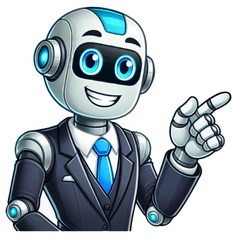
I'm not a robot



Creating a City Layout is an understatement - one wrong setup can limit the spaces of the game. If a player wants to have a successful city, a good and well-planned foundation is the key. Let’s look at the best SimCity Layout that a beginner, and even a SimCity enthusiast, can take inspiration from. 10. Tamarin Island on our list is Tamarin Island. The road layout is well crafted and artfully done. This design can generate and attract prospective residents because of the spacious spaces. If this city invests in green spaces, in no time this will become a metropolis. I hope this exists in the real world since the urban planning of each zone and the spacious road can ease the traffic congestion of every city that has a traffic problem. 9. Luckyring City won't cross our minds to create a complex layout design for urban planning because of the risk that it might not be as effective as the other conventional layout design in terms of attracting prospective residents, waste of potential spaces, and many other reasons. But Luckyring City made it possible!What I observe in this unconventional layout design is that the mayor invested in green spaces - trees, parks, and so on. A huge roundabout in the middle of the city is a smart move since it can help to relieve the possible traffic problem in the city.8. #21 city is from the same creator of the previous city mentioned. Home of beautiful skyscrapers with a whopping 400,000 residents. How can this city manage to have a quality of living with lesser traffic jams and pollution? Here is what I observe. The creator invested in mega towers and roads in order to accommodate the needs and wants of the residents. In addition, this mayor chose to have pollution-free services like solar power plants. 7. Paris, France Player! The real-life city of love is considered one of the best urban planning in the world due to more pedestrian-friendly designs and fewer cars. But will this design layout work in Simcity? Let’s take a look. The city has the iconic runaround with the Arc de Triomphe. The creator also took inspiration from the arrondissement - the administrative division of Paris. It creates a circular road map that connects with the runaround. 6. Highway Interchangeable sign of a prosperous city is high-end buildings, magnificent infrastructures, and of course, a vast highway. In this city, the mayor of this city created roads and highways that look like a real city. I like how the creator of the city divides each district. The highway is spectacular with the wide roads that the mayor future-proof the city. I also observe the beachside has multiple taverns for its residents. 5. Anaconda Bay with Luckyring City, this city has a complex urban layout, but in a subtle way. Anaconda Bay’s urban zoning is quite complex but well planned. The way the mayor designates where the schools, residential, and parks are in a right place. A big plus for making huge spaces for green areas.4. Riverbend City is not about huge space that matters, it is how you maximize the spaces. Just like in the case of Riverbend City. Having a river in a city is an advantage. It makes the city inviting and environmentally friendly to residents. The road layout is also good that it makes the city huge compared to its size. 3. City of Future does it look like living in a futuristic city? This urban layout is specifically created for the future. An octagon-inspired layout with eight mega towers is a definition of less is more. This design speaks that we don't really need a lot of buildings just to have a thriving city. The household services (sewage system and alike) are in a right place. What a future we will live in!2. Sawyer’s Crossing to the second place is Sawyer’s Crossing. Personally, I like this city because there is a suburban zone that looks like a real-life town. Across the river is the commercial zone where the daily course of business is happening. In addition, the green spaces like the park are placed in the middle of the city which creates a livable ambiance for its residents. 1. New York City Share — copy and redistribute the material in any medium or format for any purpose, even commercially. Adapt — remix, transform, and build upon the material for any purpose, even commercially. The licensor cannot revoke these freedoms as long as you follow the license terms. Attribution — You must give appropriate credit , provide a link to the license, and indicate if changes were made . You may do so in any reasonable manner, but not in any way that suggests the licensor endorses you or your use. ShareAlike — If you remix, transform, or build upon the material, you must distribute your contributions under the same license as the original. No additional restrictions — You may not apply legal terms or technological measures that legally restrict others from doing anything the license permits. You do not have to comply with the license for elements of the material in the public domain or where your use is permitted by an applicable exception or limitation . No warranties are given. The license may not give you all of the permissions necessary for your intended use. For example, other rights such as publicity, privacy, or moral rights may limit how you use the material. life My approach to starting up new city, up to Level 16 I’ve been playing SimCity BuildIt for years now. I was increasingly frustrated in last year or so since I used up all my possible expansion slots and essentially got stuck with no room to expand. The good folks at r/SCBuildIt – especially the very helpful Katdanzer – recommended to start a new city, under new account. Then later make sure to connect that account with your original one and use the new one as some sort of expanded storage and feeder city. This gave me a chance to build fresh. Here’s how I did it. General layout Your initial target is just build up and expand until you can cover roughly 24x24 area with just residential areas (R) and few required utility shops. Also, make sure to move the industry as much as possible to the edges of the map. Here’s the final layout I aimed for: First – group all the R areas in the same corner, towards the beach. Sprinkled between them are Hardware and Building Supplies Store but they don’t have to be there. I just did not need to move them yet. Industry is far to the right, to avoid contaminating the Rs. Government buildings are in-between, since they are not affected by pollution. Since those buildings take up 3x2 area, I use the remaining row of 1x1 areas to place water towers and small Wind Power Plants. This is the most efficient use of space. When to level up You can freely level up as you wish until the Level 5. You basically build Rs, upgrade them as they appear, build first two stores etc. There is only one rule: build Wind Power Plants and Water Towers as soon as they are required. Level 6 is dangerous, since this is where citizens will demand Fire stations. While you can build smaller ones at first, I consider them a waste of money. It’s better to save up some coins and go straight for the Deluxe Fire Station, which costs 21k. Earning this much is hard since the only way to earn money is by residential build and upgrade, which will increase demand for Power and Water utilities. Thus the idea here is to have enough Power and Water supply so you can freely update the Rs and thus earn the coins before you need the Fire protection. If I recall correctly, 3 Water Towers + 2 Wind Power Plants is enough at first. I never build the Coal Power Plant as I despise pollution. I stay on Level 5 until I reach Power & Water 18/18 supply/demand ratio and only then I move to Level 6. At first I ignored the requests for Fire stations and went straight to upgrading only Rs and Power and Water until the very top edge of the Level 7. Do not upgrade to Level 8! (More on this later.) After some time, some of the Rs will be abandoned due to missing Fire stations but you will have enough room to continue building and upgrading other residential areas. Citizen happiness drops but hovers between 80-90% thus still giving you decent tax income as long as you have Power and Water. That’s far more important than Fire protection. Hence money will still flow in and at some point you will have 21k available. Refrain from building new stores — they are very expensive at this stage of the game — until you absolutely need them. I place Building Supplies and Hardware Store and nothing else for a really long time. If the residential upgrade requires something from the newer store — say veggies from Farmer’s Market — I would ask for a different offer until I get one I can satisfy with existing factories and stores. General tip: do not rush and blindly build everything you see. Wait until the City Achievements appear and then fulfill those; it’s one of the most valuable money makers this early in the game. The magic happens when you get the 21k and place the Fire station. Your citizen’s happiness rockets back to 100%. Expansion items By this point, you will be given storage expansion items from the opinion balloons; keep collecting them as much as possible and upgrade your storage as much as you can. As clever people said, general rule is to aim for 10× ratio between your level and maximum storage capacity. Thus Level 6 = 60, Level 7 = 70 etc. Stay on Level 7 as long as you need so you earn enough money to build 5-6 Water Towers and until you can build 2 Deluxe Wind Power Plants. 5 Water towers = 45 supply 2 Deluxe Wind Power Plants = 44 power supply My steps are to first build one Deluxe Wind Power Plant which costs 15k then wait until I earn 9k from tax and selling items to citizens. At this point, bulldozing two smaller Wind Power Plants (which are worth 12 power units total) will give you back 6k simoleons and you will have 15k to replace them with another large Wind Power Plant worth 22 units. Now you have a choice to make: how you will earn 35k simoleons? Play the long game and stay on Level 7 and earn money from tax and selling to citizens. This will take a while, few weeks of daily play at least. Or level up and rush through until Level 11. Level 8 to 11 On level 8 you will be asked to build Sewage utilities. I hate polluting utilities so I go straight for the Deluxe Sewage Treatment Plant which costs the mentioned 35k. It gives you 55 supply units which is just above what you usually need here. No brainer. Citizens are very sensitive to sewage thus tax income will drop heavily. It’s not uncommon that citizen happiness drops down to ~50%, which leads to very low tax income. Hence the mentioned choice. If you have planned your Rs inside the 22x22 grid, then that one Deluxe Fire Station is enough to cover them. Which means you have enough room to rush through build and upgrade and earn money that way. Interesting but brutal money making strategy: as citizens abandon areas, bulldoze them down and re-build. This will keep earning you money and your 44/45 Power/Water supply will be enough. Make sure to spread out the R upgrades as the game tends to favor some locations and keep offering the same spot. Upgrading a building too much will cause traffic jams and you will have another reason for unhappy citizens. On Level 9 replace the factories: Basic factory takes the same room as Small, costs just 500 Simoleons but has one extra production slot. Very much worth it at this point. On Level 10 you will be able to use area expansion items. First expand beyond the industry area; you’ll see why when you get to Level 14. Make sure to not upgrade to Level 12, because that’s where you’ll need to add Police stations. Stay on Level 11 until you have the Sewage sorted out and until you build more Power and Water units. Always plan ahead with every utility. Level 12-13 Police Precinct is the way to go. Costs 36k so make sure you have a steady income to get that amount. Stay very long here and pile up some coins, you will need them. CRITICAL: Around levels 11-13, you will probably have enough Citizens to get access to Trade Depot (8k) and Global Trade HQ (10k citizens). As you get here — stay here. Not only will the game give you a lot of area / storage expansion through people opinions but you have the highest possible chance to encounter those items in the Global Trade HQ. As you level up, you will have more possible items and thus less chance to get expansion items. It is critical to stockpile up as much as possible now. Storage items are much more important. I recommend to stay for a long time on this level and just keep collecting the expansion items. A month or two at least. Level 14-15 This is where you will need to build Waste Management utility. Garbage Incinerator is horribly polluting but costs just 15k and gives you 40 supply units. Recycling Center has supply of 70 units but costs 60k (!). That clean air costs a lot so I would go here for the two Incinerators until I have enough money to replace them with Recycling Centers. Incinerator’s 16x16 pollution area will not be an issue if you have expanded as I recommended at Level 10. Place them as further away from residential areas as possible and you’ll be fine. Level 16+ On 16th you’ll be asked to provide Health Services. Hospital is 32k and covers a 24x24 area. If you place your Deluxe Fire station, Police Precinct and Hospital smartly, they will take up just 6x6 area and cover 24x24 grid of houses. This would honestly be enough to build a nice little city which you can keep there for a long time. Start adding schools, transportation, parks etc – this will all increase your population. Take it slow from here and plan a lot. Keep collecting money — you can never have enough. At some point, add another trio of Fire/Police/Health and expand into another 24x24 grid. I have 3 cities now. My main city is at Level 56 and I’m building it for years. Main issue with it is that I have 280 storage capacity and it is very tight. There are so many ways to play the game – Contents of Mayors, Club Wars, Regions to builds — which require considerable resources to play. I built two more cities which I deliberately keep at Levels 11 and 17 and use them to collect storage expansion items. Through dummy Facebook accounts, I have connected them as friends and use the smaller cities as feeders for the main one. Once I get my main city to 600 storage capacity, I’ll see what to do with the smaller ones. Will probably use them to build some wild layouts. SimCity is wonderful game. It’s very complex above Level 18 since there are so many stuff to do, multiple currencies and resources. You now have Regions with up to 3 different new lands separate from your main city. Very rich, very complex game. If you are patient and like to build slowly, I can easily see you playing the game for a decade. Superior InteractiveGenreVideo game publisherFounded1982FounderRichard Hanson, John DysonHeadquartersLeeds, EnglandKey peopleSteve Botterill, Chris PayneProductsRepton, Citadel, Thrust, Zarch, ExileWebsitewww.superiorinteractive.com Superior Interactive (formerly known as Superior Software Ltd) is a video game publisher. It was one of the main publishers for the BBC Micro and Acorn Electron computers in the 1980s and early 1990s, and occasionally published software to the Commodore 64, Amiga, ZX Spectrum and Amstrad CPC. It currently releases games for Microsoft Windows, iOS and Android, mostly updates of its original games. Per its original name, Superior Software was founded in 1982 by software writers Richard Hanson and John Dyson, university graduates with degrees in Computational Science and Physics of Natural Resources respectively. They had previously programmed software published by Micro Power, and they wrote Superior's first four game releases for the BBC Micro;[1] three were written by Hanson and one by Dyson. Describing the early days, Hanson commented: We set up Superior Software with just £100 – John and I each put £50 into a company bank account; and we placed a small black-and-white advertisement in one of the early home computer magazines ... £100 was the most money that we would lose from the Superior Software venture if it had not worked out. Anyway we received a very good response to our first advertisement, and the software sales which it generated covered the cost of the advertisement several times over. We started to place larger advertisements in a few magazines, and invited other programmers to send their software to us for evaluation and possible marketing by us.[2] Key management included Steve Botterill as general manager, and Chris Payne as marketing manager.[3] By the end of 1983, the business had grown substantially, but John Dyson was unwilling to commit more fully to the operation, being employed as a technician at BBC Television in Leeds. Thus, Richard Hanson brought his older brother, Steve, into the business, which moved out of the homes of its founders and into dedicated premises.[4] In 1983, its unauthorised version of Hunchback reached the number one position in the BBC charts.[5] Century Electronics took out an injunction to prevent the game from being sold,[6] later reaching a licensing agreement.[7][8] In 1986, Superior acquired the rights to use the Acornsoft brand name and back catalogue as Acorn wanted to focus on hardware. This led to the re-release of some of Acornsoft's most popular titles under the joint Superior Software / Acornsoft label, including David Braben and Ian Bell's Elite and Geoff Crammond's Revs.[1] Their best-known games are the Repton series of games, which have sold over 125,000 units in total.[3] Other notable Superior Software games for the BBC Micro and Acorn Electron include Overdrive, Citadel, Thrust, Galaforce, Stryker's Run, Ravenskull and Exile. They also published Zarch for the Acorn Archimedes, as well as follow-up games using the same engine, Conqueror and Air Supremacy.[9] As well as original titles, Superior also released a number of official conversions of popular games from other systems including Barbarian, The Last Ninja, Predator, Hostages and Sim City. They also published a number of educational and utility software titles including the speech synthesis program Speech!. Play It Again Sam 2 compilation (Acorn Electron cassette) The "Play It Again Sam" series of compilations included re-releases of their old titles, with four games for the usual price of one. The original Play It Again Sam featured four Superior games (Citadel, Thrust, Ravenskull, and Stryker's Run), while subsequent compilations increasingly featured games licensed from other software houses such as Micro Power or Alligata. These compilations also occasionally included some new games that were thought to be not quite up to the standard of their full price games. The series eventually ran to 18 entries for the BBC Micro.