

Page	Status	Error	Correction	Name	Note from Fab
OBSOLETE, Report issues on <a href="https://www.doom.com/forums/bugs.html">https://www.doom.com/forums/bugs.html</a>					
Paper	114	Duplicate of erratum #37			
PlayStore	4	Fixed in v1.1			
Paper	5	Fixed in v1.1	Missing space between "the" and "DOOM" ... helping me assembling a ...	Lewis Christie Daniel Monteiro Rory O'Kenny	
Paper	6	Fixed in v1.1		Samuel Villarreal	
Paper	19	Fixed in v1.1	Footnote 2: These is even a website	There is even a website	Olivier Cahagne
300dpi	20	Fixed in v1.1	Samuel Kaiser	"shortly"	Steve Hoelzer
Paper	35	Fixed in v1.1	"Figure ??"	Need to point to the correct figure	Steve Hoelzer
Paper	36	Fixed in v1.1	Footnote 17 appears to be missing. 17 is used for the word "Comparison" in Figure 2.7 but is not found in the footnotes.	Figure 17 should appear in the footnotes or probably removed from the Figure 2.7 description.	Ryan Cook
Paper	36	Fixed in v1.1	Footnote #17 doesn't exist		
PlayStore	38	Fixed in v1.1	"The VLB (VEAS Local Bus)" - should be "VESA Local Bus"	The VLB (VESA Local Bus)	
PlayStore	39	Fixed in v1.1	Figure 2.15: Address line connected to bit line and lbit line. With 2^32 / 4 = 1,073,741,824 addresses competing for four slots (...)	(lower left and right dots erroneous) With 2^32 / 128 = 33,554,432 addresses sharing the same LINE value and competing for four slots (...)	Bartosz Pikacz ebbdoom/
Paper	43	Fixed in v1.1	"compared to the the ALU" between Figure 2.22 and 2.23	cut one "the"	Aurélien COUDERC
Paper	48	Fixed in v1.1	... the most notorious chip of the era ...	... the most notorious ships of the era ...'	Rory O'Kenny
Paper	56	Fixed in v1.1	"The VLB (VEAS Local Bus)" - should be "VESA Local Bus" "The opposite page shows three VGA cards available in 1994" Opposite doesn't really make sense when reading a PDF.		Aiden Hoopes
Paper	58	Fixed in v1.1		"The following page shows three VGA cards available in 1994" The ATAPI connector is the IDE connector. ATAPI is the name of the protocol used to drive a CDROM over the IDE connector. The second connector is to get sound from the CDROM player. I think it was just called a CD audio connector.	Vincent Bernat
PlayStore	60	Fixed in v1.1	ATAPI connector	"46.61512 Mhz Timer"	Boris Chuprin
Paper	61	Fixed in v1.1	"Expansion Interface for wavetable-capable WaveBlaster daughtercard"	"WaveBlaster Connector for MIDI "wavetable synthesizer" daughterboard"	Boris Chuprin
Paper	61	Fixed in v1.1	"mic-in, line-in, volume wheel, line-out, and joystick port."	"line-in, mic-in, volume wheel, line/speaker-out and MIDI/joystick port." <a href="https://stason.org/TULARC/pc/sound-cards-multimedia/CREATIVE-LABS-INC-Sound-card-SOUNDBLASTER-16-ASP-C.html">https://stason.org/TULARC/pc/sound-cards-multimedia/CREATIVE-LABS-INC-Sound-card-SOUNDBLASTER-16-ASP-C.html</a>	Boris Chuprin
Paper	61	Fixed in v1.1x	"offered Sound Blaster 16-compatible music and digitized sound playback"	Nope, it "tried to" emulate SB2.0(not even Pro/Pro2) via software TSR utility that had serious compatibility issues. OPL2 music was out of the question, way too bad. See the last lines here: <a href="https://www.vogonswiki.com/index.php/Gravis_Ultrasound_Without_specific_GUS_support_you_would_just_get_no_sound_from_some_games._No_GUS_cards_emulate_SB16">https://www.vogonswiki.com/index.php/Gravis_Ultrasound_Without_specific_GUS_support_you_would_just_get_no_sound_from_some_games._No_GUS_cards_emulate_SB16</a>	Boris Chuprin
PlayStore	61	Fixed in v1.1	Second, the card had to be able to access the sampe at runtime	Second, the card had to be able to access the samples at runtime	
Paper	62	Fixed in v1.1	"line-out, and joystick port."	"line-out and MIDI/joystick port."	Boris Chuprin
PlayStore	66	Fixed in v1.1	not only had to pay for a modem and the monthly subscription to an Internet provider	Internet was not needed to play Doom through a modem. You can dial a friend directly. Also, no AOL subscription is needed to connect to a BBS either. I am not even sure it was possible to play Doom over Internet when it was released.	Vincent Bernat
PlayStore	72	Fixed in v1.1	"In 1988, three Ph.Ds (Fred Crigger, Ian McPhee, and Jack Schueler) made it the first C compiler to run on an IBM PC"	I may have misunderstood: on the wikipedia page : Borland Turbo C 1.0 was released in 1987.	Olivier Neveu
Paper	77	Fixed in v1.1	There is third aspect of protected-mode programming	There is a third aspect of protected-mode programming	Sam Williamson
300dpi	78	Fixed in v1.1	catching id Software's attention	catching id Software's attention	Bartosz Taudul
Paper	93	Fixed in v1.1	Figure 3.10 shows 9 SIMM RAM slots	Should show 8 slots like on the actual photo on the previous page	Boris Chuprin
Paper	93	Fixed in v1.1	"4 MIB default RAM"	"4 MIB VRAM" This is framebuffer RAM. Probably dual-ported. It is soldered to the board, is the only memory RAMDAC can read and can't be extended.	Boris Chuprin
Paper	102	Fixed in v1.1	...still a far cry from the 2,800 millions Sun...	...still a far cry from the \$2.8 billion Sun...	Richard Adem @richy486
300dpi	107	Fixed in v1.1	"Musics composer"	Should be "Music composer"	Steve Hoelzer
PlayStore	110	Fixed in v1.1	A few models managed to escape into the wild and are now highly priced by collectors.	A few models managed to escape into the wild and are now highly-prized by collectors. Or: A few models managed to escape into the wild and are now highly priced collectibles.	
PlayStore	111	Fixed in v1.1	Fixed in v1.1	"Using clay models was faster than drawing by hand but it was still not faster enough to pro-"	
Paper	113	Fixed in v1.1	At the bottom of the page, the text that's supposed to be under the picture (the description) is inside the picture. See: <a href="https://imgur.com/pcE03E.jpg">https://imgur.com/pcE03E.jpg</a> It's black on black so it cannot be read.	-	Alexandre-Xavier Labonté-Lamoureux (adoomer)
Paper	113	Fixed in v1.1	A. Carmack sculpting the <b>Hell Knight</b> , working from his preliminary drawing.	A. Carmack sculpting the <b>Baron of Hell</b> , working from his preliminary drawing. (It was during the development of Doom 1, the Hell Knight was only added in Doom 2.)	Alexandre-Xavier Labonté-Lamoureux (adoomer)
Paper	113	Fixed in v1.1	The second image is over the last text line, that cannot be read	The image should be a little smaller to leave room for the text, which is "Using clay models was faster than drawing by hand but it was still not faster enough to pro-"	Davide Gualano @davesio
Paper	120	Fixed in v1.1	"[...] and a red tainted sunset"	"[...] and a red tinted sunset" (should be "tinted" not "tainted")	Matt Riggott
Paper	122	Fixed in v1.1	DOOM II, Episode I	DOOM, Episode I. (or just DOOM2?)	Guilherme Manika
Paper	123	Fixed in v1.1	DOOM II, Episode I	DOOM, Episode I. (or just DOOM2?)	Guilherme Manika
300dpi	126	Fixed in v1.1	"...both floors and walls were horizontal..."	"...both floors and ceilings were horizontal..."	Brian Gilbert @troldann
Paper	127	Fixed in v1.1	Trivia: DoomED's icon is <b>an Imp</b> .	Trivia: DoomED's icon <b>vaguely resembles a Baron of Hell</b> .	Alexandre-Xavier Labonté-Lamoureux (adoomer)
Paper	131	Fixed in v1.1	The full twenty seven maps of the registered version requested 11 minutes. IB was nicely complemented by the OOP (Oriented Object Programming)	The full twenty seven maps of the registered version required 11 minutes. IB was nicely complemented by the OOP (Object Oriented Programming)	Jamis Eichenauer
Paper	140	Fixed in v1.1	Footnote 15: Mikea Ash	Mike Ash	Vasil Yonkov vasily@mm.st
Paper	141	Fixed in v1.1	... in an envelop on the back cover ...	... in an envelope on the back cover ...	Anders Montonen
Paper	143	Fixed in v1.1	Wad 'head' struct lists a member 'int32_t numDirectories // [Footnote 4] "Large portions of previously censored portions of" ... should be "censored" not "censured"	I think this should be 'int32_t numLumps // Num Lumps' based on the	phg
PlayStore	148	Fixed in v1.1	The stream 0x12, 0x34, 0x45, 0x78 can be...	Large portions of previously censored portions of	Chris @JayceAndTheNests
PlayStore	150	Fixed in v1.1	The stream 0x12, 0x34, 0x45, 0x78 can be...	The stream 0x12, 0x34, 0x56, 0x78 can be...	
