Default

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REVISION HISTORY

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Chapter 1

Default

1.1 ADoom 0.6

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-= ADOOM 0.6 1998-01-15 =-
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This archive contains an Amiga port of DOOM, compiled as directly as possible from ID Software's Linux DOOM source code.

On 26th Dec 1997 I learnt that ID Software released the source code of DOOM and made it available by ftp. So I immediately downloaded it and tried compiling it with SAS/C 6.58 for the Amiga. This archive represents my results after about 12 evenings and 3 days. Much of that time was spent tracking down 1 bug. I need to go back to my real job soon...

Warning: This version of ADoom is still under development and you might find some bugs.

You can get the original ID Software Linux DOOM source from:
ftp://ftp.cdrom.com/pub/idgames/idstuff/source/doomsrc.zip

Source code of ADoom, which includes all my changes, is in a separate archive on Aminet.

ADoom is OS-friendly and multitasks.

ADoom puts up an ASL requester for the ScreenMode.

Sound effects, ECS support and 68040-optimised C2P are included since version 0.1. Version 0.4 adds 68020-optimised blitter-assisted C2P and double-buffering. Version 0.5 adds music. Version 0.6 adds 68030-optimised blitter-assisted C2P.

Low detail mode, which can provide a significant speedup on 68030, is
available and working from ADoom version 0.6.

You can use a joystick in the 2nd gameport from v0.2.

AmiTCP network support was added in v0.2, but so far is rather unstable and
slow, even with a direct ethernet connection between 2 fast Amigas.

If disk loading of levels is very slow, try adding more disk buffers with
the AmigaDOS ADDBUFFERS command. Adding 300 buffers can vastly increase the
level-loading speed. One person recommended DynamiCache instead, but I
haven't tried that.

Thanks to several people who sent me icons for ADoom. I put them in the
more_icons subdirectory in this archive.

There several (different) Amiga DOOM ports at "http://www.pluk.com/"
including one called Amiga Doom by Trance that uses GG environment and AHI,
and another called DoomAttack by Georg Steger which is very fast on 68030s.
This web site is to be replaced by "http://surf.to/adoom/" at the end of
February.

1.2 Requirements

REQUIREMENTS:

A 68020+ Amiga running at least OS 3.0, with at least about 4 or 5 Mb of
fastmem.

Unless you have 68040+, you must have an ECS or AGA Denise chip. Currently
the combination of 68020 or 68030 with OCS doesn't work because OCS can't do
long blits used by the 020/030 C2P routine.

A graphics card, CyberGraphics and 68040+ are strongly recommended.

ADoom also works with AGA or ECS (EHB) using C2P.

```
.--------------------------------------------------.
| YOU NEED TO GET A WAD FILE THAT WORKS WITH LINUX |
| DOOM AND PUT IT IN THE SAME DIRECTORY AS ADOOM.  |
`--------------------------------------------------'
```

Otherwise you get the message: "Error: W_InitFiles: no files found"

WAD files typically have names like DOOM1.WAD and DOOM2.WAD.

Not all WAD files work. It seems that some older WAD files are rejected
because they leave out some information that ADoom requires. I think these
same WAD files fail to work in Linux DOOM.

DOOM1.WAD from "http://surf.to/adoom/" works fine, as should the latest
shareware WADs from ID Software's WWW site. I was told that at least some
Macintosh WADs work too, as does the registered DOOM II WAD. One person told
me that any "Doom2 PWAD" works, whatever that is.

A couple of people said they got the 4th episode of Ultimate DOOM to work by changing the name of the WAD file to doomu.wad.

Many people have asked me which WADs work and which don't, but I'm afraid the above is about all I know at the moment.

I received many conflicting reports about which WADs work, especially the original registered DOOM WAD seems to work for some people and not for others. See the file UserHints.txt for some examples.

To play third-party WADs with non-standard names, you must have a *registered* WAD in the same directory as well. Then you should start ADoom with the -file option specifying the third-party WAD, e.g:

    ADoom -file Satan666.wad

The -file option doesn't work if you only have a shareware WAD.

I use a stack size of 150000 bytes, but that's probably overkill. I don't know what the stack requirements really are yet. It's probably less than 4096 bytes (because it worked OK from the icon when I forgot to set the stacksize).