[1] Superior Interactive mainly develops and publishes software for computers and devices running Microsoft Windows, iOS and Android. They have released updated versions of some of their popular 1980s hits for these systems, including the original three Repton games, additional Repton levels, Galaforce Worlds, Ravenskull, Pipeline Plus and Ricochet. Battle Tank Invaders Centibug Alien Dropout Hunchback (1983, BBC port) Overdrive (1984) Stranded Mr Wiz Percy Penguin Smash and Grab Tempest (1985, BBC/Electron ports) Repton (1985) Deathstar (1985) Repton 2 (1985) Citadel (1985) Karate Combat (1986) Thrust (1986) Galaforce (1986) Stryker's Run (1986) The Legend of Sinbad (1986) Ravenskull (1986) Repton 3 (1986) Elite (1986, enhanced) Revs plus Revs 4 Tracks (1986, enhanced) Syncron (1987) Kix (1987) Grand Prix Construction Set (1987) Around the World in 40 Screens (1987) Codename: Droid (1987) Crazee Rider (1987) Palace of Magic (1987) Zarch (1987) Elixir (1987) Bone Cruncher (1987) Spellbinder (1987) The Life of Repton (1987) Zany Kong Junior (1988, re-release) Quest (1988) Spycat (1988) Conqueror (1988) Barbarian (1988, BBC/Electron ports) Repton Thru Time (1988) Pipeline (1988) Cosmic Camouflage (1988) By Fair Means or Foul (1988) Exile (1988) Imogen (1988, Electron port) Repton Infinity (1988) The Last Ninja (1988, BBC/Electron/Archimedes ports) Galaforce 2 (1988) A Question of Sport (1989, BBC/Electron ports) Firetrack (1989, Electron port) Repton Mania (1989) Barbarian II (1989, BBC/Electron ports) Camelot (1989) Qwak (1989) Predator (1989, BBC/Electron ports) Ballistix (1989, BBC/Electron ports) Superior Soccer (1989) Ricochet (1989) Baron (1989) Last Ninja 2 (1989, BBC/Electron ports) Perplexity (1990) Hyperball (1990) Pandemonium (1990) Hostages (1990) Superior Golf (1990) Star Port (1990) SimCity (1990, BBC/Electron/Archimedes ports) Master Break (1990) Air Supremacy (1991) Cyborg Warriors (1991) The Network (1991) Vertigo (1991) EGO: Repton 4 (1992) Technodream (1993) Tactic (1993, BBC/Electron ports) Citadel 2 (1993) The Acornsoft Hits (1987) The Superior Collection (1987) Play It Again Sam (Electron: 1987-1991, BBC Micro: 1987-1993, Archimedes: 1992-1994) Toolkit (1983) Assembler (1983) World Geography (1983) Disassembler (1984) Constellation (1984) Planetarium (1984) UK Geography (1984) Speech! (1985) ^ a b c "From the Archives: Superior Software". Retro Gamer. No. 79. Imagine. 22 July 2010. p. 46. ^ Boylan, Crispin (1998) Interview: The Superior Software Years And The Future, beebgames.com ^ a b Payne, Christopher. "Working at Superior Software". Christopher John Payne. Retrieved 12 January 2024. ^ Leah, Tony (November 1989). "Heading for the century". Electron User. pp. 36–38. Retrieved 26 November 2024. ^ "Charts". Popular Computing Weekly. No. 38. Sunshine Publications. 22 September 1983. p. 47. Retrieved 17 April 2023. ^ "For whom the bell tolls". Popular Computing Weekly. No. 35. Sunshine Publications. 1 September 1983. p. 1. Retrieved 17 April 2023. ^ "Century collapses". Popular Computing Weekly. No. 5. Sunshine Publications. 2 February 1984. p. 5. Retrieved 17 April 2023. ^ "The Making of Hunchback". Retro Gamer. No. 164. Future Publishing. 26 January 2017. pp. 58–61. ^ "Computing Games published by Superior Software Ltd at the Centre for Computing History". Superior Interactive website Superior Interactive profile from MobyGames Retrieved from " "2B1" redirects here. For the song, see Gemini Syndrome.Laptop computer This article has multiple issues. Please help improve it or discuss these issues on the talk page. (Learn how and when to remove these messages) This article may be in need of reorganization to comply with Wikipedia's layout guidelines. Please help by editing the article to make improvements to the overall structure. (May 2015) (Learn how and when to remove this message) This article's factual accuracy may be compromised due to out-of-date information. Please help update this article to reflect recent events or newly available information. (October 2009) A major contributor to this article appears to have a close connection with its subject. It may require cleanup to comply with Wikipedia's content policies, particularly neutral point of view. Please discuss further on the talk page. (December 2018) (Learn how and when to remove this message) This article may need to be rewritten to comply with Wikipedia's quality standards. You can help. The talk page may contain suggestions. (May 2020) (Learn how and when to remove this message) OLPC XOAn XO-1 prototypeManufacturerQuanta ComputerTypeSubnotebook[1]Release dateNovember 2007Media1 GB flash memoryOperating systemFedora-based (Linux) with Sugar GUICPUAMD Geode LX700@0.8 W + 5536Memory256 MB DRAMDisplaydual-mode (backlit color, direct-sunlight grayscale) 19.1 cm (7.5 in) diagonal TFT LCD 1200×900InputKeyboard, touchpad, microphone, cameraCamerabuilt-in video camera (640×480; 30 FPS)Connectivity802.11b/g /s wireless LAN, 3 USB 2.0 ports, MMC–SD card slotPowerNiMH or LiFePO4 removable battery packDimensions242 mm × 228 mm × 32 mm (9.5 in × 9.0 in × 1.3 in)WeightLiFePO4 battery: 1.45 kg (3.2 lb); NiMH battery: 1.58 kg (3.5 lb)Websitelaptop.org The OLPC XO (formerly known as $100 Laptop,[2] Children's Machine,[3] 2B1[4]) is a low cost laptop computer intended to be distributed to children in developing countries around the world,[5] to provide them with access to knowledge, and opportunities to "explore, experiment and express themselves" (constructionist learning).[6] The XO was developed by Nicholas Negroponte, a co-founder of MIT's Media Lab, and designed by Yves Behar's Fuseproject company.[7] The laptop is manufactured by Quanta Computer and developed by One Laptop per Child (OLPC), a non-profit 501(c)(3) organization. The subnotebooks were designed for sale to government-education systems which then would give each primary school child their own laptop. Pricing was set to start at US$188 in 2006, with a stated goal to reach the $100 mark in 2008 and the 50-dollar mark by 2010.[8] When offered for sale in the Give One Get One campaigns of Q4 2006 and Q4 2007, the laptop was sold at $199.[9] The rugged, low-power computers use flash memory instead of a hard disk drive (HDD), and come with a pre-installed operating system derived from Fedora Linux, with the Sugar graphical user interface (GUI).[10] Mobile ad hoc networking via 802.11s Wi-Fi mesh networking, to allow many machines to share Internet access as long as at least one of them could connect to an access point, was initially announced, but quickly abandoned after proving unreliable.[11] The latest version of the OLPC XO is the XO-4 Touch,[12] which was introduced in 2012. Main article: One Laptop per Child OLPC XO-1 original design proposal The first early prototype was unveiled by the project's founder Nicholas Negroponte and then-United Nations Secretary-General Kofi Annan on November 16, 2005, at the World Summit on the Information Society (WSIS) in Tunis, Tunisia.[13] The device shown was a rough prototype using a standard development board. Negroponte estimated that the screen alone required three more months of development.[citation needed] The first working prototype was demonstrated at the project's Country Task Force Meeting on May 23, 2006.[citation needed] Steve Jobs had offered Mac OS X free of charge for use in the laptop, but according to Seymour Papert, a professor emeritus at MIT who is one of the initiative's founders, the designers wanted an operating system that can be tinkered with: "We declined because it's not open source."[14] Therefore, Linux was chosen. In 2006, Microsoft had suddenly developed an interest in the XO project and wanted the formerly open source effort to run Windows. Negroponte agreed to provide engineer assistance to Microsoft to facilitate their efforts. During this time, the project mission statement changed to remove mentions of "open source". A number of developers, such as Ivan Krstić and Walter Bender, resigned because of these changes in strategy.[15][16][17] The version of Windows that ran on the XO was Windows XP.[18] Approximately 400 developer boards (Alpha-1) were distributed in mid-2006; 875 working prototypes (Beta 1) were delivered in late 2006; 2400 Beta-2 machines were distributed at the end of February 2007;[19] full-scale production started November 6, 2007.[20] Quanta Computer, the project's contract manufacturer, said in February 2007 that it had confirmed orders for one million units. Quanta indicated that it could ship five million to ten million units that year because seven nations had committed to buy the XO-1 for their schoolchildren: Argentina, Brazil, Libya, Nigeria, Rwanda, Thailand, and Uruguay.[21] Quanta plans to offer machines very similar to the XO-1 on the open market.[22] The One Laptop Per Child project originally stated that a consumer version of the XO laptop was not planned.[23] In 2007, the project established a website, laptopgiving.org, for outright donations and for a "Give 1 Get 1" offer valid (but only to the United States, its territories, and Canadian addresses) from November 12, 2007 until December 31, 2007.[24] For each computer purchased at a cost of $399, an XO is also sent to a child in a developing nation.[24] OLPC again restarted the G1G1 program through Amazon.com in November 2008, but has since stopped as of December 2008 or 2009.[25] On May 20, 2008, OLPC announced the next generation of XO, OLPC XO-2[26] which was thereafter cancelled in favor of the tablet-like designed XO-3. In late 2008, the New York City Department of Education began a project to purchase large numbers of XO computers for use by schoolchildren.[27] The design received the Community category award of the 2007 Index: Award.[28][29] In 2008 the XO was awarded London's Design Museum "Design of the Year", plus two gold, one silver, and one bronze award at the Industrial Design Society of America's International Design Excellence Awards (IDEAs).[7] OLPC XO-1 laptop in e-book mode The XO-1 is designed to be low-cost, small, durable, and efficient. It is shipped with a slimmed-down version of Fedora Linux and a custom GUI named Sugar that is intended to help young children collaborate. The XO-1 includes a video camera, a microphone, long-range Wi-Fi, and a hybrid stylus and touchpad. Along with a standard plug-in power supply, human and solar power sources are available, allowing operation far from a commercial power grid. Mary Lou Jepsen has listed the design goals of the device as follows:[30] Minimal power use, with a design target of 2–3 Watts (W) total Minimal production cost, with a target of $100 per laptop for production runs of millions of units A "cool" look, implying innovative styling in its physical appearance E-book function Open source and free software provided with the laptop In keeping with its goals of robustness and low power use, the design of the laptop intentionally omits all motor-driven moving parts; it has no hard disk drive, optical (compact disc (CD) or Digital Versatile Disc DVD) media, floppy disk drive, or fan (the device is passively cooled). No Serial ATA interface is needed due to the lack of hard drive. Storage is via an internal SD card slot.[31] There is also no PC card slot, although Universal Serial Bus (USB) ports are included. A built-in hand-crank generator was part of the notebook in the original design; however, it is now an optional clamp-on peripheral.[32] This section is in list format but may read better as prose. You can help by converting this section, if appropriate. Editing help is available. (June 2015) Production version (4th generation): functional survey XO-1 motherboard Marvell's IEEE 802.11 chipset runs an RTOS on an ARM9 and interfaces over a shim with the actual operating system Rotatable display cover of the XO XO-1 clamp charger Comparison of the XO-1 display (left) with a typical liquid crystal display (LCD). The images show 1×1 mm of each screen. A typical LCD addresses groups of 3 locations as pixels. The OLPC XO LCD addresses each location as a separate pixel A transflective Pixel Qi screen installed in an OLPC XO laptop operating in reflective mode, note that the screen is in grey scale mode and is not retro illuminated The first-generation OLPC laptops have a novel low-cost liquid crystal display (LCD). It has a 1200 × 900 7.5 inch (19 cm) diagonal transflective LCD (200 dpi) that uses 0.1 to 1.0 W depending on mode. There are two modes: Reflective (backlight off) monochrome mode for low-power use in sunlight. This mode provides very sharp images for high-quality text and Backlit color mode, with an alternance of red, green and blue pixels. The XO 1.75 developmental version for XO-3 has an optional touch screen. The electronic visual display is the costliest component in most laptops. In April 2005, Negroponte hired Mary Lou Jepsen, who was interviewing to join the Media Arts and Sciences faculty at the MIT Media Lab in September 2008,[33] as OLPC Chief Technology Officer. Jepsen developed a new display for the first-generation OLPC laptop, inspired by the design of small LCDs used in portable DVD players, which she estimated would cost about $35. In the OLPC XO-1, the screen is estimated to be the second most costly component, after the central processing unit (CPU) and chipset.[34] Jepsen has described the removal of the filters that color the RGB subpixels as the critical design innovation in the new LCD. Instead of using subtractive color filters, the display uses a plastic diffraction grating and lenses on the rear of the LCD to illuminate each pixel.[dubious – discuss] This grating pattern is stamped using the same technology used to make DVDs. The grating splits the light from the white backlight into a spectrum. The red, green, and blue components are diffracted into the correct positions to illuminate the corresponding pixel with R, G or B. This innovation results in a much brighter display for a given amount of backlight illumination: while the color filters in a regular display typically absorb 85% of the light that hits them, this display absorbs little of that light. Most LCD screens at the time used cold cathode fluorescent lamp backlights which were fragile, difficult or impossible to repair, required a high voltage power supply, were relatively power-hungry, and accounted for 50% of the screens' cost (sometimes 60%). The light-emitting diode (LED) backlight in the XO-1 is easily replaceable, rugged, and low-cost.[35][36] The remainder of the LCD uses extant display technology and can be made using extant manufacturing equipment. Even the masks can be made using combinations of extant materials and processes. When lit primarily from the rear with the white LED backlight, the display shows a color image composed of both RGB and grayscale information.[37] When lit primarily from the front by ambient light, for example from the sun, the display shows a monochromatic (black and white) image composed of just the grayscale information. "Mode" change occurs by varying the relative amounts backlight and ambient light. With more backlight, a higher chrominance is available and a color image display is seen. As ambient light levels, such as sunlight, exceed the backlight, a grayscale display is seen; this can be useful when reading e-books for an extended time in bright light such as sunlight. The backlight brightness can also be adjusted to vary the level of color seen in the display and to conserve battery power. In color mode (when lit primarily from the rear), the display does not use the common RGB pixel geometry for liquid crystal computer displays, in which each pixel contains three tall thin rectangles of the primary colors. Instead, the XO-1 display provides one color for each pixel. The colors align along diagonals that run from upper-right to lower left (see diagram on the right). To reduce the color artifacts caused by this pixel geometry, the color component of the image is blurred by the display controller as the image is sent to the screen. Despite the color blurring, the display still has high resolution for its physical size; normal displays as of February 2007[update] put about 588(H) × 441(V) to 882(H) × 662(V) pixels in this amount of physical area[citation needed] and support subpixel rendering for slightly higher perceived resolution. A Philips Research study measured the XO-1 display's perceived color resolution as effectively 984(H) × 738(V).[38][39][40] A conventional liquid crystal display with the same number of green pixels (green carries most brightness or luminance information for human eyes) as the OLPC XO-1 would be 693 × 520.[citation needed] Unlike a standard RGB LCD, resolution of the XO-1 display varies with angle. Resolution is greatest from upper-right to lower left, and lowest from upper-left to lower-right. Images which approach or exceed this resolution will lose detail and gain color artifacts. The display gains resolution when in bright light; this comes at the expense of color (as the backlight is overpowered) and color resolution can never reach the full 200 dpi sharpness of grayscale mode because of the blur which is applied to images in color mode. This section may be confusing or unclear to readers. Please help clarify the section. There might be a discussion about this on the talk page. (October 2009) (Learn how and when to remove this message) XO-1 multi-battery charger Selfmade laptop charging station in classroom DC input, ±11–18 V, maximum 15 W power draw 5-cell rechargeable NiMH battery pack, 3000 mAh minimum 3050 mAh typical 80% usable, charge at 0...45 °C (deprecated in 2009) 2-cell rechargeable LiFePO4 battery pack, 2800 mAh minimum 2900 mAh typical 100% usable, charge at 0...60 °C Four-cell rechargeable LiFePO4 battery pack, 3100 mAh minimum 3150 mAh typical 100% usable, charge at −10...50 °C External manual power options included a clamp-on crank generator similar to the original built-in one (see photo in the Gallery, below), but they generated 1/4 the power initially hoped, and less than a thousand were produced. A pull-string generator was also designed by Potenco[41] but never mass-produced. External power options include 110–240 Volt AC and input from an external solar panel.