flawless:

Picture 43

Simple, small and compact and the most important it works!
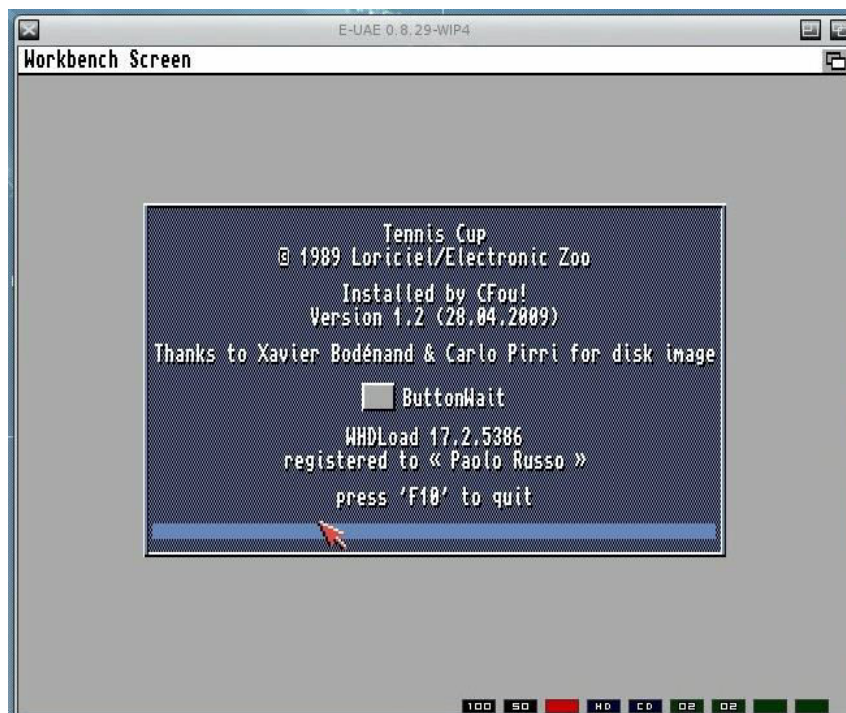
Picture 44

In this way you will start only WHDLoad games and no Workbench will be run. If you take a look at page 21 and page 25 you will see some parameters settings for iGame (better: for

UAELoad wrapper) and uaeexe.rexx. Both of them include time amount[18] to set before the game will start. I have tested a little and I decided for a value of 10 seconds since this is a safe time for E-UAE to start emulation and reduced Workbench and to avoid error messages. Lower values will fail and to be more precise iGame fails at 5 seconds and works with 6 while uaeexe.rexx fails at 9 and works with 10. Remember that I'm using a G5 at 2.7 Ghz which is really fast so feel free to try and use a value that gives you the best result according to your machine.

8 Conclusion.

This guide ends here. Now you have all you need to create a working Amiga emulator running on MorphOS without problems. Obviously the purpose was to create not a fully documented and technical guide but a practical one with the simplest and easiest method to allow everyone to perform this operation with a particular attention to the beginners. This is the reason why I used the simplest words I have found, as much picture as I could, simplest procedure to copy, paste, edit files (that can be performed via CLI too) and obviously pointing straight to the goal: play Amiga games with WHDLoad.

It's possible to use E-UAE emulator for other purposes too and completely emulate an Amiga machine for a lot of other things including simple nostalgia and it is even possible to run old Amiga games using ADF images instead of WHDLoad: rhLaunch (see page 26, note 16) could be the best choice. The same procedure used to create an Ambient menu to launch WHDLoad games can be applied to adf files too (page 25, note 15).

If I can suggest another thing after you succeeded with your E-UAE installation and configuration and once you did the same with iGame and Run in UAE, edit the uaerc file (for iGame) and WB.conf file (for uaeexe.rexx) and modify those:

- show_leds=true to show_led=false, so to eliminate leds unless you like to have them;
- amiga.screen_type=public to amiga.screen_type=custom, so to open the Amiga screen in its own screen and play fullscreen.

Those commands were modified (see pages 4 and 5) to perform various installations using the Ambient screen to take everything under control. As always, let your personal flavour guides you.

Another important thing is: always read the Read Me! A lot of useful informations are inside this docs waiting for you to read them. So do the same with this guide: read all before you start and then follow it step by step.

Enjoy!

---

[18] For iGame this value is taken from Ram:ENV/UAELoad.cfg and is labeled "timeout =". If you modify it don't forget to do the same in Sys:Prefs/Env-Archive/UAELoad.cfg file.

This guide was written by Paolo Russo (Jambalah) using a PowerMac G5 dual 2.7

with MorphOS operating system installed. and mainly two instruments:

Odyssey Web Browser by Fabien Coeurjoly and Word Online by Microsoft®.

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Thanks goes to:

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This work is dedicate to the memory of my beloved brother.

May he rest in peace.

So long...