Paper	152	Fixed in v1.1	First line, nm is the one showing undefined symbols, not clang	The stream 0x12, 0x34, 0x56, 0x78 can be...	
Paper	154	Fixed in v1.1	Third paragraph: "there is zero <b>overheard</b> "	Should be "Asking nm for undefined symbols"...	Boris Faure @billib
PlayStore	156	Fixed in v1.1	...a code convention is used <b>to</b> tag functions.	There is zero <b>overhead</b>	Marcus Dicander
Paper	160	Fixed in v1.1	D_Display (); //Generate visio	...a code convention is used to tag functions.	Patrick Hresko
PlayStore	160	Fixed in v1.1	Generate visio	D_Display (); //Generate video	
Paper	162	Fixed in v1.1	there are display bugs with extremely large maps caused by this specific problem	Generate video	Richard Adem @richy486
300dpi	167	Fixed in v1.1	... caused by this specific problem ...	there are display bugs with extremely large maps caused by this specific problem	
Paper	167	Fixed in v1.1	Hexen is not shareware, there was a 4 level demo available. The filename was HEXEN.WAD.	... caused by this specific problem ...	phg
300dpi	172	Fixed in v1.1	"In case the name was a fill 8 chars" code comment in the middle	Hexen is not shareware, there was a 4 level demo available. The filename was HEXEN.WAD.	Bartosz Taudul
Paper	173	Fixed in v1.1	ID is used to looked up a lumpcache...	"[...] full 8 chars"	Frank Polster
Paper	174	Fixed in v1.1	Figure 5.23 / Video System (DOS): "l_UpdateNoBlit"	ID is used to <b>look</b> up a lumpcache...	
Paper	177	Fixed in v1.1	Code: if (gamestate != oldgamestate && gamestate != GS_LEVEL) in wrong place	"l_UpdateNoBlit"	phg
Paper	180	Fixed in v1.1	... recursively flowed into the <b>adjoining</b> sectors, ...	In the downloaded source, this if block controls the running of l_SetPalette. The code in the book suggests R_RenderPlayerView is not run if the gamestate is GS_LEVEL, which is incorrect. Statement should be if (gamestate == GS_LEVEL && !automapactive && gametic)	
Paper	192	Fixed in v1.1	The area between B2, C2, F, and F is concave. We need one last split where F is selected as splitter.	... recursively flowed into the <b>adjoining</b> sectors	Rory Driscoll
PlayStore	196	Fixed in v1.1	The area between B2, C2, F, and F is concave.	The area between B2, C2, E, and F is concave. We need one last split where F is selected as splitter.	
Paper	198	Fixed in v1.1		The area between B2, C2, E, and F is concave.	tronsfer

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			Yes traversing any tree is O(N) but it is not case here. In R_RenderBSPNode you can see that john Carmack has added R_CheckBSP function. This function will traverse some of the tree if it is in player FOV. Actually if you comment R_CheckBSP out, rendering will complete with no issues. I have done some analysis on E1M1 and with player being on spawn point. With R_CheckBSP enabled, R_RenderBSPNode will be called 81 times (hitting 32 leaves). While if you remove R_CheckBSP, R_RenderBSPNode will traverse though every node in the tree which will be called 477 times (hitting all 239 leaves). R_CheckBSP will skip traversing more than 50% of the tree in most cases.		
		The beauty of binary trees is that traversing them is O(log n). - this doesn't really apply here since traversing the BSP is O(n), not O(log n). It only looks like "log n" in the example, since the tree is degenerate. Bounding box culling should help get it closer to log n, but that isn't described.	Note from FAB: I think it is fair to say the game engine was designed with worse case scenario in mind. Take the development of Quake (which is well documented in Michael Abrash's Black Book) where they discarded some techniques because worse case scenario was too bad. Yes there are cases where the BB will reject early entire portions of the BSP but this is an optimization, not the regular use case. On this basis, I maintain in the book that O(N) is one of the attractive side of BSP.	Tzvetan Mikov	
Paper	199 Fixed in v1.1			tronster	
Paper	202 Fixed in v1.1	the plane equation	the plane equation		
Paper	203 Fixed in v1.1	// Shortcut if node is horizontal.	Should be: // Shortcut if node is horizontal	Miltiadis Koutsokeras	
Paper	203 Fixed in v1.1	fixed_t dx, dx, ...	fixed_t dx, dy, ...		
Paper	204 Fixed in v1.1	... to the full range of a 32-bit integers.'	... to the full range of a 32-bit integer.'	Rory O'Kenny	
Paper	224 Fixed in v1.1	"with 0 being the brightness" at the bottom of the page	"with 0 being the brightest"	Frank Polster	
Paper	228 Fixed in v1.1	Each portion of sky is stored as a visplane and drawn as span of pixels.	Each portion of the sky is stored as a visplane and drawn as a column of pixels. (cofunc is used for rendering)	John Corrado	
Paper	234 Fixed in v1.1	... to think of as a log ...'	... to think of it as a log ...'	Rory O'Kenny	
Paper	235 Fixed in v1.1	A vissprite entry contains <b>everything</b>	A vissprite entry contains everything	Miltiadis Koutsokeras	
Paper	237 Fixed in v1.1	These is no clipping in effect here	<b>There is no clipping in effect here</b>	Matthieu Nelmes	
300dpi	245 Fixed in v1.1	3rd and 4th line of code paste for D_ProcessEvents	I don't think head and tail should be of type event_t, but rather int or int'. The correction depends on what was intended. (Neither line appears in d_main.c in id-Software source release on git-hub.)	George Todd	
PlayStore	245 Fixed in v1.1	5.15 Audio system, footnote #24, "Wolfenstein" is misspelled "Wolfenstein"	simple typo fix		
Paper	247 Fixed in v1.1	Footnote 24 reference to "Game Engine Black Book: Wolfenstein 3D"	Should be "Wolfenstein 3D"	Tor H. Haugen @torh	
Paper	248 Fixed in v1.1	"MPU-402" "MPU-403" in Figure 5.48	There were no such devices. There can be "Roland MPU-401 UART mode compatible" MIDI port on several possible locations (3030 usually). What is the source of the diagram?	Boris Chuprin	Source of the diagram is here https://github.com/nukeyt/PDDoom-v2/blob/master/_sound.h#L37
Paper	254 Fixed in v1.1	"Sound propagation was used in a inventive in level E1M9"	"Sound propagation was used in an <b>inventive way</b> in level E1M9" (or "an inventive manner" or similar)	Daniel Lo Nigro	
Paper	262 Fixed in v1.1	Note that there is no reverse gib sequence, the Arch-Vile <b>doesn't</b> revive gibbed monsters.	Note that there is no reverse gib sequence, <b>but the Arch-Vile still revives</b> gibbed monsters. ( <i>The reverse normal death animation is used, same as if the monster wasn't gibbed</i> )	Alexandre-Xavier Labonté-Lamoureux (axdoomer)	
Paper	265 Fixed in v1.1	... for which a two frame animation <b>cycles</b> repeatedly	... for which a two frame animation <b>cycles</b> repeatedly	Miltiadis Koutsokeras	
Paper	265 Fixed in v1.1	"(monsters do <b>no</b> have a..."	"(monsters do <b>not</b> have a..."	tronsster	
Paper	271 Fixed in v1.1	Consider revising "Semantically, <b>think_ts</b> are stored..." as font change is subtle; looks to be calling out "think_ts"	(May be grammatically incorrect but the code reads better sans plural): "Semantically, <b>think_t</b> are stored..."		