[42] Solar is the predominant alternate power source for schools using XOs. The laptop design specification goals are about 2 W of power consumed during normal use, far less than the 10 W to 45 W of conventional laptops.[19] With build 656, power use is between 5 and 8 watts measured on G1G1 laptop. Future software builds are expected to meet the 2-watt target. In e-book mode (XO 1.5), all hardware sub-systems except the monochrome dual-touch display are powered down. When the user moves to a different page, the other systems wake up, render the new page on the display, and then go back to sleep. Power use in this e-book mode is estimated to be 0.3 to 0.8 W. The XO 2.0 is planned to consume even less power than earlier versions, less than 1.0 W in full color mode. Power options include batteries, solar power panels, and human-powered generators, which make the XO self-powered equipment. 10 batteries at once can be charged from the school building power in the XO multi-battery charger. The low power use, combined with these power options are useful in many countries that lack a power infrastructure. This article's factual accuracy may be compromised due to out-of-date information. Please help update this article to reflect recent events or newly available information. (October 2009) XO-1 Internet access through wireless mesh networking An "active antenna" for extending network reach Wireless networking using an "Extended Range" 802.11b/g and 802.11s (mesh) Marvell 8388 wireless chip, chosen due to its ability to autonomously forward packets in the mesh even if the CPU is powered off. When connected in a mesh, it is run at a low bitrate (2 Mbit/s) to minimize power use. Despite the wireless chip's minimalism, it supports Wi-Fi Protected Access (WPA).[43] An ARM processor is included. Dual adjustable antennas for diversity reception. IEEE 802.11b support will be provided using a Wi-Fi "Extended Range" chip set. Jepsen has said the wireless chip set will be run at a low bit rate, 2 Mbit/s maximum rather than the usual higher speed 5.5 Mbit/s or 11 Mbit/s to minimize power use. The conventional IEEE 802.11b system only handles traffic within a local cloud of wireless devices in a manner similar to an Ethernet network. Each node transmits and receives its own data, but it does not route packets between two nodes that cannot communicate directly. The OLPC laptop will use IEEE 802.11s to form the wireless mesh network. Whenever the laptop is powered on it can participate in a mobile ad hoc network (MANET) with each node operating in a peer-to-peer fashion with other laptops it can hear, forwarding packets across the cloud[when?]. If a computer in the cloud has access to the Internet—either directly or indirectly—then all computers in the cloud are able to share that access. The data rate across this network will not be high; however, similar networks, such as the store and forward Motoman project[44] have supported email services to 1000 schoolchildren in Cambodia, according to Negroponte. The data rate should be sufficient for asynchronous network applications (such as email) to communicate outside the cloud; interactive uses, such as web browsing, or high-bandwidth applications, such as video streaming should be possible inside the cloud. The IP assignment for the meshed network is intended to be automatically configured, so no server administrator or an administration of IP addresses is needed. Building a MANET is still untested under the OLPC's current configuration and hardware environment. Although one goal of the laptop is that all of its software be open source, the source code for this routing protocol is currently closed source. While there are open-source alternatives such as OLSR or B.A.T.M.A.N., none of these options is yet available running at the data-link layer (Layer 2) on the Wi-Fi subsystem's co-processor; this is critical to OLPC's power efficiency scheme. Whether Marvell Technology Group, the producer of the wireless chip set and owner of the current meshing protocol software, will make the firmware open source is still an unanswered question. As of 2011, it has not done so. Yves Behar is the chief designer of the present XO shell. The shell of the laptop is resistant to dirt and moisture, and is constructed with 2 mm thick plastic (50% thicker than typical laptops). It contains a pivoting, reversible display, movable rubber Wi-Fi antennas, and a sealed rubber-membrane keyboard. Close-up of the OLPC keyboard Water-resistant membrane keyboard, customized to the locale in which it will be distributed.[45] The multiplication and division symbols are included. The keyboard is designed for the small hands of children. Five-key cursor-control pad; four directional keys plus Enter Four "Game Buttons" (functionally PgUp, PgDn, Home, and End) modeled after the PlayStation Controller layout (, , , and). Touchpad for mouse control and handwriting input Built-in color camera, to the right of the display, VGA resolution (640×480) Built-in stereo speakers Built-in microphone Audio based on the AC'97 codec, with jacks for external stereo speakers and microphones, Line-out, and Mic-in Three external USB 2.0 ports. More than twenty different keyboards have been laid out, to suit local needs to match the standard keyboard for the country in which a laptop is intended. Around half of these have been manufactured for prototype machines.[45][46] There are parts of the world which do not have a standard keyboard representing their language. As Negroponte states this is "because there's no real commercial interest in making a keyboard".[47] One example of where the OLPC has bridged this gap is in creating an Amharic keyboard[48] for Ethiopia. For several languages, the keyboard is the first ever created for that language.[11] Negroponte has demanded that the keyboard not contain a caps lock key, which frees up keyboard space for new keys such as a future "view source" key.[49] Beneath the keyboard was a large area that resembled a very wide touchpad. The capacitive portion of the mousepad was an Alps GlidePoint touchpad,[50][51] which was in the central third of the sensor and could be used with a finger. The full width was a resistive sensor which, though never supported by software, was intended to be used with a stylus. This unusual feature was eliminated in the CL1A hardware revision because it suffered from erratic pointer motion. Alps Electronics provided both the capacitive and resistive components of the mousepad.[50] The first XO prototype, displayed in 2005, had a built-in hand-crank generator for charging the battery. The XO-1 beta, released in early 2007, used a separate hand-crank generator.[citation needed] The XO-1 was released in late 2007.[52][53] Power option: solar panel. CPU: 433 MHz IA-32 x86 AMD Geode LX-700 at 0.8 watts, with integrated graphics controller 256 MB of Dual (DDR266) 133 MHz DRAM (in 2006 the specification called for 128 MB of RAM)[54] 1024 kB (1 MB) flash ROM with open-source Open Firmware 1024 MB of SLC NAND flash memory (in 2006 the specifications called for 512 MB of flash memory)[32] Average battery life three hours The Oberon subsystem in UnixAos on a XO-1.5. The XO 1.5 was released in early 2010.[55] Via/x86 CPU 4.5 W Fewer physical parts Lower power use Power option: solar panel. CPU: 400 to 1000 MHz IA-32 x86 VIA C7 at 0.8 watts, with integrated graphics controller 512 to 1024 MB of Dual (DDR266) 133 MHz DRAM 1024 kB (1 MB) flash ROM with open-source Open Firmware 4 GB of SLC NAND flash memory (upgradable, microSD) Average battery life 3–5 hours (varies with active suspend) The XO 1.75 began development in 2010,[56][57] with full production starting in February 2012.[58] 2 watt ARM CPU Fewer physical parts, 40% lower power use. Power option: solar panel.[59] CPU: 400 to 1000 MHz ARM Marvell Armada 610 at 0.8 watts, with integrated graphics controller 1024 to 2048 MB of DDR3 (TBD) 1024 TBD kB (1 MB) flash ROM with open-source Open Firmware 4-8 GB of SLC NAND flash memory (upgradable, microSD) Accelerometer Average battery life 5–10 hours The XO 2, previously scheduled for release in 2010, was canceled in favor of XO 3. With a price target $75, it had an elegant, lighter, folding dual touch-screen design. The hardware would have been open-source and sold by various manufacturers. A choice of operating system (Windows XP or Linux) was intended outside the United States. Its $150 price target in the United States includes two computers, one donated.[60] The OLPC XO-3 was scheduled for release in late 2012. It was canceled in favor of the XO-4. It featured one solid color multi-touch screen design, and a solar panel in the cover or carrying case. The XO 4 is a refresh of the XO 1 to 1.75 with a later ARM CPU and an optional touch screen. This model will not be available for consumer sales. There is a mini HDMI port to allow connecting to a display.[12]

allows you to build different cities. However, if you want to succeed in this game, you will need to learn what layouts are and how these can help you. When you start to build a city or a new part of it, then you will need to have some kind of scheme in your head. This scheme should represent your vision and what kind of a city you want to get in the end. Those who randomly place different buildings will suffer from different mistakes that one can make with this approach. RELATED: Fastest Ways to Make Money in SimCity BuildIt So, layouts are important and they will help you to build a great city. The first thing you should start with to make a good layout is to build roads. When you start to build a new road, you need to make sure that you leave some space for your buildings. You should count all the free squares that you leave with your roads and ensure that you will fill them with houses and service buildings. It will be ineffective if you leave some free squares that you can't use because they don't have enough space to build something. The second rule for the best layouts in this game is related to different service buildings. Make sure that you build your houses around police stations, hospitals, and fire stations. These buildings should be able to cover all the houses that surround them. This will make your citizens happier and your city will be more successful. I've been playing BuildIt for quite a while now and have written out some strategies that I've been employing: 1. Rule #1: Keep producing items as continuously as possible. Sell extras at the Trade Depot. If no humans buy them, Daniel (the computer) will. 2. Replace what you use. If you use a factory full of plastic, start up another set. Just keep production flowing. If you don't need it when it's done, sell it. This helps keep an extra bit of cash coming your way. 3. Free up the bottleneck. The biggest bottleneck in the game is the Farmers Market. If you see Fruit & Berries, Beef, Cheese, Cream or Flour Bags in the Trade HQ, buy it. Eliminating one of those items from the equation can make production much easier for you. 4. Be Smart with money. If you receive an offer on items, check the Price Guide to see if it's worth taking the deal. If you can receive more at the Trade Depot, do that instead. Remember, Daniel will eventually buy anything you list. 5. Plan ahead for the cargo ships and airport. Start production of those items as soon as it tells you what's coming. The long build time items usually require two or three of each. The raw goods and other short term items may take up to 10. Build more than you need and sell any excess. Try to minimize the time the cargo vehicles spend in your city. Pack them up and let the next shipment get started ASAP. 6. Harsh Reality. Do not be mistaken, this game is basically a slot machine: a finely tuned machine designed to separate you from your money. If you want to build a city, play SimCity, Cities:Skylines, or CitiesXXL on the PC. You'll get much more desirable results in a fraction of the time. However if you have tons of patience and don't mind taking the long way round, this can be a very enjoyable casual game. 7. You don't really need design skills. You don't need more than one cross street. Your entire city can be laid out like the letter E with streets leading to dead ends. 8. Stick to the basics. Early on, don't build more than what you can cover with the basic services: Sewer, Water, Fire and Health. Don't be afraid to demolish buildings you can't support. 9. Go Big. If you want skyscrapers, you'll need to have more than just the basics. You also need to have multiple specializations covering the area: Parks, Education, Transportation, Entertainment, Gambling, Landmarks or Worship. 10. Eureka! If searching for expansion or storage items, dig deep into the Trade HQ. It is rare to find one of those items listed on the main screen. I find most of my items by selecting cities selling other items, and discovering them in among the other items they're selling. 11. Don't Forget to Pop The Bubbles. When visiting cities at the Trade HQ, make sure to click on the blue bubbles found in the city. You'll often find Tokyo, storage or dozer items gifted to you by the game. 12. Buy! Buy! Buy! Buy every expansion item/storage item you see in the Trade HQ, even if you're not currently expanding. If you don't want them, list them in your Trade Depot (unadvertised) for your neighbors. If you're good to them, they'll be good back to you later down the line. 13. Sell! Sell! Sell! Never sell an item at less than full price, unless you're trading it to someone for $1. 14. Daniel sells at a discount. Daniel never sells at full price, so I buy everything he has. You can then use it, or list it at full price to make a profit. Remember, if no one buys it, Daniel will buy his own items back from you. 15. Be a good neighbor. If you see a valuable item listed for $1 by a neighbor, do not take it. Someone's probably trading it to a friend. 16. Be a good neighbor part two. I'll sometimes keep my trade depot stocked with rare goodies (or long term items) for my neighbors. If I see something good in the Trade HQ, but I don't need it, I'll often pick it up anyways and list it. Things that take a long time like Sugar and Spices, Glass, etc. Even if no one takes it, Daniel will eventually reimburse the cost by buying it from you. No harm, no foul, and yet you've given your neighbors opportunities to find stuff easier. 17. Campfires are best built at night. Load up the factories with all the long term items before you go to bed so that when you wake up you'll have your fire pits, frozen yogurt, cream, electronics and other goodies ready and waiting for you. The simple items: metal, wood, plastic are better made during the day while you can babysit the game. 18. Can I get that on easy-pay? If faced with a large road upgrade, build a small section of cross street. It will break up the road into smaller, more reasonable payments. You'll still eventually need to upgrade but you can put the expense off for a while. It's like putting the upgrades on a payment plan. A short segment of cross street can help break up the cost of road upgrades into more reasonable amounts. 19. Be Social!: Join one of the Facebook groups to find friends to play with. There's a bunch of them. Each has it's own personality and culture. When joining, I'd suggest being a fly on the wall for a bit to understand how each group interacts before jumping right in to the middle of things. SimCity BuildIt Nation SimCity BuildIt Community SimCity BuildIt (not really) Official Group. Nowadays video games about designing and managing your own space station, prison, mine or even amusement park are a dime a dozen. It's all the rage and we love it! But this simulation fever wasn't always around, and I think it's appropriate to give some love to the franchise that started it all: SimCity. We've all been there. Glued to our screens, mortal bodies left behind in favor of a hovering camera connected to our immortal mayor brain. Hours upon hours poured into designing the perfect city, setting down roads and planning districts, enacting policies for the good of the people and preparing for the disasters on the horizon. SimCity, in most of its forms, is an amazing and immersive experience that's given most of us irreplaceable memories. But let's be real: most of us don't usually have the time to watch a city go from population 1 to bustling metropolis. And when we do, we want to have the best time possible. For that very reason I've decided to rank all the main SimCity games so you can best choose which games to pour your time into. 11. SimCity Social Well truth be told, it's not like you need to do anything to avoid SimCity Social. On the contrary, you'd have to pull some complicated stunts in order to run this Facebook game. It was released in June 2012 but only ran for about a year until EA decided to shut it down to focus on other projects. As you may expect from a Facebook game, it suffered from the classic maladies such as micro-transactions and a very simple game-play designed to entertain your half-dead gray matter while you were on the page. That said, for a Facebook game it was a relatively fun resource management game with a pretty art-style, at the very least worthy of mentioning in this list. Moving onto something more serious we have the very ambitious SimCity DS. It was developed by the Japanese branch of EA and published in 2007 by the same company, taking assets and game-play mechanics from older titles such as SimCity 3000 and modifying them to better fit the portable experience. Overall they almost managed to create a pretty good and complex game. But it fell short of greatness thanks to a series of bad decisions. To start off with, the art-style they went with for anything not directly pulled from older games was horrible. It was most noticeable on the advisors which you couldn't even turn off to avoid their ugly faces blemishing your screen. The game also starts running somewhat poorly and lags a lot once your city reaches a high development stage. In the end, SimCity DS is an ambitious game with a mediocre execution. But I do give it some points for having brought the franchise to portable