An FPU is neither required nor used (except on 68060).

An MMU is neither required nor used.

1.3   HELP, I'M SWAMPED WITH E-MAIL

HELP, I'M SWAMPED WITH E-MAIL:

Thanks for all your e-mails about ADoom. I enjoy reading them.

However please note that I received upwards of 40 messages per day for several days. Now I'm back to my full-time job, so I only get time to work on ADoom and catch up on e-mail on my spare evenings and weekends. I apologise in advance if you don't receive a reply.

1.4   MUSIC

MUSIC:

ADoom supports music based on .MUS-player source code sent to me by Joseph Fenton of MicroCode Solutions. Music requires an extra file not included in the archive because of its size. You should download MIDI_Instruments.lha from Aminet and unpack the file MIDI_Instruments into your ADoom program directory.

Music is disabled by default because the MIDI_Instruments file is distributed separately. Once you have the MIDI_Instruments file, enable music with the -music option or MUSIC tooltype.

Joe greatly improved the MIDI_Instruments file over the version supplied with ADoom 0.5.

Joe says "You might want to give my brother Michael some credit as well, he wrote the event handling and the Player Interface code; I did the PlayNote and interrupt audio engine and instruments".

Enabling music adds to the atmosphere, but it also slows the game down and leaves only 2 channels for sound effects. Without the music you get 4 channels for sound effects.

From version 0.6 you can disable all sound effects with -nosfx or the NOSFX icon tooltype. That leaves audio channels free so you can use your own music player in the background.

1.5 KEYBOARD

KEYBOARD:

Most keys are mapped the same as on a PC. However the Amiga doesn't have F11, F12 and PAUSE keys. On the Amiga, press '[' for F11, ']' for F12 and HELP for PAUSE.

Many people complained about the keyboard layout, especially CTRL for FIRE. It's possible to customise the keymap in .doomrc --- see UserHints.txt. In version 0.6 I changed the Right-Amiga key to send the same code as CTRL (was the same as Right-Alt in 0.5) and I disabled the Left-Amiga key so screen-flipping doesn't set things off.

1.6 MOUSE

MOUSE:

Mouse support was added in version 0.3, but it is disabled by default. That's because it slows the game down. To enable the mouse, start ADoom with the -mouse option, or use the MOUSE icon tooltype.

1.7 CD^{32} JOYPAD

CD32 JOYPAD:

Gabry (ggreco@iol.it) emailed me some CD32 joypad handling code. It is disabled by default because it requires lowlevel.library. If you want to try it, use the -joypad option or JOYPAD tooltype.

1.8 SAVING THE SCREENMODE

SAVING THE SCREENMODE:

If you don't like the ScreenMode requester every time ADoom runs, you can
save your favourite ScreenMode as an icon tooltype.

First, watch the output of ADoom when it starts up and note the DisplayID of
the ScreenMode you selected. It will be something like $40420000. Now click
the ADoom icon once and select "Information..." from the Icons menu. Click
on NEW and type in:

   SCREENMODE=$40420000

replacing $40420000 with the DisplayID you noted. Delete any other
SCREENMODE tooltypes. Finally, click SAVE, and start ADoom again.

1.9 NETWORKING WITH AMITCP

NETWORKING WITH AMITCP:

AmiTCP networking in ADoom is based on the Linux DOOM source code. It works
between Amigas and Linux PCs using TCP/IP on a fast network. It uses TCP/IP
on all computers, not IPX.

DOOM on PCs normally uses IPX for networking, which is incompatible with
ADoom's TCP/IP. I don't know whether there is a TCP/IP driver for DOOM on
Windows95, but I heard there is such a thing for MSDOS (untested with
ADoom). Another person told me that Win95DOOM can use TCP/IP.

Several people reported success over serial lines with SLIP or PPP, although
in most cases it was very slow. I tested it over ethernet and AmigaLink.
Even then it seemed rather jerky and slow, and it failed to start up when I
tried crossing a gateway between the 2 networks.