300dpi	280 Fixed in v1.1	"...where packet sequence number is tracked on a per-peer (a.k.a. node) basis."	"...where the packet sequence number is tracked on a per-peer (a.k.a. node) basis."	Marcell Baranyai	
Paper	283 Fixed in v1.1	"shows that I.A. ran in G_Ticker"	"shows that <b>A.I.</b> ran in G_Ticker"		
Paper	286 Fixed in v1.1	"...renders one out of every two columns"	"...renders one out of every two columns"		
300dpi	297 Fixed in v1.1	Jaguar board diagram caption item #1 (TOM) appears to actually be the 68000 on the board picture. 1 and 4 are swapped	"Inside the machine: (1) Motorola 68000, (2) 2MiB RAM, (3) JERRY, (4) TOM."	Dan Williams	
Paper	299 Fixed in v1.1	Footnote "managed a solid 20 fps" also appears at the end of the attached paragraph			
300dpi	300 Fixed in v1.1	I had a functional port of the SNES Wolfenstein code running. We sent it to Atari, and they	I had a functional port of the Jaguar Wolfenstein code running. We sent it to Atari, and they		
Paper	302 Fixed in v1.1	"They were <b>give</b> the green light for project"	"They were <b>given</b> the green light for project"	Marcell Baranyai	
PlayStore	308 Fixed in v1.1	Z-Zero	F-Zero		
PlayStore	310 Fixed in v1.1	"The SNES PPU's Mode 7 (capable of rotating and <b>projecting</b> huge sprites)"	Mode 7 does not do projection and does not apply to "sprites". It only handles affine scaling and rotating a single background layer. Other SNES hardware handles calculating projection on a per-line basis.	Brian Gilbert @troidann	
300dpi	312 Fixed in v1.1	Z-Zero	F-Zero		
Paper	312 Fixed in v1.1	[...] the flight simulator "Pilot Wings", was [...] and [...] the <del>original</del> "Pilot Wings"	The videogame is called Pilotwings, not Pilot Wings (https://en.wikipedia.org/wiki/Pilotwings). Its first release was in 1989.	Matt Riggott	
300dpi	315 Fixed in v1.1	"Nintendo subsequently poached, Giles and Krister"	"Nintendo subsequently poached Goddard and Wombell."		
300dpi	315 Fixed in v1.1	"Dylan Cuthbert would have joined too but a non-compete clause in his contract prevented him."	"Dylan Cuthbert would have joined too, but he was prevented from doing so by a non-compete clause in his contract."		
Paper	315 Fixed in v1.1	citation is missing an attribution	probably Jez San	Frank Polster	
300dpi	316 Fixed in v1.1	"The second generation (GSU-2) was the same processor <b>running at 21.4 Mhz</b> with extra pins..."	All known revisions of the MARIO/GSU chip have a hardware register to control their clock speed via a divider (however the 'MARIO' revision used in Starfox carts appears to be unstable when using it to run at 21.4 MHz). The important thing here is the common misconception that the GSU-2 runs faster than the GSU-1, it doesn't: both are capable of the exact same speeds/functionality. The only notable difference between the GSU-1 and GSU-2 (beyond potential fixes that aren't documented anywhere) is the additional pins allowing for the GSU-2 to access a larger game ROM. https://www.youtube.com/watch?v=hgInD9vAZcM Starfox did not use a GSU-1. It used an earlier chip revision labeled on the board as 'MARIO'. This is possibly worth pointing out because it's the first known revision of the chip and it's the only known game to use it (all later games were using chips labeled 'GSU'). Also, this version of the chip cannot run at 21.4 MHz (it has the register to change the clock speed, but the chip doesn't operate properly when using it, unlike the GSU-1 and GSU-2) and has some differences in how it operates that make it incompatible with some games made for the later GSU revisions (Stunt Race FX (a GSU-1 game) can run on a MARIO chip (at gimped speeds) but Star Fox 2 cannot run properly on the MARIO chip (but it can run on the GSU-1 and GSU-2)). Also maybe worth mentioning there are 5 known revisions of the GSU/MARIO chip- MARIO (found in both SMD and epoxy blob form in Starfox carts), GSU-1, GSU-1a, GSU-2, GSU-2-SP1. That said though, there aren't major known differences with the GSU-1a (vs the GSU-1) and GSU-2-SP1 (vs the GSU-2) so it's probably not worth discussion in a book not focused on the SNES.	Brandon Long	
300dpi	316 Fixed in v1.1	"The first generation (GSU-1) powered five games: ... <b>Star Fox</b> ..."	(could be my PDF viewer, Evince running on Fedora 29)	Brandon Long	
300dpi	317 Fixed in v1.1	Quote box has no name, just a "-"	...later worked on an even more impressive ...'	Dan Williams	
Paper	318 Fixed in v1.1	...later worked on an even more impressive ...'	...later worked on an even more impressive ...'	Rory O'Kenny	
Paper	321 Fixed in v1.1	...Really was able to implement diminished lighting for the walls, as seen in figure 6.10 ( <b>walls only, flats are always solid colors</b> ).	...Really had diminished lighting for the <b>walls and floors</b> , as seen in figure 6.10 ( <i>replace the screenshot with a less dark one. E1M8 has nice areas with the diminished lighting on the floor clearly visible and it also uses color dithering</i> )	Alexandre-Xavier Labonté-Lamoureux (axdoomer)	
Paper	321 Fixed in v1.1	Nintendo forbid blood ...'	Nintendo forbade blood ...' The word 'forbade' is the past tense of the word 'forbid'.	Rory O'Kenny	
PlayStore	321 Fixed in v1.1	Until them	Until then		
Paper	322 Fixed in v1.1	... Sony announced the joined venture called ...'	... Sony announced the joint venture called ...'	Rory O'Kenny	
Paper	328 Fixed in v1.1	was converted to alpha-blending"	Strictly speaking, no alpha-blending on PSX. Average, 2 additive, 1 subtractive blending mode with fixed ratios IIRC. Also maskstencil bit that controls if transparency is applied or opaque.	Boris Chuprin	Would you be ok with phrasing "50/50 blending"
Paper	328 Fixed in v1.1	"capacity, 59 maps (30 from DOOM and 30 from DOOM II)" between the citations	It seems it was 33 maps from Doom 1 and 26 from Doom 2 ...	Frank Polster	
PlayStore	328 Fixed in v1.1	"can be optimized as 64 << u + v"	"can be optimized as (u << 6) + v"	Klaus Post	
Paper	328 Fixed in v1.1	... indicates a door requires the ..."	... indicates a door that requires the ..."	Rory O'Kenny	
300dpi	334 Fixed in v1.1	Also notice in the left column how the width of each square is always constant, a giveaway of affine texturing that contrasts with the perspective correct decreasing width seen in the right column.	"left" and "right" are reversed. The left column shows perspective-correct, the right column shows affine.	Brian Gilbert @troidann	
Paper	336 Fixed in v1.1	respectively the Panasonic 3DO GZ-1, Sanyo TRY 3DO, and Goldstar 3DO.	respectively the Panasonic 3DO GZ-1, Goldstar 3DO, and Sanyo TRY 3DO. .		