devices. Speaking of ambition and failure, let's talk about one of the biggest disappointments EA has ever been responsible for(and that's saying something). The 2013 SimCity reboot, developed by Maxis and published by EA for the PC and Mac, was supposed to bring the simulation to the next level with its GlassBox engine. This engine replaced simulating general values and creating visuals to match them with simulating actual individual agents, citizens if you will, and then calculating the rest based on their actions. However all it managed to do at launch was bring EA's inadequate servers down, which was a major problem considering it required you to remain online at all times if you wished to play. This, along with a pile of bugs and the GlassBox engine being quite unpolished, made for a terrible launch. It took months to get the game up and running correctly. That said, once they did fix it (and once they added offline play) the game wasn't half-bad. In fact, were it not for those launch issues, fans would probably be very split on the question of whether this is the best SimCity game to date. The graphics are beautiful, the simulation detailed and the musical score is a masterpiece. Too bad the damage was already long done. Such disrespectful behavior from publishers towards their customers just cannot be easily forgotten. After such a failure, EA needed to make up for lost time and start making money. So they decided to capitalize on the next big thing: mobile gaming. They hired developer Tracktwenty to make a mobile SimCity experience and in 2014 released SimCity Buildit. And quite honestly, they did a pretty good job. This game quickly became one of the top grossing apps on Android and iOS thanks to its colorful and attractive visuals (repurposed from the previous SimCity) and its simplified yet engaging game-play, more reminiscent of... any other base management game on mobile systems than of SimCity. Still it remains a fun game that'll keep your attention for short bursts on the go. Before the previous two entries was SimCity Societies, a game that tried to reinvent the franchise and launch it in a new direction more accessible for new players. It was developed by Tilted Mill Entertainment and published by EA in 2007 with fully updated 3D visuals and simplified game-play that focused more on the society of your city than on city planning itself. While still a very fun game, SimCity Societies felt more like a spin-off than a main entry in the series due to these changes. Things like zoning and individual building development were put aside in favor of managing societal values through different means, and these values in turn determined what upgrades were available to you and what your city ended up looking like. It remains a solid fun game if you're looking for something different. If only it was called SimSocieties... Next up on the list we have a very unique entry in the series. SimCity Creator was developed by Hudson and released by EA on 2008 for the Wii. Contrary to what you might expect, the game didn't introduce any wacky motion-control gimmicks, but offered a rather nuanced and fun core SimCity experience with a few tweaks. In this game you're supposed to develop a civilization and take it from caveman times into modernity and beyond, achieving this through managing their city-state. The complexity of game-play was toned down from previous installments but just enough that it didn't mess with what makes a good SimCity game, while still making it a tad more palatable for casual players. Although it was considered mediocre by critics at the time, it remains a fun experience if you have a Wii laying around. SimCity Creator was also released for the DS in the same year bringing a similar experience to portable devices. Unlike its other handheld predecessor, this game had better visuals and ran perfectly fine on the dual-screened device. Critics praised it for cramming so much content into a portable title, although the controls in general felt clumsy and lacking polish. I still think it's a great option for on-the-go urban planning. One of the most memorable entries in the franchise and a favorite of many people. Sim City 4, along with its expansion Rush Hour, are probably the most detailed and complex SimCity games to date. It was developed by Maxis and published by EA in 2003 for PCs and Macs, and it shocked players with its updated graphics, day and night cycles, and interconnected cities. The amount of micro-management you can do is insane. Every little detail can be controlled to affect the bigger picture. Whether it's way too much micro-management or just enough has been a divide between parts of the community ever since, but nobody questions how much work was put into fleshing it out. The soundtrack is also among the best in the series. Regrettably, the game suffers from serious optimization issues that require it to be run on a monster PC to avoid lagging. The traffic system is also somewhat broken making traffic jams unavoidable with even the most efficient roads. These reasons, among others, keep it from reaching greater heights on our list. If I were ranking modded games, however, this would be at the top. Years of love from the modding community have managed to fix these issues and improve on many features in the game. The original game that started the adventure couldn't be missing from this list. It may not have the most detailed systems or the best graphics, but in 1989 it was a revolutionary game bringing a different experience to the video game market as a whole. This earned it several accolades and awards at the time. It was so successful that it allowed developer Maxis to start churning out a variety of other Sim games such as SimTown and SimAnt in a short amount of time, getting users hooked on the genre and paving the way for future titles. It was originally released on the Commodore Amiga and Macintosh computers, but so far it's been re-released on many, many more systems. There's probably a calculator somewhere able to run it along with 1st generation Pokémon games so there's no reason not to give this game a try if you haven't yet. Note: I'm also including the SNES version of SimCity here since it was based closely on the original. Let's say they both tie for 3rd! In 1993, four years after the release of the original SimCity, Maxis was at it again with another masterpiece. SimCity laid the true groundwork of what the series would become in further installments. It had updated graphics and an isometric view, along with a much more complex game-play that took what made the original so popular and developed it into a complete experience with new mechanics and a bigger variety of buildings that allowed players to pursue city growth in different ways. For many players, this game remains the best in the series. That may be in great part due to its nostalgia value with its MIDI audio and 90s personality. But that doesn't mean it isn't deserving of praise. SimCity 2000 became the foundation on which the follow-ups would be built, not only from a technical standpoint but in the way it allowed Maxis to grow into a bigger company with more resources. And what did Maxis do with these new resources? It poured them into SimCity 3000, the sequel and complete overhaul of its predecessor released in 1999. Say what you will, but this game took SimCity 2000 and gave it an extreme makeover with better colors, CD quality music by genius composer Jerry Martin, and an improved simulation with waste management, aging buildings, and neighborhoods that diversified according to the income range of its inhabitants and the land's value. Not only that, it also made maps four times bigger so you could grow your cities to never before seen sizes. This is, without a doubt, the quintessential SimCity experience and the bar to measure all others against. American video game developer and publisher Aspyr Media, Inc.Logo since 2019Company typeSubsidiaryIndustryVideo gamesFoundedSeptember 27, 1996; 28 years ago (1996-09-27)FoundersMichael RogersTed StalochHeadquartersAustin, Texas, USKey peopleMichael Rogers (co-CEO)Ted Staloch (co-CEO)ProductsList of games ported by AspyrParentSaber Interactive (2021–2024)Embracer Group (2024–present)SubsidiariesBeamdogWebsiteaspyr.com Aspyr Media, Inc. (pronounced "aspire") is an American video game developer and publisher founded by Michael Rogers and Ted Staloch in Austin, Texas. Originally founded to port gaming titles to macOS,[1] the company, since 2005, has become a publisher and developer of entertainment for multiple gaming platforms.[2] Aspyr was acquired by Embracer Group in February 2021. Initially placed within Embracer's Saber Interactive division, Aspyr later became a direct subsidiary of Embracer after Saber was divested in March 2024.[3][4] In 1996, Aspyr Media, Inc., was established by Michael Rogers and Ted Staloch[5] in Austin, Texas. Staloch, who had a background in sales and marketing and Rogers, who worked with TechWorks, noticed that there was a lack of gaming titles available to Mac owners and set out to change it.[1] According to Rogers, when naming the company, they "wanted something meaning 'to aspire and be great'" and also "memorable and unique." Aspyr made its name specializing in porting video games from Microsoft Windows to macOS.[6] By 2003, they owned 60 percent of the Mac entertainment market.[7] In 2005, Aspyr partnered with Alex Seropian of Wideload Games and released their first originally-published AAA game, Stubbs The Zombie, to Mac OS, Windows and Xbox.[8] In 2014 they started porting titles to Linux,[9][10] releasing titles such as Civilization V and Civilization VI as well as Borderlands: The Pre-Sequel and Borderlands 2. They dropped support for the Linux version of Borderlands 2 in September 2020 and have not released subsequent Linux ports. They also published Layers of Fear, Observer and InnerSpace for that platform by other developers. In 2015, Aspyr Media expanded their platform catalog again by releasing an iOS port of Star Wars: Knights of the Old Republic[11] and later, Bioware's classic-action RPG, Jade Empire - a title they extended to Android as well.[12] In 2015, Aspyr updated Star Wars Knights of the Old Republic II: The Sith Lords[13] (native widescreen resolutions up to 5K, Steam Workshop, support for controllers, 57[14] achievements, etc.) and also ported it to macOS and Linux. In 2015, Aspyr developed and published Fahrenheit: Indigo Prophecy Remastered, a remaster of the 2005 game developed by Quantic Dream, to a worldwide audience with enhanced game features, updated visuals and controls, as well as content that was censored in the original North American release.[15] Aspyr has published over 190 games and have added 90 plus members to their team since 1996.[2] In February 2021, Aspyr was acquired by Embracer Group. The company was added as a studio under the Saber Interactive label within Embracer.[16] In September 2021, it was announced that Aspyr was developing a remake of Knights of the Old Republic for Microsoft Windows and PlayStation 5 as a timed exclusive.[17][18][19] In August 2022, Embracer announced that Aspyr is no longer working on the game and development has been moved to another studio.[20] Aspyr published MythForce, the first game designed by Canadian studio Beamdog.[21] The day after they announced this, on April 13, 2022, Embracer Group acquired Beamdog and placed it as a subsidiary of Aspyr.[22] In 2024, Aspyr developed and published—alongside sister company Crystal Dynamics—a remastered collection of the original three Tomb Raider games developed by Core Design, titled Tomb Raider I–III Remastered.[23] It was released on February 14, on Valentine's Day, to coincide with main protagonist Lara Croft's canonical birthday. The same year, Aspyr released ports of the first two original Star Wars: Battlefront games under Star Wars: Battlefront Classic Collection on March 14, 2024.[24] In March 2024, Embracer sold Saber Interactive to Beacon Interactive, alongside several other studios. Aspyr was not included in the deal and remains under Embracer.[25] Main article: List of games ported by Aspyr Currently, Aspyr's catalog includes popular games such as Sid Meier's Civilization VI, developed in 2018 on Mac, Linux, iOS and Nintendo Switch,[26] Torn,[27] the re-releases of several Lucasfilm Games (LucasArts) titles,[28][24] and Tomb Raider I–III Remastered.[23] ^ a b Savlov, Marc (November 19, 2004). "Controlling Their Own Destiny". www.austinchronicle.com. Retrieved October 12, 2019. ^ a b "Aspyr Media". Aspyr Media. Retrieved October 12, 2019. ^ "Embracer Group acquires Aspyr Media for up to $450 million". VentureBeat. February 3, 2021. 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Official website Retrieved from " 2Ukrainian-Maltese video game developer 4A Games LimitedCompany typeSubsidiaryIndustryVideo gamesFounded2006; 19 years ago (2006) in Kyiv, UkraineFoundersAndrew ProkhorovOles ShyshkovtsovAlexander MaximchukHeadquartersSliema, MaltaNumber of locations2 (2025)Key peopleDean Sharpe (CEO)Andrew Prokhorov (creative director)Oles Shyshkovtsov (CTO)Alexander Maximchuk (CIO)ProductsMetro seriesNumber of employees200+[1] [2] (2025)ParentSaber Interactive (2020–2024)Embracer Group (2024–present)Website4a-games.com.mt 4A Games Limited is a Ukrainian-Maltese video game developer based in Sliema, Malta. The company was founded in Kyiv, Ukraine, in 2006 by three developers who departed from GSC Game World. In 2014, 4A Games moved its headquarters to Sliema, wherein one Kyiv office was retained as a sub-studio (which became independent and was rebranded in 2025 as Reburn). The company is best known for developing the Metro video game series. 4A Games was founded by former developers from GSC Game World: Andrew Prokhorov, Oles Shyshkovtsov, and Alexander Maximchuk; they, together with Sergei Karmalsky, formed the core team of S.T.A.L.K.E.R.: Shadow of Chernobyl, which was in development at GSC in the early and mid-2000s.[3][4] Prokhorov had disliked that Sergiy Grygorovych, the chief executive officer (CEO) of GSC, prioritized money over his employees, withholding royalties for games the company had produced.[4] The situation came to a high point when the two fell out over wages in 2006, leading Prokhorov and two of the company's lead programmers—Shyshkovtsov and Maximchuk—to leave the company and found a new studio, 4A Games, with the intention to treat its employees better than Grygorovych did.[4] The company's first game was Metro 2033, an adaptation of the novel of the same name by Russian author Dmitry Glukhovsky that was announced in 2009.[5] The game was released in March 2010 on the Xbox 360 and Microsoft Windows to generally favorable reviews.[6] Following their initial success, 4A Games began work on the sequel, Metro: Last Light, which was announced during the 2011 Electronic Entertainment Expo convention.[7] The game faced several issues during its production, whose release date was delayed from 2012 to 2013.[8] The most significant setback for the company occurred in January 2013, when the game's publisher, THQ, closed down after declaring bankruptcy and auctioning off its intellectual properties. The publishing rights to the Metro 2033 franchise, including the sequel, were sold to Koch Media for $5.8 million on 22 January, allowing the company to finish making the game.[9] Metro: Last Light was finally released on 14 May 2013, and was published by Koch Media's video game label, Deep Silver.[10] On 30 March 2014, a remastered re-release of both Metro titles, under the name Metro Redux, was leaked, and confirmed the day after. The compilation was released in August 2014 for eighth-generation platforms.[11] In 2017, the company released a virtual reality game, Arktika.1.[12] During the 2017 E3 convention, at the Microsoft press conference on 11 June 2017, a new game, Metro Exodus, was announced for a 2018 release. Gameplay was shown to both announce the game and act as a graphical showcase for Microsoft's native 4K-focused update to the Xbox One hardware, Xbox One X.[13] The game was released in 2019.[14] On 12 May 2014, amidst the Russo-Ukrainian war, 4A Games announced that they were to expand by opening a new studio in and moving their headquarters to Sliema, Malta to allow for easier operations inside the European Union. At the same time, the Kyiv studio became separately owned and continued to operate for Eastern European operations.[15][16] It kept the 4A Games name, operating as 4A Games Ukraine until February 2025, when it was rebranded as Reburn, while the original company continued to operate as 4A Games Limited. After the release of the Metro Exodus DLCs, 4A Games Limited opened a second studio in Kyiv.[17] 4A Games Limited was acquired by Saber Interactive under the Embracer Group for approximately US$36 million in August 2020. The publisher of the Metro series, Deep Silver, was already a part of the Embracer Group via Koch Media, making the acquisition a "sensible one" for both groups.[18][19] Prior to the Russian invasion of Ukraine in February 2022, Saber Interactive stated that all employees at 4A's Kyiv studio can relocate to other Saber-owned companies abroad if they choose to.[20][21] Like other Ukrainian video game studios, it became involved in the campaign to organize funds and support for Ukraine.[22] In March 2024, Saber Interactive was sold to Beacon Interactive, a new company from Saber co-founder Matthew Karch. Many of the studios under Saber, including 4A Games, were not included in the sale. Embracer will retain the rights to the Metro series through its Plaion subsidiary.[23] "4A Engine" redirects here. For Toyota vehicle engine, see Toyota A engine § 4A. Oles Shishkovtsov and Oleksandr Maksimchuk split from the development of S.T.A.L.K.E.R because that "its inherent inability to be multi-threaded, the weak and error-prone networking model, and simply awful resource and memory management which prohibited any kind of streaming or simply keeping the working set small enough for 'next-gen' consoles" along with its "terrible text-based scripting", which he explained led to the delays in the original game.[24] There have been accusations that the 4A Engine is a modified version of the X-Ray engine used in the S.T.A.L.K.E.R series, instead of an original development. 4A denied the accusations.