To start ADoom across 2 computers called fred and bob, say:
  1: Make certain both computers are using identical WAD files;
  2: Make certain you can PING fred from bob and vice versa;
  3: On bob, enter: "ADoom -net 1 fred"
  4: On fred, enter: "ADoom -net 2 bob"

If there are 3 computers, called fred, bob and sue, say:
  1: Make certain all 3 computers are using identical WAD files;
  2: Make certain you can PING between all computers by name;
  3: On bob, enter: "ADoom -net 1 fred sue"
  4: On fred, enter: "ADoom -net 2 bob sue"
  5: On sue, enter: "ADoom -net 3 fred bob"

It's normal for screens to go blank sometimes during the startup phase.

On Linux I used DOOM compiled from the source code available from:
ftp://ftp.cdrom.com/pub/idgames/idstuff/source/doomsrc.zip

I don't know whether other Linux DOOM implementations are compatible.

So far I have tested up to 3 computers. The code is pretty untested and your

mileage may vary.

Several people asked me for NULL-modem support between 2 Amigas, or parallel
cable support. Well it's already there. You need to get Miami or AmiTCP
installed at both ends and talking to each other over SLIP, PPP or PLIP.
Then proceed as above. However it will likely be unplayably slow unless you
have very fast Amigas. PLIP is very heavy on CPU-usage. It should also work
over a serial line to a PC running Linux DOOM, and maybe even to a PC
running Win95Doom, which, I'm told, supports TCP/IP.

1.10 CHUNKY TO PLANAR

CHUNKY TO PLANAR:

For native screenmodes on 68040+, ADoom uses a CPU-only C2P routine. For EHB
on 68040+ it also uses a comparison buffer. I timed it on my WarpEngine as
being faster on average than a routine without a comparison buffer. The
comparison buffer method is temporary until I can figure out some sort of
list of dirty-bounding-boxes thingy.

From version 0.4, ADoom in native Amiga modes (AGA and ECS) double-buffers.

From version 0.4, ADoom uses a blitter-assisted C2P routine on 68020/30. The
blitter does the latter half of the C2P conversion in chipmem while the 3D
engine renders the next frame to fastmem. It also double-buffers --- a
necessity for this approach. On a 50MHz 68030, C2P CPU-time is 3 times less
than in version 0.3.
Unfortunately it looks as if C2P is only a small fraction of total time
anyway, maybe 10..15%. In version 0.6 I replaced the AGA 68030 C2P that did
2 CPU merges and 2 blitter passes with one based on Mikael Kalms' routine
that does 3 cpu merges and 1 blitter pass.

C2P for ECS (EHB) modes takes longer because there is an extra table lookup
for each pixel. It converts 8-bit -> 6-bit.

ADoom renders to fastmem and uses WritePixelArray8() on gfx-cards.

Several people asked me to make a version which renders directly to the
CyberGraphX framebuffer, like Trance's AmiDoom and RTGMaster. I started
doing this, but didn't finish. To try it with CyberGraphX, use the
-directcgx option or DIRECTCGX icon tooltype, but it will probably be slower
and flicker like hell... It may also corrupt other screens if you flip or
drag screens. It needs double buffering to get rid of the flicker. I tried
to add double-buffering but couldn't get the interaction with I_ReadScreen()
right.

1.11 RENDERING

RENDERING:

Version 0.5 uses fast column and span renderers by Aki Laukkanen. Aki
supplied seperate 68060-optimised routines. These are selected if you have

a 68060, provided you have SetPatch and 68060.library correctly installed.

1.12 68060

68060:

Several people reported extremely poor performance on their 68060 systems. If that happens to you, try using the FastExec (whatever that is) "SSP to FastMem" option. Several 68060 users told me that made a huge speed difference. Shaun Falkenberg (shaunf@box.net.au) suggests the equivalent option in MCP might be better because it saves a reboot on cold startup. OxyPatcher is yet another alternative.

ADoom 0.5 uses 68060-specific fixed-point routines which don't use 64-bit MULS & DIVS on 68060. You must have SetPatch and 68060.library correctly installed for these faster routines to be selected. Version 0.6 uses the FPU for both fixed-point multiplies and divides on 68060. Version 0.5 used the FPU for fixed-point divides and 32-bit integer instructions for fixed-point multiplies on 68060.