300dpi	339 Fixed in v1.1	... the CD-ROM. With a capacity <b>more than 15 times more</b> than what they were used to (650 MiB vs 4MiB).	... the CD-ROM. With a capacity more than 150 times more than what they were used to (650 MiB vs 4MiB).	Marcel Lanz	
Paper	350 Fixed in v1.1	"SCU DSP Math coprocessor @ 14.31818 <b>MHz</b> "	"SCU DSP Math coprocessor @ 14.31818 <b>MHz</b> "	Daniel Lo Nigro	
PlayStore	350 Fixed in v1.1	"Jim Bagley made the decision..."	"Jim Bagley made the decision..."	Daniel Monteiro	

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			Just to add to A.Montonen note: the whole Saturn transparency process is wonderfully and interactively explained here: <a href="https://www.mattgreer.org/articles/sega-saturn-and-transparency/">https://www.mattgreer.org/articles/sega-saturn-and-transparency/</a> And yes, as always the case with console development, it was done with TV CRT screen final output in mind. Worth a look.		
PlayStore	351 Fixed in v1.1	"Translucency was done in a peculiar way..."	Note: VDP1 and VDP2 are further explained here: <a href="https://news.ycombinator.com/item?id=10963796">https://news.ycombinator.com/item?id=10963796</a> The VDP1 sprite transparency effect is both very limited (only one blend mode, only works on certain framebuffer pixel formats, sprite distortion can cause pixels to be drawn multiple times causing "glitches", doesn't blend with VDP2 pixels) and slow. As a compromise, the chip offers "mesh transparencies", where only every other pixel is drawn. It has been posited that when viewed on a CRT connected via composite video, the graphics will be blurred enough that it hides the meshing and functions as a passable simulation of transparency.	Marco Pesce	
Paper	353 Fixed in v1.1	"Translucency was done in a peculiar way..."	Problem remains in 1.1 and also in Wolf3D book. Would be fixed by resizing all 320x(200/240) pics to 1600x1200 or other big enough resolution with integral scaling ratio. Basically, you use integer scaling, but resizing to a size where pixels become visibly different from each other, which is a rendering bug.	Anders Montonen	Need more info. I don't get it. (I had to resize to show the framebuffer -> CRT distortion from 320x200 to 320x240)
Paper	354 Fixed in v1.1	Resized screens look very ugly due to uneven pixel sizes which is a rendering bug.	...	Boris Chuprin	
PlayStore	368 Fixed in v1.1	... of the screen which is a rendering ...'	... of the screen which is a rendering ...'	Rory O'Kenny	
Paper	370 Fixed in v1.1	"Millions of hours were spent watching these tidy dots progress to the right."	"tidy" should be "tiny"	Rory O'Kenny	
Paper	373 Fixed in v1.1	... Windows 95 graphics drivers low overhead ...	... low overhead ...	phg	
Paper	382 Fixed in v1.1	... directly maps the DOOM's core framebuffer.	... directly maps DOOM's core framebuffer.	phg	
PlayStore	407 Fixed in v1.1	... to provide the CPU and communication to the Amiga-...	"by using" or "and used"	Marco Pesce	
Paper	413 Fixed in v1.1	... complex nowadays but I feel it ...'	... complex nowadays but I feel it ...'	Rory O'Kenny	
Paper	168/169 Fixed in v1.1	horizontal Line of "N" box of some blocks is too long (first eromous block is "NULL 5000")			
300dpi	279/280 Fixed in v1.1	Page 279 has ".the engine fea-" and page 280 ends it with "ures negative acknowledgements..."	The word 'features' should only have one 's' The Saturn has 2MB of main memory (1MB SDRAM, 1MB DRAM). The "April '94" document is either simply wrong, or represents a last-minute spec upgrade. (The same error is repeated in an April '94 developer relations presentation slide show. In a version of the same slide show, dated May '94, the main memory has been changed to 2MB.)	Anders Montonen	
Paper	348/349 Fixed in v1.1	"Main programming was done via the SH-2 processors connected to 1.5MiB of shared RAM"	"Shipped with 4 MiB of VRAM (Video RAM) and 8MiB main RAM (extendible to 32 MiB officially, 64 MiB unofficially)" Some sources say it was sold with 16MiB main RAM. See <a href="http://www.kevra.org/TheBestOfNext/Products/NextHardware/NextDimensionBoard/NextDimensionBoard.html">http://www.kevra.org/TheBestOfNext/Products/NextHardware/NextDimensionBoard/NextDimensionBoard.html</a>	Boris Chuprin	
Paper	90/94 in1.1) Fixed in v1.1	"Shipping with 4 MiB of RAM (extendible to 32 MiB)"	There were around 6 types of CD-ROM interfaces in early 90s, with some cards including up to 3 at once. IDE/ATAPI stayed for the longest time, but disappeared from sound cards when they moved to PCI bus, years before they were gradually replaced by motherboard audio. Panasonic, Sony, Mitsumi etc. interfaces were already forgotten somewhere around 1995.	Boris Chuprin	What is the suggested edit?
Paper	61 Need more info	"extra Panasonic/Matsushita connectors .. allowed to survive"	While rendering pixel-wide walls is "maybe" possible (but slow) on Saturn, drawing floor/ceiling spans is not. This requires mapping texels sampled along diagonal line to a horizontal line on screen. But Saturn's 3D forward texture mapper only maps rectangular axis-aligned source area to an arbitrary destination quad area. "Normal" reverse texmappers like PS GPU or Quake model soft renderer support "UV mapping", they map arbitrary triangle, specified by (U,V) coords, to arbitrary triangle specified by (X,Y) coords. This is also called "skinning" when applied to character models. Saturn can't do that, every quad that makes up a surface has a separate disjoint rectangular texture, their source texture typically isn't a continuous "skin".	Boris Chuprin	What is the suggested edit?
Paper	352 Need more info	"did not have the time to change the renderer to work with pixel-wide triangles like the PlayStation."	my 5 cents: VDP1 transparency is slower than PS GPU(VDP1 texturing itself slower too), conflicts with distorted texmapping. VDP2 transparency better (& also free) but only works between full 2D layers, like SNES, both work best for 2D graphics and are incompatible with each other due to different pixel formats required. No use for VDP2 transparency that would only work between the transparent object and the background sky, punching through objects and walls in between. "Saturn is a mess" (C) John Carmack Upd: sorry, "Saturn was nuts" <a href="https://twitter.com/id_aa_carmack/status/304662242627031040">https://twitter.com/id_aa_carmack/status/304662242627031040</a> though I vaguely remember seeing other negative statements about Saturn somewhere	Boris Chuprin	
Paper	353 Need more info	"Translucency was done in a peculiar way..."	Running in real mode does not disable extra instructions, just addressing and sets default operand size to 16(can be changed). Same statements in Wolf3D book. Actually, you can use 32bit instructions with 66h prefix even in real mode. @ there is 'Unreal' mode See <a href="https://wiki.osdev.org/386-64_Instruction_Encoding/Operand_size_and_address_size_override_prefix">https://wiki.osdev.org/386-64_Instruction_Encoding/Operand_size_and_address_size_override_prefix</a> Sorry, I don't get why you insist on this statement remaining. I myself wrote 386-only software that used 32-bit instructions but ran in real/v86 mode, accessing extra memory via EMS. This is a perfectly normal(if crude) way of using 386+ CPUs in DOS. real mode 386 in not "fast 8088", it is 386 that only can use 1MB RAM and 64k segments.	Boris Chuprin	Origin of the "Saturn is a mess" quote? Cannot find it
Paper	71 No fix	"behave like a very fast 8088"		Boris Chuprin	In the context programming where the game had to work on 286 and 386, the statement holds true. I think the readers will understand this was for the i860
Paper	93 No fix	"SIMM RAM extension slots ..."	"SIMM slots for main i860 RAM ..." Some documents say it can be extended to 64, wiki says "256MB", but this doesn't match other sources	Boris Chuprin	
Paper	209 No fix	Vertical line between G & H is at wrong position	The line is at correct position in similar picture on the page 219, but it is too thin there for some reason	Boris Chuprin	
Paper	227 No fix	color = lightmap[d texture Texel]	color = texture[Texel lightmap[d]]	Frank Polster	
Paper	344 No fix	"but a bug had forced Rebecca to render flats in software"	See my comment for page 352 about Saturn&PS texture mappers. Basically, forward texmappers can't do that. Did she say herself it was just a bug?	Boris Chuprin	Yes, she mentioned it on her youtube channel
300dpi	328 No Fix (3 = 2 RAM +1 VRAM)	"...and make everything work with "only" 3 MiB of RAM."	"...and make everything work with "only" 2 MiB of RAM."	Guilherme Manika	
300dpi	No FIX (c.f. cult of personality 80 )	"For \$100,000, Paul Rand was commissioned with a logo."	"For \$100,000, legendary graphic designer Paul Rand was commissioned to design a logo."		