[25] Shishkovtsov also noted that porting the original engine to consoles would have proved extremely difficult.[25] Year Title Platform(s) Publisher(s) 2010 Metro 2033 Microsoft Windows, Xbox 360 THQ 2013 Metro: Last Light Linux, macOS, Microsoft Windows, PlayStation 3, Xbox 360 Deep Silver 2014 Metro Redux Linux, macOS, Microsoft Windows, Nintendo Switch, PlayStation 4, Stadia, Xbox One 2017 Arktika.1 Microsoft Windows Oculus Studios 2019 Metro Exodus Amazon Luna, Linux, macOS, Microsoft Windows, PlayStation 4, PlayStation 5, Stadia, Xbox One, Xbox Series X/S Deep Silver ^ "Embracer Group Annual Report & Sustainability Report 2020 / 2021" (PDF). 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View (previous 50 | next 50) (20 | 50 | 100 | 250 | 500)Tomb Raider (links | edit) Economy of Ukraine (links | edit) Dark Horse Comics (links | edit) Stalker (1979 film) (links | edit) 3D Realms (links | edit) Nimble Giant Entertainment (links | edit) List of video game developers (links | edit) Cryptic Studios (links | edit) Alone in the Dark (links | edit) Piranha Bytes (links | edit) Legacy of Kain (links | edit) Middle-earth Enterprises (links | edit) Roadside Picnic (links | edit) NovaLogic (links | edit) S.T.A.L.K.E.R.: Shadow of Chernobyl (links | edit) TimeSplitters (links | edit) DreamCatcher Interactive (links | edit) Saber Interactive (links | edit) Aspyr (links | edit) Crystal Dynamics (links | edit) Free Radical Design (links | edit) The Adventure Company (links | edit) Deep Silver (links | edit) Volition (company) (links | edit) List of game engines (links | edit) Homeworld (links | edit) Bugbear Entertainment (links | edit) Tripwire Interactive (links | edit) Travis Willingham (links | edit) 4A (links | edit) GSC Game World (links | edit) Jamieson Price (links | edit) Dark Horse Entertainment (links | edit) JoWooD (links | edit) Asmodee (links | edit) Troy Baker (links | edit) JB Blanc (links | edit) AquaNox (links | edit) List of Games for Windows titles (links | edit) List of THQ games (links | edit) Zen Studios (links | edit) Milestone (Italian company) (links | edit) De Blob (links | edit) S.T.A.L.K.E.R.: Clear Sky (links | edit) Destroy All Humans! (links | edit) List of video games in development (links | edit) Dmitry Glukhovsky (links | edit) Saints Row (links | edit) Plaion (links | edit) Red Faction (links | edit) View (previous 50 | next 50) (20 | 50 | 100 | 250 | 500) Retrieved from " WhatLinksHere/4A_Games" Skip to main content Reddit and its partners use cookies and similar technologies to provide you with a better experience. By accepting all cookies, you agree to our use of cookies to deliver and maintain our services and site, improve the quality of Reddit, personalize Reddit content and advertising, and measure the effectiveness of advertising. By rejecting non-essential cookies, Reddit may still use certain cookies to ensure the proper functionality of our platform. For more information, please see our Cookie Notice and our Privacy Policy. Video game franchise This article is about the video game series. For particular games, see SimCity (1989 video game) and SimCity (2013 video game). For the album by Susumu Hirasawa, see Sim City (album). Not to be confused with Sin City. Video game seriesSimCitySimCity series logo (2012–14)Genre(s)Construction and management simulation, city-buildingDeveloper(s)Maxis, Tilted Mill, Aspyr Media, Full Fat, Infogrames, Nintendo EAD, Babaroga, HAL Laboratory, Track TwentyPublisher(s)Electronic Arts, Broderbund, Maxis, Nintendo, Superior Software, Acornsoft, Infogrames, Zoo Digital PublishingCreator(s)Will WrightPlatform(s)Windows, Linux, Mac, Wii, PlayStation, Nintendo 64, Nintendo 64DD, Nintendo DS, Saturn, PlayStation 3, Palm OS, Archimedes, Acorn Electron, Amiga, CDTV, Amstrad CPC, Atari ST, BBC Micro, Commodore 64, DESQview, MS-DOS, EPOC32, FM Towns, iOS, Android, PC-98, Game Boy Advance, OLPC XO-1, OS/2, NeWS, Browser, Super NES, Tk, Unix, X11 TCL, ZX SpectrumFirst releaseSimCityFebruary 2, 1989Latest releaseSimCity: BuildItDecember 16, 2014Spin-offsSimFarm, SimTown, Sim City: The Card Game, SimCopter, Streets of SimCity, SimsVille, The Sims SimCity is an open-ended city-building video game franchise originally designed by Will Wright. The first game in the series, SimCity, was published by Maxis in 1989 and was followed by several sequels and many other spin-off Sim titles, including 2000's The Sims, which itself became a best-selling computer game and franchise.[1] Maxis developed the series independently until 1997, and continued under the ownership of Electronic Arts until 2003. EA commissioned various spinoffs from other companies during the 2000s, focusing on console and mobile releases. A 2013 EA-Maxis reboot was subject to what has been described as "one of the most disastrous launches in history", which may have triggered the 2015 shutdown of Maxis Emeryville and the end of the franchise.[2][3] SimCity titles are real-time management and construction simulators. Across most titles, the player (acting as mayor) is given a blank map to begin and must expand the city with the budget provided. As the city matures, the player may be able to add government and other special buildings (such as a mayor's house or courthouse), depending on how large the city is. Proper management of the city requires citizens to be provided with basic utilities (electricity, water and sometimes waste management) along with public services such as health, education, safety, parks and leisure facilities. These are provided by building relevant buildings or infrastructure, with each building covering a circular "range" in its vicinity. Inadequate funding of these services can lead to strikes or even urban decline. The primary source of income is taxation, though some income can be generated by legalizing gambling or placing certain "special" buildings such as military bases or prisons. The player may make deals with neighboring cities to sell or buy services, as long as a connection is made to the neighbor for that service, such as electricity cables. The player may have to deal with disasters, such as fires and tornadoes, or fictional crises such as monster attacks. SimCity titles are predominantly single-player games, with a few exceptions, including the "Network Edition" of SimCity 2000, the Unix port of the original SimCity, and SimCity (2013).[4] SimCity 4 provided a limited form of multiplayer gaming with the ability to share regional maps and cities with other players, allowing players to collaborate, but not to interact in real-time gameplay.[5][6][7] Depending on the title, there may scenarios with city performance-related goals and time limits in which to complete them. Release timelineMain series in bold1989SimCity1990199119921993SimCity 2000SimFarm19941995SimTown1996SimCopter1997Streets of SimCity19981999SimCity 30002000SimCity 64200120022003SimCity 4SimCity 4: Rush Hour2004200520062007SimCity DSSimCity Societies2008SimCity Creator (DS)SimCity Creator (Wii)2009201020112012SimCity Social2013SimCitySimCity: Cities of Tomorrow2014SimCity: BuildIt Main article: SimCity (1989 video game) The black-and-white version of SimCity on the Mac. Most other releases were in color, but had a similar interface. Development of the original SimCity began in 1985 under game designer Will Wright, and the game was published in 1989.[8] Wright was inspired by a map creation feature of the game Raid on Bungeling Bay that led him to discover that he enjoyed creating maps more than playing the actual game.[9] While developing SimCity, Wright cultivated a love of the intricacies and theories of urban planning[10] and acknowledged the influence of Jay Wright Forrester's book Urban Dynamics.[11][12] In addition, Wright was inspired by reading "The Seventh Sally", a short story by Stanisław Lem from The Cyberiad, published in the collection The Mind's I, in which an engineer encounters a deposed tyrant, and creates a miniature city with artificial citizens for the tyrant to oppress.[13] The first version of the game was developed for the Commodore 64 under the working title Micropolis.[14][15] The game represented an unusual paradigm in computer gaming, in that it could neither be won nor lost; as a result, game publishers did not believe it was possible to market and sell such a game successfully. Broderbund declined to publish the title when Wright proposed it, and he pitched it to a range of major game publishers without success. Founder Jeff Braun of then-tiny Maxis agreed to publish SimCity as one of two initial games for the company. Wright and Braun returned to Broderbund to formally clear the rights to the game in 1988, when SimCity was near completion. Broderbund executives Gary Carlston and Don Daglow saw that the title was infectious and fun, and signed Maxis to a distribution deal for both of its initial games. With that, four years after initial development, SimCity was released for the Amiga and Macintosh platforms, followed by the IBM PC and Commodore 64 later in 1989.[14] SimCity was released in 1990 on the ZX Spectrum 48K and 128K by Infogrames. The SNES port was very similar to the original edition but had some unique features, including Reward buildings, a Mario statue and possible attacks by a giant Bowser.[citation needed] The unexpected and enduring success of the original SimCity, combined with other "Sim" titles' relative lack of success at the time, motivated the development of a sequel. SimCity 2000 released in 1993[16] with an isometric view instead of overhead. Underground layers were introduced for water pipes and subways, along with many new buildings, more elaborate financial controls and many other improvements.[17] Maxis was purchased by Electronic Arts in 1997, and the company would gain control of the SimCity brand. Will Wright continued to work at the company, moving on to work on The Sims, with development on future SimCity titles being led by other Maxis staff such as Christine McGavran. The next title, SimCity 3000 was released in 1999. It introduced many features, including waste management, agriculture, business deals and expanded inter-city relations. The game maintained the pseudo-isometric dimetric perspective of its predecessor, though the landscape became more complex and colorful.[6] The Japanese exclusive SimCity 64 was released in 2000 and featured the ability to view the city at night, pedestrian level free-roaming, and individual road vehicles and pedestrians (which could only be seen while in the free-roaming mode). Cities in the game were also presented in 3D hybrid graphics, a first for the franchise.[citation needed] SimCity 4 was released on January 14, 2003. Among various changes, cities were now located in regions, which were divided into individual segments. Each region represents the metropolitan area of a city, while individual segment maps represented districts.[18] The zoning system was updated, and buildings were classified into several wealth levels, types, and building size stages, which were affected by the region's population and condition. Urban decay and gentrification were simulated with buildings deteriorating or improving accordingly. Residents and neighborhoods were transferrable between SimCity 4 and The Sims 2.[19] After the release of SimCity 4, EA had Tilted Mill Entertainment develop the next major title in the franchise, rather than Maxis. The group developed SimCity Societies (2007), which was significantly different from prior games, owing to a small-scale social engineering focus and less detailed simulation. Rather than placing zones, buildings were constructed individually for example, similar to Monte Cristo's game City Life. Six "social energies", called societal values, allowed players to learn about the characteristics of the citizens.[20] Cities behaviour responded to the energies the players chose and the reward system from SimCity 2000 returned.[21] The game was met with mixed reviews.[22][23] Wright, at the time developing Spore, later commented on the move away from Maxis: "I didn't have anything to do with that decision. Honestly, I didn't even play Societies. I read some of the reviews of it, though."[24] SimCity DS, a heavily modified version of SimCity 3000, was released that year. The game made use of the handheld's dual screen to display additional interfaces at once. System specific features were prominent, such as the microphone, which was used to blow out fires, and the touch screen, which was used to control the interface.[25] A 2008 sequel introduced a challenge mode in which players guided their city through different historical periods.[26] For instance, the player could create a medieval city, or a pre-historic city.[27] On January 10, 2008, the source code of the original game was released under the free software GPL 3 license.[28] The release of the source code was related to the donation of SimCity software to the One Laptop Per Child laptop, as one of the principles of the OLPC laptop is the use of free and open source software. The open source version was called Micropolis, since EA retained the trademark SimCity. SimCity Creator for the Wii was announced on February 12, 2008.[29] The title featured the ability to directly draw roads and train tracks on the ground using the pointer function of the Wii Remote, as well as several customizable themes for the city's buildings.[26] It was released worldwide in September 2008.[26][30] The late 2000s and early 2010s also saw several games re-released for mobile devices. This included SimCity 3000 (2008), SimCity Deluxe (2010), and SimCity 4 for Blackberry playbook (2011).[citation needed] SimCity's sixth major release was announced on March 5, 2012, for Windows and Mac OS X by Maxis at the "game changers" event.[31] Titled SimCity, it was a dramatic departure from previous SimCity games, featuring full 3D graphics, online multiplayer gameplay, the new Glassbox engine, as well as many other feature and gameplay changes. Director Ocean Quigley discussed issues that occurred during the development of the title, which stemmed from two conflicting visions coming from EA and Maxis. EA wanted to emphasize multiplayer, collaborative gameplay, with some of the simulation work conducted on remote servers, in part to combat piracy. In contrast, Maxis wanted to focus on graphical improvements with the new title. Quigley described the resultant title as a poor compromise between these two objectives- with only shallow multiplayer features, and a small city size limit- one quarter of the land area of previous titles in the franchise.[2][32] The game was released for Windows on March 5, 2013, and on Mac in August.[33][34][35] Medium would later refer to the release as "one of the most disastrous launches in history".[2] The game required a constant internet connection even during single-player activity, and server outages caused connection errors for many users. Multiplayer elements were "shallow at best", with departing players leaving abandoned cities behind in public regions. Users were unable to save their game- with the servers instead intended to handle this- and so when users were disconnected they would often lose hours of progress.[36] The game was also plagued by numerous bugs, which persisted long after launch.[37] The title was heavily criticized in user reviews, and developer plans for post-launch updates were scrapped.[2] EA announced that they would offer a free game from their library to all those who bought SimCity as compensation for the problems, and they concurred that the way the launch had been set up was "dumb".[38] As a result of this problem, Amazon temporarily stopped selling the game in the week after release.[39] The always-online requirement, even in single play, was highly criticised, particularly after gamers determined that the internet connection requirement could be easily removed.[40] An offline mode was subsequently made available by EA in March 2014, and a mobile port entitled SimCity: BuildIt was released later that year.[41][42][43] It has been suggested that the poor performance of SimCity was responsible for the 2015 closure of Maxis' Emeryville studios, and the end of the franchise.[44][45] Main article: List of Sim video games During the 1990s a large number of games were developed under the "Sim" nomenclature started by Maxis in 1989. This list includes only spin-offs that directly relate to SimCity. Sim City: The Card Game is an out-of-print collectible card game based on the video game SimCity.[46] It was released in 1995 by Mayfair Games. Several city expansions followed, adding location and politician cards from various cities including: Chicago, Washington, New York City, and Atlanta. A Toronto expansion was planned but never released.[47] Allen Varney of The Duelist said it offers "fine solitaire play" and that the game eventually offered stand-alone city sets.[48] Main article: SimTown SimTown is a 1995 video game published by Maxis, much like SimCity but on a smaller scale.[49] SimTown allows the player to construct a town consisting of streets, houses, businesses and parks and control the people in it. SimTown was targeted more towards children.[citation needed] Main article: SimCopter SimCopter puts the player in the role of a helicopter pilot.[49] There are two modes of play: free mode and career mode. The free mode lets the player import and fly through imported SimCity 2000 cities or any of the 30 cities supplied with the game. However, user cities sometimes need to be designed with SimCopter in mind, and most of the time the player must increase the number of police stations, fire stations, and hospitals to allow for speedier dispatches. The second mode—the heart of the game—is the career mode. This puts the player in the shoes of a pilot doing various jobs around the city. The game is notable for being the debut of the Simlish language.[citation needed] The game gained controversy when a designer named Jacques Servin inserted sprites of shirtless "himbos" (male bimbos) in Speedo trunks who hugged and kissed each other and appeared in great numbers from time to time.