In version 0.6 I added the -mmu option and MMU icon tooltype to mark the chunky buffer and chip raster as "imprecise" using the MMU. I used Aki Laukkanen's MMU code for this. This may speed up ADoom on 68060+MMU systems slightly, by better scheduling memory accesses.

1.13 LIMITATIONS

LIMITATIONS:

Play-tested for a few hours on an A3000 + WarpEngine + GVP Spectrum + Cybergraphics running OS3.1 and Enforcer, on which it seems to run very smoothly. Many people reported success with earlier versions of ADoom. I think I finally fixed all the crash on exit bugs.

Outstanding bugs possibly include problems with -record and -playdemo, problem using -timedemo without also -forcedemo, teleport problems, network problems and problems loading the original registered doom.wad. However bugs are becoming rarer these days. Hopefully I didn't introduce too many new ones in the latest version...

1.14 BUGS FIXED

BUGS FIXED:

0.6
Fixed bug in low detail mode and re-enabled it, thanks to a note from Georg Steger <steger@pass.dnet.it>, the author of DoomAttack, and some assembly code from Aki Laukkanen.

The monster-counting bug (also the problem with "Dead Simple") was caused by

SAS/C generating unexpected code for function pointer comparisons in "if"
statements with CODE=NEAR. See amiga_notes.txt in the source archive.

Version 0.5 had a bug in the DrawSpan() routines which left bright dots
scattered around the floors and ceilings and red stairs at the start.
Applied patch supplied by Aki Laukkanen.

Music tones are now PAL/NTSC sensitive.

Fixed the bug which sometimes caused crash on exit when music is enabled.

0.5
The call to BestModeID() in amiga_video.c had an unterminated taglist.
Fixed.

Whoops it never worked under OS2.1 after all. For now I've changed it so
ADoom refuses to start on less than OS3.0. Currently I think LoadRGB32() is
the only V39 function used. ADoom 0.4 was also calling BestModeID() and
failing to autoopen lowlevel.library.

0.4
Gamma correction tables weren't being used in ECS modes. Fixed.

Set default task priority to -5 because ADoom is unfriendly to other tasks
otherwise. Added -taskpriority commandline option and TASKPRIORITY icon
tooltype, so you can set whatever priority you like.

I think I finally fixed the crash on exit bug. Two commas were missing in
dstrings.c. I haven't had a crash for a long time now.

0.3
In ADoom versions up to 0.2, setting graphics detail LOW and then resizing
the display resulted in corrupt graphics. Crashes were possible. Indeed, LOW
detail didn't work at all. This appears to be a bug in the original Linux
source. I can't see how LOW detail is supposed to work, so for now I've
disabled LOW detail in ADoom 0.3.

ADoom exclusively allocates the 2nd gameport for the joystick. It seems that
many people have something in their startup which exclusively allocates the
gameport, in which case ADoom v0.2 refuses to run. BlitzBlanker is one such
culprit. ADoom 0.3 runs with the joystick disabled if it can't exclusively
allocate the gameport.

Added -forcedemo option in v0.3 to override the version check when playing
demos. The FORCEDEMO icon tooltype does the same thing. There is a risk
something might go wrong if the versions don't match, but I haven't observed
any problems so far.

Early versions of DOOM had a sound pitch change feature. That is, the same
sound sounds effect could be played at different notes. I reproduced this
feature in ADoom 0.1 and ADoom 0.2. However more than one user told me this
feature was removed from recent versions of DOOM and some effects sound
wrong in ADoom. Therefore I disabled the pitch change feature in ADoom v0.3.
It is still there and can be enabled with the -pitchchange option or
PITCHCHANGE icon tooltype.

0.2

Early versions of ADoom required the HOME environment variable to be set.
This confused a lot of people. Since version 0.2, ADoom saves its prefs file
(.doomrc) in the current directory if HOME is not set.

Early versions of ADoom crashed if there wasn't enough memory available.
Since version 0.2, ADoom checks the result of the main (up to 6 Mb) memory
allocation. There are still a few places where small memory allocations are
not checked.

1.15 THANKS

THANKS:

Thanks to John Carmack and ID Software for one of the best games ever!

Thanks to several people who sent me icons for ADoom. I put them in the
more_icons subdirectory in this archive.

Thanks to Lorens Johansson who converted the documentation to AmigaGuide.

1.16 AUTHOR

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