PlayStore	No Fix (Cannot see "garbage")	E1M2 screen shot contains garbage from Snes9x emulation	Use an updated version >= 1.56 or another emulator to get screen shot. Doesn't seem to be an issue in the pdf at the pages 117-118 of the book (which is the pages 119-120 of the document).		
Paper	113 No fix (duplicate)	Image overlaps one line of text at the bottom of the page 113, so that page 114 starts with "...duce"	Thanks, BTW, I was able to read the sentence: "Using clay models was faster than drawing by hand but it was still not fast enough to produce..."	Leonid Kapitonov	
PlayStore	87 Playbook bug (reported)	PDF from play store has a mostly silhouette version of the next image with a few rectangular pieces showing correctly	should look like original format version from play store		
PlayStore	123 Playbook bug (reported)	PDF from play store has a black rectangle covering a large portion of figure 4.9	should look like original format version from play store		
PlayStore	136 Playbook bug (reported)	PDF from play store has screenshot in black and white	should look like original format version from play store		
PlayStore	180 Playbook bug (reported)	PDF from play store has sections of black over the status bar image	should look like original format version from play store		
PlayStore	182 Playbook bug (reported)	PDF from play store has sections of black over the status bar image	should look like original format version from play store		
PlayStore	187 Playbook bug (reported)	PDF from play store has sections of black over the images	should look like original format version from play store		
PlayStore	199 Playbook bug (reported)	PDF from play store has missing section on the left of the top map image	should look like original format version from play store		
PlayStore	204 Playbook bug (reported)	PDF from play store has missing sections in bottom image	should look like original format version from play store		
PlayStore	206 Playbook bug (reported)	PDF from play store has missing sections in bottom image "who have always sup-ported DOOM through its many iterations."	many		
Paper	15 Fixed in 1.2	Inconsistency with capitalization of Doom. Usually "DOOM" but sometimes "Doom" like in ToC on page 22. Also pp. 55, 106, 109, 118, 120, etc. Is there a story behind the all caps styling? Might make for an interesting "Trivia" note.	Replace "Doom" with "DOOM" or vice versa.		
300dpi	22 Fixed in 1.2		Note from Fab: I use DOOM but kept quotes as the original version. Fixed in the "Content" page	Jeremy Dittmer	
300dpi	26 No Fix	"First Person Shooter"	Consider hyphenating as "First-Person Shooter" (see: <a href="https://en.wikipedia.org/wiki/First-person_shooter">https://en.wikipedia.org/wiki/First-person_shooter</a> )	Jeremy Dittmer	
			From FAB: No, I think it is a better fit for acronym FPS	Jeremy Dittmer	

Page	Status	Error	Correction	Name	Note from Fab
			"Doom clones." American style guides (AP, Chicago Manual of Style, etc.) seem to universally require that periods (and commas) be inside of quotation marks. I have my own personal issues with this (in this example, for instance, I personally think that it makes more sense to put the period outside) but I suggest determining what your own style will be and then being consistent throughout your book with it.		
300dpi	26 Fixed in 1.2	"ever-lasting"	"everlasting"	Jeremy Dittmer	
300dpi	26 Fixed in 1.2	"story of inventors, engineers and builders"	"story of inventors, engineers, and builders"	Jeremy Dittmer	
300dpi	27 Fixed in 1.2		This sentence is unclear to me. What are you making a necessity? Are you allowing "people who had read about Wolfenstein 3D to get more out of this book without making it a necessity" to read the Wolfenstein 3D book? (Even though they did already read the Wolf3D book?) Here's a suggestion for a possible way to reword this: "The middle ground was to allow people who had read about Wolfenstein 3D to get more out of this book while also making the content accessible to first-time readers." (Assuming that this was your intended meaning.)	Jeremy Dittmer	
300dpi	No fix, I think the sentence is clear enough	"The middle ground was to allow people who had read about Wolfenstein 3D to get more out of this book without making it a necessity."	Suggestion: use em-dash to set apart parenthetical "Topics which would have been interesting to re-visit—such as the architecture of the VGA hardware, DOS TSRs, 386 Real-Mode, PC Speaker sound synthesis, the PIC and PIT, DDA algorithms and a few others—are mentioned but not extensively described since they were part of Game Engine Black Book: Wolfenstein 3D."		
300dpi	27 No fix	I have to confess I don't fully understand things like "apositives" even after reading it twice. This is above my English level.	Since the parenthetical content has a lot of commas, a version with em-dashes might be easier to parse ( <a href="#">reference</a> ).	Jeremy Dittmer	
300dpi	27 Fixed in 1.2	"the restricted real-estate"	"the restricted real estate" (no hyphen)	Jeremy Dittmer	
300dpi	No fix, capitalized because it spells FPS acronym.	"First Person Shooter"	"first-person shooter" (not sure why this was capitalized?)	Jeremy Dittmer	
300dpi	29 Fixed in 1.2	"Nobody even came close to challenging them... but for how long?"	"Nobody even came close to challenging them...but for how long?" (No space after ellipsis or space before and after.)	Jeremy Dittmer	
300dpi	30 Fixed in 1.2	"more powerful graphic adapters"	"more powerful graphics adapters" (Add "s" to graphic; "graphics adapter" is the most commonly used term.) Delete extra period.	Jeremy Dittmer	
300dpi	30 Fixed in 1.2	"The once-standard 2 MIB of RAM was now forecast to be 4 MIB."	As an aside, in your Wolf3D book you have a footnote explaining: "This book uses IEC notation where MIB is 2 <sup>20</sup> and MB is 10 <sup>6</sup> ." Might be worth repeating in this book.	Jeremy Dittmer	
300dpi	30 Fixed in 1.2	"and make Quake development ASM intensive"	Readers may not be familiar that ASM = assembly.	Jeremy Dittmer	
300dpi	34 Fixed in 1.2	Added reference to Amiga coprocessors	It's not clear what the relevance of coprocessors is here. Is it just relevant that they weren't present? Or is it related somehow to FPU capabilities?	Jeremy Dittmer	
300dpi	34 Fixed in 1.2	"An archaic graphic system"	"An archaic graphics system" (add "s" to graphic)	Jeremy Dittmer	
300dpi	34 Done in 1.2	"Adjusted for inflation the figure would be, as of 2018: \$10,476 for a PC, \$377.00 for a SNES/Genesis, and \$1,134 for a Neo-Geo."	"\$377 for a SNES/Genesis" (Consider deleting cents on SNES price since other converted dollar amounts don't have them.)	Jeremy Dittmer	
300dpi	36 Fixed in 1.2	"Figure 2.3: Motherboard PX486P3 by QDI Computer, Inc"	"Figure 2.3. Motherboard PX486P3 by QDI Computer, Inc." (Append period.)	Jeremy Dittmer	
300dpi	36 No fix.	You are right but this technically would probably confuse the less technical readers.	Technically, this motherboard supports up to seven ISA cards since the VLB slots were backwards compatible with ISA cards.	Jeremy Dittmer	
Paper (v1.1)	39 No fix, latex ran out of space and put it on the next page	"allow four ISA cards" footnote 9: "Source: John C. McCallum survey." The superscript 9 cannot be found in the text.	Place a footnote symbol where needed.		