[50] The easter egg was caught shortly after release and removed from future copies of the game. Main article: Streets of SimCity Streets of SimCity is a 1997 racing and vehicular combat computer game published by Maxis. One of the game's main attractions was the ability to explore any cities created in SimCity 2000 by car in a cinematic style. The game, like SimCopter, is in full 3D and the player's vehicle can be controlled using a keyboard, a joystick, or a gamepad. Another notable feature is the game's network mode, in which players can play deathmatches with up to seven other individuals. It is one of the few games in the Maxis series that Will Wright did not work on, and the last Maxis game to be developed and released without supervision by Electronic Arts[51] (which acquired Maxis in 1997 and "assisted" development of Maxis games thereafter). Main article: The Sims Originating as a spinoff, The Sims quickly evolved into one of the most successful video game franchises of all time. Early releases retained a level of interconnectivity with SimCity, such as the ability to transfer neighborhoods from SimCity 4 to The Sims 2. A crossover title, SimsVille, was earmarked for 2001 and would have allowed the player to build the city, as well as make sims and play them. The game was cancelled so that Maxis could focus on development for The Sims Online and SimCity 4.[citation needed] SimCityEDU: Pollution Challenge! is an educational version of SimCity designed by GlassLab.[52] Aggregate review scoresAs of September 14, 2021. Game GameRankings Metacritic SimCity (1989) (SNES) 77[53] — SimCity 2000 (PC) 72[53] — SimCity 3000 (PC) 83[53] (PC) 77[54] SimCity 4 (PC) 85[53] (PC) 84[55] SimCity Societies (PC) 72[53] (PC) 63[56] SimCity (2013) (PC) 63[53] (PC) 64[57] The first two games were well received and sold well during the 1990s, with the franchise achieving a total of 5 million sales by 1999.[58] SimCity 2000 in particular was among the highest selling games of the 1990s, and in 2018 was featured at #86 of IGN's top 100 video games of all time.[59][60] SimCity 4 (2003) marked the high point in the franchise's GameRankings score at 85. The 2013 reboot was very poorly received, with Green Man Gaming comparing its effect on the franchise to the destruction of the city of Pompeii.[61] The SimCity franchise has often been criticized for both the content of its underlying mathematical models (most of which were drawn from Jay Forrester's Urban Dynamics) and for keeping them obfuscated to promote an image of 'realism'.[62] The mathematical models are built on certain premises such as low taxes promoting growth and simply adding police stations reducing crime nearby, which may not be the case.[63] Sociologist Paul Starr wrote he was "worried that the game's underlying code was an 'unreachable black box' which could 'seduce' players into accepting its assumptions."[64] Certain players have pushed the limits of those 'black box' algorithms and found that the game's metrics for success (crime rates, economic growth) do not include things such as public health and citizen happiness.[62] Will Wright stated in an interview with Tristan Donovan that "SimCity was always meant to be a caricature of the way a city works, not a realistic model of the way a city works."[65] Despite that, the series was still marketed as being 'realistic', with the tagline for SimCity 2000 reading "If this game was any more realistic, it'd be illegal to turn it off!"[66] There have been several examples of real-world politicians having their city planning policies tested in SimCity, with the assumption that its models are realistic. Prominent politicians who have been 'tested' through SimCity include former mayor of Warsaw and president of Poland Lech Kaczyński, former mayor of Providence, Rhode Island Buddy Cianci, and German Bundestag members Lars Klingbeil, Dorothee Bär, and Jimmy Schulz.[67][68] The franchise has been credited with inspiring a generation of urban planners, transport officials, and local government figures, who experienced the games at a younger age and took on those careers in later life.[69][70] Various editions of the game have been used in education to simulate urban planning for students in elementary through college classes.[71] While there were a handful of city-building games before 1989, SimCity popularized the genre and laid the groundwork for many titles inspired by it, including Cities: Skylines (2015), which was greenlit after the poor reception of the reboot.[72] More broadly, the lack of a win condition in favor of open-ended play was a novelty at the time that gave rise to Maxis' "software toys" design concept, which influenced many other titles from the company.[73] List of city-building video games ^ Walker, Trey (March 22, 2002). 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For the similarly named Digital Research operating system, see CP/M. Operating system OS/2OS/2 Warp 4 desktop. This version was released on 25 September 1996.[1]DeveloperIBMMicrosoft (1.0–1.3)Written inC, C++ and assembly languageWorking stateHistorical, now developed as ArcaOSSource modelClosed sourceInitial releaseDecember 1987; 37 years ago (1987-12)Latest release4.52 / December 2001; 23 years ago (2001-12)Marketing targetProfessionals, serversAvailable inChinese, English, French, German, Italian, Japanese, Korean, Spanish, Slovenian, Portuguese, RussianPlatforms32-bit x86, PowerPCKernel typeHybrid kernelInfluenced byMS-DOS, IBM PC DOSDefaultuser interfaceWorkplace ShellLicenseProprietarySucceeded byeComStationArcaOSOfficial websiteOS/2 Warp (Archived) OS/2 is a proprietary computer operating system for x86 and PowerPC based personal computers. It was created and initially developed jointly by IBM and Microsoft, under the leadership of IBM software designer Ed Iacobucci,[2] intended as a replacement for DOS. The first version was released in 1987. A feud between the two companies beginning in 1990 led to Microsoft's leaving development solely to IBM, which continued development on its own. OS/2 Warp 4 in 1996 was the last major upgrade, after which IBM slowly halted the product as it failed to compete against Microsoft's Windows; updated versions of OS/2 were released by IBM until 2001. The name stands for "Operating System/2", because it was introduced as part of the same generation change release as IBM's "Personal System/2 (PS/2)" line of second-generation PCs. OS/2 was intended as a protected-mode successor of PC DOS targeting the Intel 80286 processor. Notably, basic system calls were modelled after MS-DOS calls; their names even started with "Dos" and it was possible to create "Family Mode" applications – text mode applications that could work on both systems.[3] Because of this heritage, OS/2 shares similarities with Unix, Xenix, and Windows NT. OS/2 sales were largely concentrated in networked computing used by corporate professionals. OS/2 2.0 was released in 1992 as the first 32-bit version as well as the first to be entirely developed by IBM, after Microsoft severed ties over a dispute over how to position OS/2 relative to Microsoft's new Windows 3.1 operating environment.[4][5] With OS/2 Warp 3 in 1994, IBM attempted to also target home consumers through a multi-million dollar advertising campaign.[6] However it continued to struggle in the marketplace, partly due to strategic business measures imposed by Microsoft in the industry that have been considered anti-competitive.[7][8] Following the failure of IBM's Workplace OS project, OS/2 Warp 4 became the final major release in 1996; IBM discontinued its support for OS/2 on December 31, 2006.[9] Since then, OS/2 has been developed, supported and sold by two different third-party vendors under license from IBM – first by Serenity Systems as eComStation from 2001 to 2011,[10] and later by Arca Noae LLC as ArcaOS since 2017.[11][12][13] This section needs additional citations for verification. Please help improve this article by adding citations to reliable sources in this section. Unsourced material may be challenged and removed. (April 2012) (Learn how and when to remove this message) Ironically, Microsoft is competing against itself in the operating systems market. Besides Xenix, Microsoft has announced Windows 386, which [is] somewhat similar to OS/2. Of course, either way users turn, Microsoft wins.—Computerworld, 1987[14] Logo of OS/2 1.xOS/2 1.0 featured a text-mode interface similar to MS-DOS. The development of OS/2 began when IBM and Microsoft signed the "Joint Development Agreement" in August 1985.[15][16] It was code-named "CP/DOS" and it took two years for the first product to be delivered. OS/2's release was long delayed. It was widely believed that all IBM programmers used assembly language, and a rumor said that the delay was because they had to learn C.[17] OS/2 1.0 was announced in April 1987 and released in December. The original release only ran in text mode, and a GUI was introduced with OS/2 1.1 about a year later. OS/2 features an API for controlling the video display (VIO) and handling keyboard and mouse events so that programmers writing for protected mode need not call the BIOS or access hardware directly. Other development tools included a subset of the video and keyboard APIs as linkable libraries so that family mode programs are able to run under MS-DOS,[citation needed] and, in the OS/2 Extended Edition v1.0, a database engine called Database Manager or DBM (this was related to DB2, and should not be confused with the DBM family of database engines for Unix and Unix-like operating systems).[18] A task-switcher named Program Selector was available through the Ctrl-Esc hotkey combination, allowing the user to select among multitasked text-mode sessions (or screen groups; each can run multiple programs).[19] Communications and database-oriented extensions were delivered in 1988, as part of OS/2 1.0 Extended Edition: SNA, X.25/APPC/LU 6.2, LAN Manager, Query Manager, SQL. Microsoft's Bill Gates predicted at a 1987 Computerworld interview that "three years out, over 80% of new office systems will be based on OS/2". Ashton-Tate's Ed Esber also predicted success, while Lotus Development's Jim Manzi said "I don't know anyone who's screaming for OS/2. End users would really prefer that the whole thing never happened". Gates said that Microsoft would release Windows software first with "very cheap upgrades" to OS/2 versions, while the other two said their companies would release for OS/2 first.[20] OS/2 1.1 was the first version to feature the Presentation Manager GUI. The promised user interface, Presentation Manager, was introduced with OS/2 1.1 in October 1988.[21] It had a similar user interface to Windows 2.1, which was released in May of that year. (The interface was replaced in versions 1.2 and 1.3 by a look closer in appearance to Windows 3.0.) The Extended Edition of 1.1, sold only through IBM sales channels, introduced distributed database support to IBM database systems and SNA communications support to IBM mainframe networks. In 1989, Version 1.2 introduced Installable Filesystems and, notably, the HPFS filesystem. HPFS provided a number of improvements over the older FAT file system, including long filenames and a form of alternate data streams called Extended Attributes.[22] In addition, extended attributes were also added to the FAT file system.[23] Installation Disk A of Microsoft OS/2 1.3 (3½-inch floppy disk) The Extended Edition of 1.2 introduced TCP/IP and Ethernet support. OS/2- and Windows-related books of the late 1980s from both Microsoft's Gordon Letwin and his IBM counterpart Ed Iacobucci acknowledged the existence of both systems and promoted OS/2 as the system of the future.[24][17] Logo of Microsoft's OS/2 until the breakup The

collaboration between IBM and Microsoft unravelled in 1990, between the releases of Windows 3.0 and OS/2 1.3. During this time, Windows 3.0 became a tremendous success, selling millions of copies in its first year.[25] Much of its success was because Windows 3.0 (along with MS-DOS) was bundled with most new computers.[26] OS/2, on the other hand, was available only as an additional stand-alone software package. In addition, OS/2 lacked device drivers for many common devices such as printers, particularly non-IBM hardware.[27] Windows, on the other hand, supported a much larger variety of hardware. The increasing popularity of Windows prompted Microsoft to shift its development focus from cooperating on OS/2 with IBM to building its own business based on Windows.[28] Several technical and practical reasons contributed to this breakup. The two companies had significant differences in culture and vision. Microsoft favored the open hardware system approach that contributed to its success on the PC. IBM sought to use OS/2 to drive sales of its own hardware, and urged Microsoft to drop features, such as fonts, that IBM's hardware did not support. Microsoft programmers also became frustrated with IBM's bureaucracy and its use of lines of code to measure programmer productivity.[29] IBM developers complained about the terseness and lack of comments in Microsoft's code, while Microsoft developers complained that IBM's code was bloated.[30] The two products have significant differences in API. OS/2 was announced when Windows 2.0 was near completion, and the Windows API already defined. However, IBM requested that this API be significantly changed for OS/2.[31] Therefore, issues surrounding application compatibility appeared immediately. OS/2 designers hoped for source code conversion tools, allowing complete migration of Windows application source code to OS/2 at some point. However, OS/2 1.x did not gain enough momentum to allow vendors to avoid developing for both OS/2 and Windows in parallel. OS/2 1.3 was the final 16-bit only version of OS/2, and the last to be sold by Microsoft. OS/2 1.x targets the Intel 80286 processor and DOS fundamentally does not. IBM insisted on supporting the 80286 processor, with its 16-bit segmented memory mode, because of commitments made to customers who had purchased many 80286-based PS/2s as a result of IBM's promises surrounding OS/2.[32] Until release 2.0 in April 1992, OS/2 ran in 16-bit protected mode and therefore could not benefit from the Intel 80386's much simpler 32-bit flat memory model and virtual 8086 mode features. This was especially painful in providing support for DOS applications. While, in 1988, Windows/386 2.1 could run several cooperatively multitasked DOS applications, including expanded memory (EMS) emulation, OS/2 1.3, released in 1991, was still limited to one 640 kB "DOS box". Given these issues, Microsoft started to work in parallel on a version of Windows which was more future-oriented and more portable. The hiring of Dave Cutler, former VAX/VMS architect, in 1988 created an immediate competition with the OS/2 team, as Cutler did not think much of the OS/2 technology and wanted to build on his work on the MICA project at Digital rather than creating a "DOS plus". His NT OS/2 was a completely new architecture.[33] IBM grew concerned about the delays in development of OS/2 2.0. Initially, the companies agreed that IBM would take over maintenance of OS/2 1.0 and development of OS/2 2.0, while Microsoft would continue development of OS/2 3.0. In the end, Microsoft decided to recast NT OS/2 3.0 as Windows NT, leaving all future OS/2 development to IBM. From a business perspective, it was logical to concentrate on a consumer line of operating systems based on DOS and Windows, and to prepare a new high-end system in such a way as to keep good compatibility with existing Windows applications. While it waited for this new high-end system to develop, Microsoft would still receive licensing money from Xenix and OS/2 sales. Windows NT's OS/2 heritage can be seen in its initial support for the HPFS filesystem, text mode OS/2 1.x applications, and OS/2 LAN Manager network support. Some early NT materials even included OS/2 copyright notices embedded in the software.[citation needed] One example of NT OS/2 1.x support is in the WIN2K resource kit. Windows NT could also support OS/2 1.x Presentation Manager and AVIO applications with the addition of the Windows NT Add-On Subsystem for Presentation Manager.[34] OS/2 2.0 was the first 32-bit release of OS/2, and the first to feature the Workplace Shell. OS/2 2.0 was released in April 1992. At the time, the suggested retail price was US$195, while Windows retailed for $150.[35] OS/2 2.0 provided a 32-bit API for native programs, though the OS itself still contained some 16-bit code and drivers. It also included a new OOUI (object-oriented user interface) called the Workplace Shell. This was a fully object-oriented interface that was a significant departure from the previous GUI. Rather than merely providing an environment for program windows (such as the Program Manager), the Workplace Shell provided an environment in which the user could manage programs, files and devices by manipulating objects on the screen. With the Workplace Shell, everything in the system is an "object" to be manipulated. OS/2 2.0 was touted by IBM as "a better DOS than DOS and a better Windows than Windows".[36] It managed this by including the fully-licensed MS-DOS 5.0, which had been patched and improved upon. For the first time, OS/2 was able to run more than one DOS application at a time. This was so effective that it allowed OS/2 to run a modified copy of Windows 3.0, itself a DOS extender, including Windows 3.0 applications. Because of the limitations of the Intel 80286 processor, OS/2 1.x could run only one DOS program at a time, and did this in a way that allowed the DOS program to have total control over the computer. A problem in DOS mode could crash the entire computer. In contrast, OS/2 2.0 could leverage the virtual 8086 mode of the Intel 80386 processor to create a much safer virtual machine in which to run DOS programs. This included an extensive set of configuration options to optimize the performance and capabilities given to each DOS program. Any real-mode operating system (such as 8086 Xenix) could also be made to run using OS/2's virtual machine capabilities, subject to certain direct hardware access limitations. The OS/2 2.0 upgrade box Like most 32-bit environments, OS/2 could not run protected-mode DOS programs using the older VCPI interface, unlike the Standard mode of Windows 3.1; it only supported programs written according to DPMI. (Microsoft discouraged the use of VCPI under Windows 3.1, however, due to performance degradation.)