300dpi	No fix, this is a quote that also gives an insight in the person's character	"The 386 actually had a small cache that eventually got exited"	I think "got exited" is bad grammar? Or a typo ("got excited")? I know this is a quote but you may want to consider adding "sic" or replacing with square brackets and a word that makes more sense grammatically, e.g., "[removed]".	Jeremy Dittmer	
300dpi	39 Fixed in 1.2	"Figure 2.5: Intel 486 architecture"	Append period for consistency with other figure captions.	Jeremy Dittmer	
300dpi	39 Fixed in 1.2	"Manufacturing technology improved from 1.5 $\mu$ to 1.0 $\mu$ allowing five times more transistors on die."	Scaling features to 2/3 of their previous size would only allow for a density increase of 1.5 <sup>2</sup> = 2.25, not 5. Maybe there was something else going on that allowed for additional density increases but this phrasing communicates that the 5x density was due to the 1.5x smaller transistors.	Jeremy Dittmer	
300dpi	40 Fixed in 1.2	"Andy Grove, "Only the paranoid survive.""	Delete period; this is the only quote box (I think) that ends with a period.	Jeremy Dittmer	
300dpi	41 Fixed in 1.2	"Figure 2.6: The Intel 80486 package"	Append period for consistency with other figure captions.	Jeremy Dittmer	
300dpi	No fix, the sentence explicitly specify the die is in a package.	"Figure 2.6 shows the Intel 486 die featuring 1,180,235 transistors inside its package."	Technically, the 486 die is not shown at all nor are any transistors. Only the ceramic housing or package and a few of the pins are visible.	Jeremy Dittmer	
300dpi	42 Done in 1.2	"Charting the 486's MIPS performance"	Given the likely reading audience, most people probably know what MIPS stands for. But since you've defined DRAM, SRAM, FPU etc. in footnotes, I think it would be appropriate to define MIPS as well. You could do this parenthetically, in a footnote, or even on the Y axis of your plot, e.g., "Million Instructions Per Seconds (MIPS)"	Jeremy Dittmer	
300dpi	42 Done in 1.2	"twice slower than suggested."	"two times slower" or "twice as slow" are the correct idiomatic expressions here. Also, it's not clear who is suggesting the anticipated speed. Maybe "twice as slow as the theoretical speed" or similar would work better.	Jeremy Dittmer	
Paper	44 Done in 1.2		"Starting from an empty pipeline, the 486 had a latency of 5 cycles compared to the 386, which had a latency of 4 cycles.		
300dpi	44 Done in 1.2	"It was a difficult constraint to fulfill for physical reasons."	This could be reworded to be clearer. The previous sentences is talking about the problem (stalling, halting processing) rather than the constraint needed to prevent the processor from stalling.	Jeremy Dittmer	
300dpi	44 Fixed in 1.2	"the gap increasing by 50%/year"	"the gap increasing by 50% per year" Not really an error but reads more easily without the forward slash and percent symbol being right next to each other.	Jeremy Dittmer	
300dpi	44 No fix	I disagreed. It is kinda cool to see how it evolved afterward.	The text of this chapter is clearly talking about conditions in the early 1990s — having the plot end in the early 1990s or highlighting the time period that is relevant to this chapter would be more consistent with the narrative.	Jeremy Dittmer	
300dpi	45 Done in 1.2	"Otherwise, additional Wait States were inserted in order to wait for the request to complete."	"complete" is a transitive verb and should always have an object (you always complete something). Possible corrections: "to finish" or "to be completed".	Jeremy Dittmer	
300dpi	45 Done in 1.2	"A two cycle bus request was the fastest a CPU could achieve." Missing hyphen in multiple-word adjective: "two-cycles"	"A two-cycle bus request was the fastest a CPU could achieve."	Jeremy Dittmer	
Paper (v1.1)	46 Done in 1.2	Under Fig. 2.17 ...1. Use ... the 128 dictionary directory entries."	Under Fig. 2.17 ...1. Use ... the 128 directory entries." or "directory dictionary entries."	Connor Cassidy	
300dpi	46 No fix.	Disagree with the problem stated. If the reader followed the previous drawings, it is obvious the rectangle is the CPU boundaries.	- "SRAM CACHE" -> "L1 CACHE" (since the L1 cache was just introduced); you could also note that the cache is SRAM in the diagram (you discuss SRAM vs. DRAM below) but in the context of the previous text, the reader wouldn't necessarily know that L1 cache and SRAM cache are synonymous.	Jeremy Dittmer	
300dpi	46 No fix	Cache hit rate is self-explanatory	- What is the rectangle around pipeline, SRAM cache, and bus unit?	Jeremy Dittmer	
300dpi	47 Fixed in 1.2	Figure 2.13 doesn't fit with the narrative text. "Designing the cache to yield the highest hit rate possible" — "hit rate" is never defined.	Define "hit rate" in a footnote or in one of the previous paragraphs.	Jeremy Dittmer	
300dpi	47 Fixed in 1.2	"Figure 2.14: Dynamic RAM and its two elements holding one bit of data"	Append period for consistency with other figure captions.	Jeremy Dittmer	
300dpi	47 Fixed in 1.2	"Figure 2.15: Static RAM made of six elements"	Append period for consistency with other figure captions.	Jeremy Dittmer	
300dpi	47 No fix	I think it is obvious that two lines makes the difference more noticable faster.	Does this hold one bit of data also (like the DRAM figure)? Provide a little more info about voltage variation detection: what it is and why it makes SRAM better.	Jeremy Dittmer	
300dpi	47 Done in 1.2	What is "voltage variation detection?" "Since it is located inside the chip" is ambiguous (there are lots of chips on the motherboard, the DRAM is composed of chips, etc.)	"Since it is part of the CPU chip" (or similar)	Jeremy Dittmer	
300dpi	No fix, this is a common expression	"Its small size (8 KiB) and heavy duty" This is an odd usage of "duty"	Consider: "duty cycle" or "usage" or "utilization"	Jeremy Dittmer	
300dpi	48 Done in 1.2	"Within each page there are 128 lines of 16 bytes (called cachelines)." Parentheses are unnecessary since this sentence is defining cachelines.	"Within each page there are 128 lines of 16 bytes called cachelines."	Jeremy Dittmer	
300dpi	48 Fixed in 1.2	"Figure 2.17: How a memory address is interpreted by the cache controller"	Append period for consistency with other figure captions.	Jeremy Dittmer	
300dpi	48 Fixed in 1.2	"Upon receiving a 32-bit address access request, the cache controller splits it into three fields." This sentence doesn't properly introduce the ordered list that follows (which is not a list of the three fields).	"Upon receiving a 32-bit address access request, the cache controller splits it into the three fields shown in figure 2.17 and performs the following steps."	Jeremy Dittmer	

Page	Status	Error	Correction	Name	Note from Fab
300dpi	48 Fixed in 1.2	"Update the flag F in the directory entry to update the LRU value." "LRU" is used here without being defined.	Move LRU footnote (22) from p. 49 to this page.	Jeremy Dittmer	
Paper (v1.1)	56 Fixed in 1.2	"Sequence controller" is a strange neologism, to the best of my knowledge not found in period literature and never used by IBM. Just do what IBM did, and call it "sequencer".	"sequencer"	Michal Necasek	
Paper (v1.1)	56 Fixed in 1.2	"Graphic controller" is an invented term, completely redundant and confusing. It is "graphics controller". See IBM EGA/VGA technical references.	"graphics controller"	Michal Necasek	
Paper (v1.1)	62 Fixed in 1.2	"The VLB (VESA Local Bus) doubled ISA's bus data lines to 32 bits and increased its frequency to 33 MHz, making it up to 10x faster when compared to the slowest ISA bus." The original PC bus ran memory accesses with four clocks per bus cycle, so the bandwidth was 4.77/4=1.1925 MB/sec. VLB could run 32-bit zero wait state cycles, so 133 MB/sec at 33 MHz. Which is about 100x faster than "the slowest ISA bus". Alternatively, the fastest standard 16-bit ISA bus at 8.33 MHz could transfer 8.33 MB/sec (see ISA and EISA Theory of Operation by Edward Sclan). Some boards could run faster, if one were really really lucky it might be possible to push past 10 MB/s on ISA. Then VLB was about 10x faster. Of course that's all theoretical bandwidth and the real numbers looked pretty different... "There was also a combo LAPC-1 card which combined both the adapter and an MT-32 successor, the CM-32L, inside a single ISA card." The CM-32L was not a successor, it was an alternative model with no front panel. The MT-32 was meant to be used with other musical instruments (keyboards etc.) while the CM-32L was meant to be attached to a computer. Different target markets.	Either "10x faster when compared to the fastest ISA bus" or "100x faster when compared to the slowest ISA bus".	Michal Necasek	