[37] Unlike Windows NT, OS/2 always allowed DOS programs the possibility of masking real hardware interrupts, so any DOS program could deadlock the machine in this way. OS/2 could, however, use a hardware watchdog on selected machines (notably IBM machines) to break out of such a deadlock. Later, release 3.0 leveraged the enhancements of newer Intel 80486 and Intel Pentium processors—the Virtual Interrupt Flag (VIF), which was part of the Virtual Mode Extensions (VME)—to solve this problem. To accommodate those who wanted to have multiple operating systems on their machine, Boot Manager was introduced that allowed for the creation of separate partitions on the boot drive which could be used to install different versions of DOS, Windows and OS/2 and give the user a choice of which partition to boot from.[38] Further information: VME (CONFIG.SYS directive) OS/2 2.1 was released in 1993. This version of OS/2 achieved compatibility with Windows 3.0 (and later Windows 3.1) by adapting Windows user-mode code components to run inside a virtual DOS machine (VDM). Originally, a nearly complete version of Windows code was included with OS/2 itself: Windows 3.0 in OS/2 2.0, and Windows 3.1 in OS/2 2.1. Later, IBM developed versions of OS/2 that would use whatever Windows version the user had installed previously, patching it on the fly, and sparing the cost of an additional Windows license.[39] It could either run full-screen, using its own set of video drivers, or "seamlessly," where Windows programs would appear directly on the OS/2 desktop. The process containing Windows was given fairly extensive access to hardware, especially video, and the result was that switching between a full-screen WinOS/2 session and the Workplace Shell could occasionally cause issues.[40] Because OS/2 only runs the user-mode system components of Windows, it is incompatible with Windows device drivers (VxDs) and applications that require them. Multiple Windows applications run by default in a single Windows session – multitasking cooperatively and without memory protection – just as they would under native Windows 3.x. However, to achieve true isolation between Windows 3.x programs, OS/2 can also run multiple copies of Windows in parallel, with each copy residing in a separate VDM. The user can then optionally place each program either in its own Windows session – with preemptive multitasking and full memory protection between sessions, though not within them – or allow some applications to run together cooperatively in a shared Windows session while isolating other applications in one or more separate Windows sessions. At the cost of additional hardware resources, this approach can protect each program in any given Windows session (and each instance of Windows itself) from every other program running in any separate Windows session (though not from other programs running in the same Windows session).[41] Whether Windows applications are running in full-screen or windowed mode, and in one Windows session or several, it is possible to use DDE between OS/2 and Windows applications, and OLE between Windows applications only.[42] IBM's OS/2 for Windows product (codename Ferengi), also known as "OS/2, Special Edition", was interpreted as a deliberate strategy "of cashing in on the pervasive success of the Microsoft platform" but risked confusing consumers with the notion that the product was a mere accessory or utility running on Windows such as Norton Desktop for Windows when, in fact, it was "a complete, modern, multi-tasking, pre-emptive operating system", itself hosting Windows instead of running on it. Available on CD-ROM or 18 floppy disks, the product documentation reportedly suggested Windows as a prerequisite for installing the product, also being confined to its original FAT partition, whereas the product apparently supported the later installation of Windows running from an HPFS partition, particularly beneficial for users of larger hard drives. Windows compatibility, relying on patching specific memory locations, was reportedly broken by the release of Windows 3.11, prompting accusations of arbitrary changes to Windows in order to perpetrate "a deliberate act of Microsoft sabotage" against IBM's product.[41] Wordmark of OS/2 Warp 3.0OS/2 Warp Connect 3.0, showing the Windows 3.1 Program Manager, QBASIC in a DOS window, and the LaunchPad (bottom center) Released in 1994, OS/2 version 3.0 was labelled as OS/2 Warp to highlight the new performance benefits, and generally to freshen the product image. "Warp" had originally been the internal IBM name for the release: IBM claimed that it had used Star Trek terms as internal names for prior OS/2 releases, and that this one seemed appropriate for external use as well. At the launch of OS/2 Warp in 1994, Patrick Stewart was to be the Master of Ceremonies; however Kate Mulgrew[43] of the then-upcoming series Star Trek: Voyager substituted for him at the last minute.[44][45] OS/2 Warp offers a host of benefits over OS/2 2.1, notably broader hardware support, greater multimedia capabilities, Internet-compatible networking, and it includes a basic office application suite known as IBM Works. It was released in two versions: the less expensive "Red Spine" and the more expensive "Blue Spine" (named for the color of their boxes). "Red Spine" was designed to support Microsoft Windows applications by utilizing any existing installation of Windows on the computer's hard drive. "Blue Spine" includes Windows support in its own installation, and so can support Windows applications without a Windows installation. As most computers were sold with Microsoft Windows pre-installed and the price was less, "Red Spine" was the more popular product.[46] OS/2 Warp Connect—which has full LAN client support built-in—followed in mid-1995. Warp Connect was nicknamed "Grape".[21] In OS/2 2.0, most performance-sensitive subsystems, including the graphics (Gre) and multimedia (MMPM/2) systems, were updated to 32-bit code in a fixpack, and included as part of OS/2 2.1. Warp 3 brought about a fully 32-bit windowing system, while Warp 4 introduced the object-oriented 32-bit GRADD display driver model. Main article: Workplace OS In 1991, IBM started development on an intended replacement for OS/2 called Workplace OS. This was an entirely new product, brand new code, that borrowed only a few sections of code from both the existing OS/2 and AIX products. It used an entirely new microkernel code base, intended (eventually) to host several of IBM's operating systems (including OS/2) as microkernel "personalities". It also included major new architectural features including a system registry, JFS, support for UNIX graphics libraries, and a new driver model.[47] Workplace OS was developed solely for POWER platforms, and IBM intended to market a full line of PowerPCs in an effort to take over the market from Intel. A mission was formed to create prototypes of these machines and they were disclosed to several corporate customers, all of whom raised issues with the idea of dropping Intel. Advanced plans for the new code base would eventually include replacement of the OS/400 operating system by Workplace OS, as well as a microkernel product that would have been used in industries such as telecommunications and set-top television receivers. A partially functional pre-alpha version of Workplace OS was demonstrated at Comdex, where a bemused Bill Gates stopped by the booth. The second and last time it would be shown in public was at an OS/2 user group in Phoenix, Arizona; the pre-alpha code refused to boot. It was released in 1995. But with $990 million being spent per year on development of this as well as Workplace OS, and no possible profit or widespread adoption, the end of the entire Workplace OS and OS/2 product line was near. Firefox 3.5.4 for OS/2 Warp 4 Wordmark of OS/2 Warp 4OS/2 Warp 4 desktop after installation In 1996, Warp 4 added Java and speech recognition software.[48] IBM also released server editions of Warp 3 and Warp 4 which bundled IBM's LAN Server product directly into the operating system installation. A personal version of Lotus Notes was also included, with a number of template databases for contact management, brainstorming, and so forth. The UK-distributed free demo CD-ROM of OS/2 Warp essentially contained the entire OS and was easily, even accidentally, cracked[clarification needed], meaning that even people who liked it did not have to buy it. This was seen as a backdoor tactic to increase the number of OS/2 users, in the belief that this would increase sales and demand for third-party applications, and thus strengthen OS/2's desktop numbers.[citation needed] This suggestion was bolstered by the fact that this demo version had replaced another which was not so easily cracked, but which had been released with trial versions of various applications.[citation needed] In 2000, the July edition of Australian Personal Computer magazine bundled software CD-ROMs, included a full version of Warp 4 that required no activation and was essentially a free release. Special versions of OS/2 2.11 and Warp 4 also included symmetric multiprocessing (SMP) support. OS/2 sales were largely concentrated in networked computing used by corporate professionals; however, by the early 1990s, it was overtaken by Microsoft Windows NT. While OS/2 was arguably technically superior to Microsoft Windows 95, OS/2 failed to develop much penetration in the consumer and stand-alone desktop PC segments; there were reports that it could not be installed properly on IBM's own Aptiva series of home PCs.[49] Microsoft made an offer in 1994 where IBM would receive the same terms as Compaq (the largest PC manufacturer at the time) for a license of Windows 95, if IBM ended development of OS/2 completely. IBM refused and instead went with an "IBM First" strategy of promoting OS/2 Warp and disparaging Windows, as IBM aimed to drive sales of its own software as well as hardware. By 1995, Windows 95 negotiations between IBM and Microsoft, which were already difficult, stalled when IBM purchased Lotus SmartSuite, which would have directly competed with Microsoft Office. As a result of the dispute, IBM signed the license agreement 15 minutes before Microsoft's Windows 95 launch event, which was later than their competitors and this badly hurt sales of IBM PCs. IBM officials later conceded that OS/2 would not have been a viable operating system to keep them in the PC business.[50][51] This section does not cite any sources. Please help improve this section by adding citations to reliable sources. Unsourced material may be challenged and removed. (March 2013) (Learn how and when to remove this message) A project was launched internally by IBM to evaluate the looming competitive situation with Microsoft Windows 95. Primary concerns included the major code quality issues in the existing OS/2 product (resulting in over 20 service packs, each requiring more diskettes than the original installation), and the ineffective and heavily matrixed development organization in Boca Raton (where the consultants reported that "basically, everybody reports to everybody") and Austin. That study, tightly classified as "Registered Confidential" and printed only in numbered copies, identified untenable weaknesses and failures across the board in the Personal Systems Division as well as across IBM as a whole. This resulted in a decision being made at a level above the Division to cut over 95% of the overall budget for the entire product line, end all new development (including Workplace OS), eliminate the Boca Raton development lab, end all sales and marketing efforts of the product, and lay off over 1,300 development individuals (as well as sales and support personnel). $990 million had been spent in the last full year. Warp 4 became the last distributed version of OS/2. Although a small and dedicated community remains faithful to OS/2,[52] OS/2 failed to catch on in the mass market and is little used outside certain niches where IBM traditionally had a stronghold. For example, many bank installations, especially automated teller machines, run OS/2 with a customized user interface; French SNCF national railways used OS/2 1.x in thousands of ticket selling machines. [citation needed] Telecom companies such as Nortel used OS/2 in some voicemail systems. Also, OS/2 was used for the host PC used to control the Satellite Operations Support System equipment installed at NPR member stations from 1994 to 2007, and used to receive the network's programming via satellite.[citation needed] Although IBM began indicating shortly after the release of Warp 4 that OS/2 would eventually be withdrawn, the company did not end support until December 31, 2006,[53] with sales of OS/2 stopping on December 23, 2005. The latest IBM OS/2 Warp version is 4.52, which was released for both desktop and server systems in December 2001. IBM is still delivering defect support for a fee.[53][54] IBM urges customers to migrate their often highly complex applications to e-business technologies such as Java in a platform-neutral manner. Once application migration is completed, IBM recommends migration to a different operating system, suggesting Linux as an alternative.[55][56][57] Main articles: eComStation and ArcaOS ArcaOS is the most recent OS/2-based operating system developed outside of IBM. After IBM discontinued development of OS/2, various third parties approached IBM to take over future development of the operating system. The OS/2 software vendor Stardock made such a proposal to IBM in 1999, but it was not followed through by the company.[58] Serenity Systems succeeded in negotiating an agreement with IBM, and began reselling OS/2 as eComStation in 2001.[59] eComStation is now sold by XEU.com, the most recent version (2.1) was released in 2011.[60] In 2015, Arca Noae, LLC announced that they had secured an agreement with IBM to resell OS/2.[11] They released the first version of their OS/2-based operating system in 2017 as ArcaOS.[13] As of 2023, there have been multiple releases of ArcaOS, and it remains under active development.[61] Many people hoped that IBM would release OS/2 or a significant part of it as open source. Petitions were held in 2005 and 2007, but IBM refused them, citing legal and technical reasons.[62] It is unlikely that the entire OS will be open at any point in the future because it contains third-party code to which IBM does not have copyright, and much of this code is from Microsoft. IBM also once engaged in a technology transfer with Commodore, licensing Amiga technology for OS/2 2.0 and above, in exchange for the REXX scripting language.[63] This means that OS/2 may have some code that was not written by IBM, which can therefore prevent the OS from being re-announced as open-sourced in the future.[64][failed verification][65] On the other hand, IBM donated Object REXX for Windows and OS/2 to the Open Object REXX project maintained by the REXX Language Association on SourceForge.[66] There was a petition, arranged by OS2World, to open parts of the OS. Open source operating systems such as Linux have already profited from OS/2 indirectly through IBM's release of the improved JFS file system, which was ported from the OS/2 code base. As IBM didn't release the source of the OS/2 JFS driver, developers ported the Linux driver back to eComStation and added the functionality to boot from a JFS partition. This new JFS driver has been integrated into eComStation v2.0, and later into ArcaOS 5.0. Release dates refer to the US English editions unless otherwise noted.[67][68] Date Version December 1987 OS/2 1.0 November 1988 OS/2 1.1 October 1989 OS/2 1.2 December 1990 OS/2 1.3 October 1991 OS/2 2.0 LA (Limited Availability) April 1992 OS/2 2.0 October 1992 OS/2 2.00.1 May 1993 OS/2 2.1 November 1993 OS/2 for Windows February 1994 OS/2 2.11 July 1994 OS/2 2.11 SMP October 1994 OS/2 Warp 3 May 1995 OS/2 Warp Connect December 1995 OS/2 Warp, PowerPC Edition February 1996 OS/2 Warp Server 4 September 1996 OS/2 Warp 4 September 1996 OS/2 Warp Server Advanced SMP November 1997 WorkSpace On-Demand 1.0 October 1998 WorkSpace On-Demand 2.0 April 1999 OS/2 Warp Server for e-Business (version 4.50) November 2000 OS/2 Convenience Pack 1 (version 4.51) November 2001 OS/2 Convenience Pack 2 (version 4.52) The graphic system has a layer named Presentation Manager that manages windows, fonts, and icons. This is similar in functionality to a non-networked version of X11 or the Windows GDI. On top of this lies the Workplace Shell (WPS) introduced in OS/2 2.0. WPS is an object-oriented shell allowing the user to perform traditional computing tasks such as accessing files, printers, launching legacy programs, and advanced object oriented tasks using built-in and third-party application objects that extended the shell in an integrated fashion not available on any other mainstream operating system. WPS follows IBM's Common User Access user interface standards. WPS represents objects such as disks, folders, files, program objects, and printers using the System Object Model (SOM), which allows code to be shared among applications, possibly written in different programming languages. A distributed version called DSOM allowed objects on different computers to communicate. DSOM is based on CORBA. The object oriented aspect of SOM is similar to, and a direct competitor to, Microsoft's Component Object Model, though it is implemented in a radically different manner; for instance, one of the most notable differences between SOM and COM is SOM's support for inheritance (one of the most fundamental concepts of OO programming)—COM does not have such support. SOM and DSOM are no longer being developed. The multimedia capabilities of OS/2 are accessible through Media Control Interface commands. The last update (bundled with the IBM version of Netscape Navigator plugins) added support for MPEG files. Support for newer formats such as PNG, progressive JPEG, DivX, Ogg, and MP3 comes from third parties. Sometimes it is integrated with the multimedia system, but in other offers it comes as standalone applications. OS/2 Window (cmd.exe) on Microsoft OS/2 Version 1.3 The following list of commands is supported by cmd.exe on OS/2.[69][70] ansi append assign attrib backup boot break cache call cd chcp chdir chkdsk cls cmd codepage command comp copy createdd date ddinstal debug del detach dir diskcomp diskcopy doskey dpath eautil echo endlocal erase exit extproc fdisk fdiskpm find for format fsaccess goto graftabl help if join keyb keys label makeini md mem mkdir mode more move patch path pause picview pmrexx print prompt pstat rd recover rem ren rename replace restore rmdir set setboot setcom40 setlocal share shift sort spool start subst syslevel syslog time trace tracebuf tracefmt tree type undelete unpack ver verify view vmdisk vol xcopy This section needs expansion. You can help by adding to it. (April 2019) The TCP/IP stack is based on the open source BSD stack as visible with SCCS what compatible tools. IBM included tools such as ftp and telnet and even servers for both commands. IBM sold several networking extensions including NFS support and an X11 server. Architecture of OS/2 Warp under x86 Hardware vendors were reluctant to support device drivers for alternative operating systems including OS/2, leaving users with few choices from a select few vendors. To relieve this issue for video cards, IBM licensed a reduced version of the Scitech display drivers, allowing users to choose from a wide selection of cards supported through Scitech's modular driver design.[71] Document detailing OS/2's architecture. OS/2 has historically been more difficult to run in a virtual machine than most other legacy x86 operating systems because of its extensive reliance on the full set of features of the x86 CPU; in particular, OS/2's use of ring 2 prevented it from running in early versions of VMware.[72] Newer versions of VMware provide official support for OS/2, specifically for eComStation.[73] VirtualPC from Microsoft (originally Connectix) has been able to run OS/2 without hardware virtualization support for many years. It also provided "additions" code which greatly improves host–guest OS interactions in OS/2. The additions are not provided with the current version of VirtualPC, but the version last included with a release may still be used with current releases. At one point, OS/2 was a supported host for VirtualPC in addition to a guest. Note that OS/2 runs only as a guest on those versions of VirtualPC that use virtualization (x86 based hosts) and not those doing full emulation (VirtualPC for Mac). VirtualBox from Oracle Corporation (originally InnoTek, later Sun) supports OS/2 1.x, Warp 3 through 4.5, and eComStation as well as "Other OS/2" as guests. However, attempting to run OS/2 and eComStation can still be difficult, if not impossible, because of the strict requirements of VT-x/AMD-V hardware-enabled virtualization and only ACP2/MCP2 is reported to work in a reliable manner.[74] ArcaOS supports being run as a virtual machine guest inside VirtualBox, VMware ESXi and VMWare Workstation.[75] It ships with VirtualBox Guest Additions, and driver improvements to improve performance as a guest operating system.[76] The difficulties in efficiently running OS/2 have, at least once, created an opportunity for a new virtualization company. A large bank in Moscow needed a way to use OS/2 on newer hardware that OS/2 did not support. As virtualization software is an easy way around this, the company desired to run OS/2 under a hypervisor. Once it was determined that VMware was not a possibility, it hired a group of Russian software developers to write a host-based hypervisor that would officially support OS/2. Thus, the Parallels, Inc. company and their Parallels Workstation product was born.[77] OS/2 has few native computer viruses;[78] while it is not invulnerable by design, its reduced market share appears to have discouraged virus writers. There are, however, OS/2-based antivirus programs, dealing with DOS viruses and Windows viruses that could pass through an OS/2 server.[79] Some problems were classic subjects of comparison with other operating systems: Synchronous input queue (SIQ): if a GUI application was not servicing its window messages, the entire GUI system could get stuck and a reboot was required. This problem was considerably reduced with later Warp 3 fixpacks and refined by Warp 4, by taking control over the application after it had not responded for several seconds.[80][81]:565 No unified object handles (OS/2 v2.11 and earlier): The availability of threads probably led system designers to overlook mechanisms which allow a single thread to wait for different types of asynchronous events at the same time, for example the keyboard and the mouse in a "console" program. Even though select was added later, it only worked on network sockets. In case of a console program, dedicating a separate thread for waiting on each source of events made it difficult to properly release all the input devices before starting other programs in the same "session". As a result, console programs usually polled the keyboard and the mouse alternately, which resulted in wasted CPU and a characteristic "jerky" reactivity to user input. In OS/2 3.0 IBM introduced a new call for this specific problem.[82] This section needs additional citations for verification. Please help improve this article by adding citations to reliable sources in this section. Unsourced material may be challenged and removed. (June 2011) (Learn how and when to remove this message) OS/2 has been widely used by Iran Export Bank (Bank Saderat Iran) in their teller machines, ATMs and local servers (over 35,000 working stations). As of 2011, the bank moved to virtualize and renew their infrastructure by moving OS/2 to Virtual Machines running over Windows. OS/2 was widely used by Brazilian banks. Banco do Brasil had a peak 10,000 machines running OS/2 Warp in the 1990s. OS/2 was used in automated teller machines until 2006. The workstations and automated teller machines and attendant computers have been migrated to Linux.[83] An ATM in Australia revealing during a reboot that it is based on OS/2 Warp OS/2 has been used in the banking industry. Suncorp bank in Australia still ran its ATM network on OS/2 as late as 2002. ATMs at Perisher Blue used OS/2 as late as 2009, and even the turn of the decade.[84] OS/2 was widely adopted by accounting professionals and auditing companies. In mid-1990s native 32-bit accounting software were well developed and serving corporate markets. OS/2 ran the faulty baggage handling system at Denver International Airport. The OS was eventually scrapped, but the software written for the system led to massive delays in the opening of the new airport. The OS itself was not at fault, but the software written to run on the OS was. The baggage handling system was eventually removed. OS/2 was used by radio personality Howard Stern. He once had a 10-minute on-air rant about OS/2 versus Windows 95 and recommended OS/2. He also used OS/2 on his IBM 760CD laptop. OS/2 was used as part of the Satellite Operations Support System (SOSS) for NPR's Public Radio Satellite System. SOSS was a computer-controlled system using OS/2 that NPR member stations used to receive programming feeds via satellite. SOSS was introduced in 1994 using OS/2 3.0, and was retired in 2007, when NPR switched over to its successor, the ContentDepot. OS/2 was used to control the SkyTrain automated light rail system in Vancouver, Canada until the late 2000s when it was replaced by Windows XP. OS/2 was used in the London Underground Jubilee Line Extension Signals Control System (JLESCS) in London, England. This control system delivered by Alcatel was in use from 1999 to 2011 i.e. between abandonment before opening of the line's unimplemented original automatic train control system and the present SelTrac system. JLESCS did not provide automatic train operation only manual train supervision. Six OS/2 local site computers were distributed along the railway between Stratford and Westminster, the shunting tower at Stratford Market Depot, and several formed the central equipment located at Neasden Depot. It was once intended to cover the rest of the line between Green Park and Stanmore but this was never introduced. OS/2 has been used by The Co-operative Bank in the UK for its domestic call centre staff, using a bespoke program created to access customer accounts which cannot easily be migrated to Windows. OS/2 has been used by the Stop & Shop supermarket chain (and has been installed in new stores as recently as March 2010). OS/2 has been used on ticket machines for Tramlink in outer-London. OS/2 has been used in New York City's subway system for MetroCards.[85] Rather than interfacing with the user, it connects simple computers and the mainframes. When NYC MTA finishes its transition to contactless payment, OS/2 will be removed.[86] OS/2 was used in checkout systems at Safeway supermarkets.[85] OS/2 was used by Trenitalia, both for the desktops at Ticket Counters and for the Automatic Ticket Counters up to 2011. Incidentally, the Automatic Ticket Counters with OS/2 were more reliable than the current ones running a flavor of Windows.[citation needed] OS/2 was used as the main operating system for Abbey National General Insurance motor and home direct call centre products using the PMSC Series III insurance platform on DB2.2 from 1996 to 2001. BYTE in 1989 listed OS/2 as among the "Excellence" winners of the BYTE Awards, stating that it "is today where the Macintosh was in 1984: It's a development platform in search of developers". The magazine predicted that "When it's complete and bug-free, when it can really use the 80386, and when more desktops sport OS/2-capable PCs, OS/2 will—deservedly—supersede DOS. But even as it stands, OS/2 is a milestone product".[87] In March 1995 OS/2 won seven awards[88] InfoWorld Product of the Year.[89] Five Awards at CeBIT. PC Professional Magazine - Innovation of the Year award. CHIP Magazine named OS/2 Warp the Operating System of the Year. DOS International named OS/2 Warp the Operating System of the Year. 1+1 Magazine awarded it with the Software Marketing Quality award. Industrie Forum awarded it with its Design Excellence. SPA Best Business Software Award. IBM has used OS/2 in a wide variety of hardware products, effectively as a form of embedded operating system. Product Product type Usage of OS/2 IBM 2074 Console support controller Used to connect 3270 sessions to host via ESCON channels. Introduced in September 2000 as a replacement for local, non-SNA 3174 Control Units. All models were withdrawn in 2006 and replaced by the Open System Adapter Integrated Console Controller (OSA ICC).[90] IBM 3494 Tape library Used as the operating system for the Library Manager (LM) that controlled the tape accessor (robot)[91] IBM 3745 Communications controller Used as the operating system for the Service Processor (SP) and if installed, the Network Node Processor (NNP).[92] IBM 3890 Document processor The 3890/XP1 was announced November 12, 1988. It initially used OS/2 1.1 Extended Edition[93] on a PS/2 Model 80 to emulate the stacker control software that previously ran on a System/360. IBM later switched to OS/2 Warp.[94] IBM 473x ATM Used in a range of automatic teller machines manufactured by IBM. Was also used in later 478x ATMs manufactured with Diebold. IBM 9672 IBM mainframe Used as the operating system for the Hardware Management Console (HMC) and Support Element (SE).[95] Was also used in later mainframe models such as the IBM 2064. 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Put new text under old text. Click here to start a new topic. New to Wikipedia? Welcome! Learn to edit; get help. Assume good faith Be polite and avoid personal attacks Be welcoming to newcomers Seek dispute resolution if needed Article policies Neutral point of view No original research Verifiability Find sources: Google (books · news · scholar · free images · WP refs) · FENS · JSTOR · TWLArchives: 1Auto-archiving period: 12 months This article is rated C-class on Wikipedia's content assessment scale.It is of interest to multiple WikiProjects.Computing: Software Mid-importanceThis article is within the scope of WikiProject Computing, a collaborative effort to improve the coverage of computers, computing, and information technology on Wikipedia. If you would like to participate, please visit the project page, where you can join the discussion and see a list of open tasks.ComputingWikipedia:WikiProject ComputingTemplate:WikiProject ComputingComputingMidThis article has been rated as Mid-importance on the project's importance scale.This article is supported by WikiProject Software (assessed as Low-importance). Microsoft Mid-importanceThis article is within the scope of WikiProject Microsoft, a collaborative effort to improve the coverage of articles relating to Microsoft on Wikipedia. If you would like to participate, please visit the project page, where you can join the discussion and see a list of open tasks.MicrosoftWikipedia:WikiProject MicrosoftTemplate:WikiProject MicrosoftMicrosoftMidThis article has been rated as Mid-importance on the project's importance scale. Technology Technology portalThis article is within the scope of WikiProject Technology, a collaborative effort to improve the coverage of technology on Wikipedia. If you would like to participate, please visit the project page, where you can join the discussion and see a list of open tasks.TechnologyWikipedia:WikiProject TechnologyTemplate:WikiProject TechnologyTechnology The following references may be useful when improving this article in the future: Reimer, Jeremy (25 November 2013). "Half an operating system: The triumph and tragedy of OS/2". Ars Technica. Condé Nast. ESR has a good resume of history of OS/2 in The Art of Unix Programming: see The Art of Unix Programming Davidme — Preceding undated comment added 07:53, 29 June 2007 (UTC)[reply] Someone(s) should flesh out the following summary of a neglected part of the OS/2 history. I can contribute, but certain authoritative references might take considerable effort to obtain. IBM was a member of the Open Software Foundation, and participated with Digital Equipment Corp. on the OSF Research Institute's OSF/1 Mach kernel (OSFMK 7.3 kernel) microkernel design. That microkernel was derived from both the CMU CS Mach microkernel and the CMU CS Alpha real-time microkernel. Alpha's contributions were primarily application-specific scheduling algorithms and distributed threads. IBM Boca and Austin (VP Larry Loucks) decided to base the microkernel of Workplace OS for Power PC on that OSF microkernel. DEC had acquired most of the key Alpha designers, and was developing a real-time OS product based on MK7.3A. IBM contracted with the DEC Real-Time Business Unit to consult on the design and implementation of the WPOS/PPC microkernel. That collaboration included some key Alpha and MK7.3A designers at the OSF/RI. The IBM WPOS/PPC project was subsequently cancelled (as is documented herein), the OSF morphed into being the Object Management Group, dissolving the RI (its key MK7.3A designer went to Apple), and DEC's Real-Time Business Unit was terminated when Compaq purchased DEC. E Douglas Jensen (talk) 21:13, 28 January 2023 (UTC)[reply] during the mid 90s, os/2 was still under development and was a new thing. a coming soon thing. the article also says that protected mode was present in the 286 processors. it was not. i tested protected mode games on a 286 processor and they did not work, because of a lack of protected mode. this is not a joke 84.212.100.141 (talk) 14:58, 1 April 2023 (UTC)[reply] I am unsure as to what specifically your objection "during the mid 90s, os/2 was still under development and was a new thing. a coming soon thing." refers, but feel free to be more specific as to what sections or sentences you feel are incorrect or inappropriate. As to the 286 protected mode, all RS I have been able to find documents the ability of the 286 to enter protected mode, but it certainly seemed like it was very difficult to use in practice, and one of it's main criticisms was especially the fact that you could not escape protected mode without resetting the 286. This thread on stackexchange explains in detail how to put a 286 in protected mode, if you are interested. askeuhd (talk) 10:36, 4 April 2023 (UTC)[reply] 286 did have a protected mode and it could be 'exited' (return to RM). I think the OP was trying to run 386 PM software on a 286 which isn't going to work for obvious reasons. 57.135.233.22 (talk) 15:37, 8 May 2024 (UTC)[reply] The commands list (OS/2#Commands) seems to break up the general flow and seems to provide excessive information considering the rest of the article. Seems out of place, placing {{summarize section}} tag until further input has been received on what should be done with this section. Vghfr (talk) 04:53, 8 January 2024 (UTC)[reply] This section heading seems fundamentally wrong – Windows 3.0 compatibility already shipped in 1992's OS/2 2.0, as the text of this section itself confirms. OS/2 2.1 brought about improved Windows compatibility (i.e. support for Windows 3.1 as opposed to Windows 3.0), but Windows support was already there in 1992's OS/2 2.0 SomethingForDeletion (talk) 07:47, 6 April 2025 (UTC)[reply] Retrieved from " 4 The following pages link to Talk:OS/2 External tools (link count transclusion count sorted list) · See help page for transcluding these entries Showing 26 items. View (previous 50 | next 50) (20 | 50 | 100 | 250 | 500)Talk:OS (links | edit) Talk:The Hobbit (film series)/Archive 2 (links | edit) Talk:Derry/Archive 9 (links | edit) Talk:OS/2/Archive 1 (transclusion) (links | edit) User:Blaxthos/IBM (links | edit) User:Blaxthos/IBM/Articles/Software (links | edit) User:Blaxthos/IBM/Articles (links | edit) User:Saikat 2012/sandbox (links | edit) User:Becky Sayles/sandbox/awb (links | edit) User:Syed yasser ahmed/sandbox (links | edit) User talk:Bruce Bathurst (links | edit) User talk:Abd/Archive 16 (links | edit) User talk:Davidgothberg/Archive 6 (links | edit) User talk:DMarti (links | edit) User talk:Tom29739/Archive 2 (links | edit) User talk:Tom29739/Archive 5 (links | edit) User talk:Doniago/Archive 70 (links | edit) User talk:182.66.30.147 (links | edit) User talk:Callmemirela/Archive 25 (links | edit) Wikipedia:Subpages (links | edit) Wikipedia:WikiProject Spam/LinkSearch/groups.google.com (links | edit) Wikipedia:Bot requests/Archive 22 (links | edit) Wikipedia:Village pump (technical)/Archive 89 (links | edit) Wikipedia:Redirects for discussion/Log/2014 January 5 (links | edit) Wikipedia:Redirects for discussion/Log/2014 January 15 (links | edit) Wikipedia:Village pump (technical)/Archive 174 (links | edit) View (previous 50 | next 50) (20 | 50 | 100 | 250 | 500) Retrieved from " WhatLinksHere/Talk:OS/2"