Paper (v1.1)	70 Fixed in 1.2	2nd paragraph: "An user..."	"an MT-32 variant, the CM-32L"	Michal Necasek	
Paper (v1.1)	72 Fixed in 1.2	"Finding a cool BSS"	"A user..."	Christian Hein	
Paper (v1.1)	74 Fixed in 1.2	"Various tricks had to be used, among them faking a keyboard Ctrl-Alt-Del reboot to reset the CPU without actually rebooting." The keyboard controller (really a microcontroller) on the system board was used to reset the CPU directly, by generating a RESET signal. Please remove the bit about Ctrl-Alt-Del unless you can show at least one piece of software which actually did that. The keyboard controller reset was designed in, because the PC/AT BIOS itself needed to switch to protected mode and back when testing extended memory.	"Finding a cool BSS"	Vinicius Oliveira	
Paper (v1.1)	79 3/Issues/15	No fix, this is a wot3D book issue. Opened <a href="https://github.com/fabiensanglard/gebbwof">https://github.com/fabiensanglard/gebbwof</a>	"Various tricks had to be used, among them using the keyboard controller to reset the CPU without actually rebooting."	Michal Necasek	
Paper (v1.1)	80 Fixed in 1.2	"In 1987, three Ph.Ds (Fred Crigger, Ian McPhee, and Jack Schueler) made it the first C compiler to run on an IBM PC." No they did not, obviously. Watcom C probably wasn't even among the first ten C compilers on the PC. There had been PC C compilers since 1982-1983 - Lattice, Aztec, Microsoft, DeSmet, and many others before Watcom. What Watcom had was a fairly advanced code generation technology, used with their FORTRAN 77 compilers. At some point they added a C front end and ported everything to the PC. Also according to Wikipedia, Watcom C 6.0 (the first PC version) was released in 1988, not 1987. And yes, they used version 6.0 because that was higher than MS C 5.0/5.1 current at the time.	"In 1988, three Ph.Ds (Fred Crigger, Ian McPhee, and Jack Schueler) adapted the Watcom C compiler to run on an IBM PC." This sentence (which occurs in the context of describing Motorola 68030) suggests that 68030 was a RISC architecture. It was not, due to many factors ( <a href="https://en.wikipedia.org/wiki/Motorola_68030_series">https://en.wikipedia.org/wiki/Motorola_68030_series</a> ). Also, "where load and store have to be done manually" is somewhat obscure as well (manually as opposed to what?) This is probably better phrased as "where instructions operating on the memory directly are uncommon - so e.g. in order to increment a variable, you need to load it into the register, increment it, and store back". Again, this was not a problem of 68030 whose instructions accepted memory operands, so might be the best correction would be: "Sixteen general-purpose registers were available which is more typical for RISC architectures, where instructions operating on the memory directly are uncommon, however the processor was CISC."	Michal Necasek	
300dpi	89 Fixed in 1.2	"Sixteen general-purpose registers were available which is pretty common for a RISC architecture where load and store have to be done manually"	"Sixteen general-purpose registers were available which is more typical for RISC architectures, where instructions operating on the memory directly are uncommon, however the processor was CISC."	Arciel Rekmann	
300dpi	100 Fixed in 1.2	"No doubt the colortone was the subject of much debates at NeXT headquarters."	Should be "much debate" (or possibly "many debates")		
300dpi	109 Fixed in 1.2	"Reportedly due to Steve Jobs disdain for video games, ..."	Missing apostrophe for the possessive. Should be: "Reportedly due to Steve Jobs' disdain for video games, ..."	Hamza Haiken	
300dpi	139	No fix, the screenshot illustrates from what id Software transitioned from. They never used Watcom editor. They used Borland for Wolf3D so the screenshot is appropriate.	In section 2.9 Programming you show Borland C++ IDE screen. But the game was actually compiled using Watcom tools, not Borland's. I know that it was written and edited on NeXTSTEP, but it would probably be less confusing for the reader to see Watcom's editor here, not Borland's.	TeenAeg	
Paper	140	NO fix, seems to be unverified story.	No place credit this, and only Bobby Prince can tell the truth, but here is the song that inspired (maybe copied the riff?) At Doom's Gate E1M1 - Quasimodo - Down And Out: <a href="https://www.youtube.com/watch?v=NgGjAaIV-5o">https://www.youtube.com/watch?v=NgGjAaIV-5o</a> More details about the creation of the song here: <a href="https://www.facebook.com/2944867955/posts/from-carl-edge-on-recording-the-original-45-single-down-and-out-which-was-used-f/10152515736177966/">https://www.facebook.com/2944867955/posts/from-carl-edge-on-recording-the-original-45-single-down-and-out-which-was-used-f/10152515736177966/</a> The song was re-purposed for the show Fishmaster which came in Summer 1993 before Doom's release in winter 1993.	R3tr0D3vR3X	
Paper (v1.1)	146 Fixed in 1.2	1st line: "id software"	"id Software"	Christian Hein	
Paper (v1.1)	153 Fixed in 1.2	2nd paragraph: "id software"	"id Software"	Christian Hein	
Paper (v1.1)	157 Fixed in 1.2	"... WATCOM.EXE and the WLINK.EXE linker which generated DOOM.EXE." To the best of my knowledge, there was never any WATCOM.EXE. The 32-bit compiler executable was WCC386.EXE (WCC = Watcom C Compiler). Same nonexistent WATCOM.EXE is referenced on page 160 in the diagram. Also, if you can find out, it would be great to know which NFS client id used, since there were so many. "There is almost twice as much code [in Doom] as in Wolfenstein 3D."	"... WCC386.EXE and the WLINK.EXE linker which generated DOOM.EXE." I notice that later wcc386ia.exe is referenced, which was the protected-mode version of the 32-bit Watcom C compiler.	Michal Necasek	
Paper (v1.1)	162 Fixed in 1.2	"This seems to contradict Figure 5.6, where Doom only has about 1.4 times as many LOC as Wolf 3D." "Upon starting up on NeXT the memory manager allocates 4 MiB of RAM and not a byte more. This is done in order to make sure the advertised minimum 4 MiB configuration is sufficient." That does not add up. A PC with 4 MiB RAM was never ever going to have 4 MiB of memory available for DOS extended application use. If DOS4GW could (and I believe it could) unify conventional/extended RAM, conservatively there may have been only 3 MiB extended memory plus at most a few hundred KiB conventional RAM. Even in the best case, more than about 3.5 MiB available memory is unlikely to be available. So how much did DOOM really need?	Remove sentence or correct it to say something like "There is almost 40% more code than Wolfenstein 3D had."	Christian Hein	
Paper (v1.1)	172	Note from FAB: It needed 4MiB. Once in protected mode there was no more conventional or extended memory. If you had 4 MiB of RAM on your machine you had 650 conventional, 384 high memory, and 3 MiB extended in real mode. In protected mode, you had 4MiB flat addressing memory.	If the NeXT version really used 4 MiB, please explain why the DOS version needed less. Note from FAB: I am 100% sure DOS version required a minimum of 4 MiB RAM. The DOS extender placed the CPU in protected mode which gave the CPU access to the whole RAM.	Michal Necasek	
300dpi	174	UDOOM.WAD	The Ultimate Doom IWAD was named DOOM.WAD in the original games (including the id Anthology); it was shipped as UDOOM.WAD or DOOMU.WAD in collections such as doomgod.com's to separate it from the first DOOM.WAD.	Stephen Kitt	
Paper (v1.1)	180	No fix, this is how it is called in the source code. I prefer to kee[...and one dirtybox (used as a "dirty rectangles")."	I'm not familiar with dirtyboxes, but perhaps something like "used for "dirty rectangles" or "storing "dirty rectangles" was meant here.	Christian Hein	
300dpi	197 Fixed in 1.2	In April 1994, the contractor was nowhere to be seen.	April 1994 doesn't make sense. The SNES port of Wolfenstein 3D was released in February 1994. id Software would have stopped development of DOOM to finish the SNES port and adopted BSP trees for Doom between April 1993 and October 1993.		
300dpi	197 Fixed in 1.2	"... rendering three things."	Since an enumeration follows, the full stop should be a semi-colon instead: "... rendering three things."	Hamza Haiken	
Paper	228 Fixed in 1.2	Missing figure number: "In figure ?? you can see how the original [...]"			

	Page	Status	Error	Correction	Name	Note from Fab	
	300dpi	230	No fix (cannot find the ??)	"Figure ??"			
	Paper (v1.1)	255	Fixed in 1.2	Before Carmack quote: "id software"	Hamza Haiken		
	Paper	258	Fixed in 1.2	Sound propagation was used in an inventive in level E1M9	Christian Hein		
	Paper (v1.1)	264	Fixed in 1.2	2nd paragraph: "directly"	Chris Good		
	Paper (v1.1)	267	Fixed in 1.2	1st line: "spawing state"	Christian Hein		
	Paper (v1.1)	318	Fixed in 1.2	"It was reportedly capable of rendering 76,458 polygons/s which meant about 15 fps for <b>Starfox</b> ."	Julien Bono (@fetzu)		
	Paper (v1.1)	318	Fixed in 1.2	"Upon witnessing <b>Starfox's</b> phenomenal success, other studios became interested in the technology." First revision of MARIO is clocked at 21.4Mhz but it has an internal divider that halves it to 10.7 Mhz. Second generation doesn't have that divider and the speed is the full 21.4Mhz. In the sketch the blockmaps are numbered. The "8" is covered with some sort of another symbol like a "c"	Julien Bono (@fetzu)		
	300dpi	320	Fixed in 1.2		Manuel Sagra		
	300dpi	320	No fix, I cannot understand where the error is.				
	300dpi	333	Fixed in 1.2	On October 27, 1997, Sony gathered...	Manuel Sagra		
				1997 doesn't make sense. It's 1993 <a href="https://www.kotaku.com.au/2014/12/what-jurassic-park-did-for-the-original-playstation/">https://www.kotaku.com.au/2014/12/what-jurassic-park-did-for-the-original-playstation/</a> Just my two cents on this as I am working with the Doom 3DO source code and have some knowledge of the 3DO hardware.			
				A primary reason Rebecca had to software render the flats, is that it wasn't as easy (or possible) to fully simulate the horizontal span renderer with the CEL engine per scanline. The vertical wall columns where more fitting for this, as the walls are perpendicular to the floor and the player only rotates around the vertical axis. Thus, a vertical column on screen space will always map to a linear sequence of pixels on the bitmap. The CEL engine is a forward renderer, so it always reads a bitmap row in a linear fashion and outputs at an arbitrary slope on the screen. The way the flats were drawn in the original Doom pipeline, was to render horizontally in the screen but sample at an arbitrary slope from the bitmap, exactly the opposite than CEL engine is accustomed. It was only a lucky occurrence that because of the limited player degrees of freedom, the rendering of the wall columns would at least match correctly with a linear bitmap sampling using the CEL engine. And a way in my opinion to use more efficiently the CEL engine for flats rendering, would be to massively alter the pipeline of the Doom engine, so that rather than receiving horizontal spans for final rendering, to get back transformed quads from subdividing each visible sector. Of course that would need an enormous change in the engine (and would also come with other problems because of the lack of texture coordinates and smooth shading), putting it out of the question because of the very strict deadline.			
				From what I've discovered, the CEL engine is still used to render the horizontal spans, but just pointing the start of each scanline at sequential position in a big buffer and without any scaling involved. Then, the software renderer will alter the texture data inside the buffer, doing a regular inverse mapping, sampling at an arbitrary slope from the bitmap and writing linearly back in the buffer, just like the original Doom software renderer did. This seems a bit of an overkill, but the reason that rendering directly to the videoram wasn't preferred, is that the videoram is not linear and is 16bit, while the CEL texture prepared for the flats is linear and 8bpp, more easy to software render without much hassle (the wall textures in contrast are 4bpp (paletized, so that's enough with a unique palette for every different texture), but software rendering in 4bit would be more slow trying to merge high and low 4bit pixels in one byte, while going directly for 16bit would need the flat textures and the CEL buffer to take double the memory space). Another advantage of using CELs everywhere, even in the flats, is that there is a hardware function to shade a CEL. This isn't however smooth shading ( Gouraud ) but rather a single shade value for a whole CEL. But since we have broken flats as horizontal CEL spans, we can shade uniquely every scanline, and the depth value will be only the same in a single horizontal scanline, and that comes perfectly with using the hardware shading functionality. So, while unit software rendering happens inside the CEL texture, we get the depth shading using the hardware as a bonus. It's also the case with splitting walls into wall column CELs.			
	Paper	344	No fix, this is way too much info.	"with the release of the XBox"	Michael Kargas		
	Paper	351	Fixed in 1.2		James Mansfield		
			No fix, the end of the section discuss what happened to Sega after the Saturn. The Dreamcast and its protection issues are appropriate.				
	300dpi	353	Fixed in 1.2	"The copy protection was hacked early on. Electronic Arts refused to release its popular E.A. Sports games on the platform"			
	Paper	401	Fixed in 1.2	from player to player	Dan Bassi		
	300dpi	407	Fixed in 1.2	(which generally varies from player to player	macias		
	Paper (v1.1)	409	Fixed in 1.2	3rd question: "id software"	Christian Hein		
		27 (33 in v1.1, PDF)	Fixed in 1.2	INPUTS underline and OUTPUTS underline are not at the same height (not aligned), messing with borderline obsessive crazy people ^^			
	Paper	47-48	Fixed in 1.2	"no contention with other devices" is missing a period at the end of the sentence	Pierre CHARLES		
	300dpi	47-48	Fixed in 1.2		Jeremy Dittmer		
	300dpi	75(v1.1)	Fixed in 1.2	Model dials 1-(570)-234-0001	Maxim Krivenkov		
				Model dials 1-(570)-234-0003			

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