ALEX ST. JOHN

BERKELEY, THE PRIBILOF ISLANDS, FAIRBANKS, BOSTON, CAMBRIDGE (ENGLAND), REDMOND AND CAMBRIDGE (NEW ZEALAND) · 1967–

On Teletypes, Doom, Togas and Such

Whoso would be a man must be a nonconformist.
RALPH WALDO EMERSON, SELF-RELIANCE

In the autumn of 1966 Berkeley, California, was a university town of about a hundred thousand people that had lately become famous for arguing. The Free Speech Movement had shut the campus down two years before, the war in Vietnam was going badly and loudly, and the students who studied what the government called "communist languages" could, for the moment, keep out of it. Daniel was one of them. He had come back to Berkeley as a doctoral student in Slavic languages, "with a nice wife, a pregnant wife," as he put it, and the pregnancy is where this chapter begins. It is a chapter about Daniel's eldest son, Alex, and it is built a little differently from the others: most of what is known about Alex's grown-up life is on the public record — in newspapers, trade magazines, an encyclopedia article, a whole book and some years of his own writing — and the record is its spine. Daniel's own memories are set into it where they belong.

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The pregnancy had not been entirely in the plan. "Mother somehow mysteriously got pregnant with Alex in the May of... of 66," Daniel said, at a moment when he was also trying to keep out of the war by getting into graduate school. They spent the summer in Massachusetts saving money: Regina worked in a pizza place, "which was not too good for her because it made her throw up," and Daniel worked in the paper mill. Mother Perry, Regina's mother, gave them a car for the drive west, a Plymouth with air conditioning, and they set off for California with a stray cat they had rescued on the way.

Alex was born in Berkeley in 1967. On the day itself the sources do not agree: the Library of Congress, which catalogues him under the book later written about him, gives only the year, and the two printed or online sources that go further give dates a month apart. The family tapes agree on the year and the town. That same year, back in South Hadley, Daniel's grandfather William Burnham Krug died. "It was just after Alex was born," Daniel said. "Alex was, oh, seven, eight months old."

Daniel's own mother came to stay and help with the baby, which was the sort of help a young couple with two jobs, one graduate degree in progress and very little money could use. "We had a child, our money was low, and my mother was living with me, helping take care of Alex."

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In the winter of 1968 Daniel met the Meters, the Alaskan wilderness family who had come to Berkeley to show their wildlife film, and on the first day of 1969 the family went north with them. "Your mother was pregnant with Yana," Daniel said. "And Alex was not even two years old." They spent January to April in a cabin in the Brooks Range, a hundred and fifty miles above the Arctic Circle, among moose carcasses hanging from the rafters and grizzlies that came for them in the night.

"Alex turned two," Daniel said, "and Mother was about eight months pregnant with Yana, so we had to leave there." That is the whole of what the tapes say about his second birthday, and it is enough: few people's second birthdays have taken place within earshot of a hungry grizzly bear. A snapshot from that winter, which Alex later



ALEX AND FRIENDS, BROOKS RANGE, 1969 (DIGITALLY RESTORED)

posted with the caption "First toy," shows a small blond boy in a wool sweater being introduced, by two young women in the snow, to the antlers of a moose.

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From the Brooks Range the family went out to the Bering Sea. Daniel spent three years teaching on the Pribilof Islands, among the Aleuts, and Alex, in a Christmas post written forty-odd years later, remembered how they arrived on St. George. There was no harbour. They flew to St. Paul in a small bush plane and crossed to St. George standing in the empty hold of a coal barge, and since the barge could not come in close, the islanders rowed out to meet it in their big skin boats, made of driftwood and seal hide, and the newcomers were lowered over the side one by one in life jackets.

Regina, by his account, went into the sea and was fished out with oars; everybody else arrived dry, to a welcome of sea lions bellowing from the rocks. The teachers lived in a house the military had put up, rather like a barracks.



THE ST. JOHN FAMILY ON ST. GEORGE ISLAND, 1970

The island had grass and no trees, foxes and voles, and a church the Russians had left behind, and many of the islanders still spoke Russian, which Daniel spoke fluently. On Christmas Eve the carollers went from door to door with a great decorated star on a pole, spinning it while they sang in Russian, and were paid in homemade candy and coins. There was no airstrip then, so the mail came by military cargo plane, flown low over the tundra and pushed out the back in canvas sacks, and the children ran to see where they landed.

One Christmas a sack held a pair of children's ice skates, and Alex learned to skate on a frozen crater. Daniel made him blocks out of chunks of lumber, and told the children stories of Baba Yaga, the Russian witch who lives in a hut on chicken legs. In November 1971, as Alex remembered it, men in uniform came and the whole island was driven up a hill in amphibious trucks, in case "a very big bomb" set off a tidal wave; he was told to keep his head down against the flash. The bomb was real enough. It was the Cannikin test, the largest underground explosion the United States ever set off, on Amchitka in the Aleutians, a long way to the south-west.

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The villages were small and the distances were not. Allakaket, where the family taught in the mid-1970s, sits on the Koyukuk River just about on the Arctic Circle, a Koyukon Athabascan village of not quite two hundred people reached, then as now, by small plane. The family taught there together for a year; for the second year, the winter of 1974, Regina went back up with their daughter to teach in the three-teacher school, and Daniel and Alex stayed behind on the family's forty acres outside Fairbanks, where Daniel had taken a contract as a Russian interpreter on a muskox survey.

It paid very well, and it took him away. While he was out on the first survey, Nepali friends looked after Alex, who was then about seven — a childhood arrangement that sounds improbable anywhere except Fairbanks in the 1970s, where it was merely practical.

Daniel came back to the village at Christmas of 1974 and went out again in March for the last weeks of the muskox work, and in the spring of 1975 the family left the village during a school break and came out through Fairbanks. The muskoxen are the subject of the chapter "Nunivak." What matters here is the place they came home to: the forty acres outside Fairbanks, with an old one-room log cabin on it that the family had bought.

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Alex described that cabin twice on his blog, at Christmas 2013 and Christmas 2016, and the two accounts agree. It was about twelve feet by fifteen; when he went back years later and measured it, the ceiling was five feet six inches high. It had no electricity, no running water and no plumbing, and where the newer cabins of the hippies round about were insulated with pink fiberglass, this one was insulated with moss, which had to be defended every autumn against squirrels who wanted it for their nests.

Water was snow melted in a bucket on the stove. In summer the refrigerator was a hole in the permafrost with moss over it; in winter, he observed, it was the whole cabin. The snow drifted eight to twelve feet deep against the walls, and the temperature sat for weeks between forty and sixty below. "I learned to read by Coleman lantern," he wrote.

Most of a child's life there, he remembered, revolved around wood. A winter in that cabin burned about nine cords, a pile bigger than the cabin, and the stove had to be fed all night; his parents slept beside it until he was old enough for the job to be his. In summer the neighbours logged together, and the children peeled bark from the trees with long knives and stacked the winter's wood, and every spring the outhouse had to be moved, which meant digging a new hole for it. His mother sewed the family's clothes, and had learned to tan furs and do beadwork from the Athabascans they had lived among. Christmas dinner was usually moose with blueberry jam, which, he noted, was also most other dinners.

Daniel built things. He made the family's snowshoes, as he had learned from the Native people, and he built a dog sled, held together, Alex wrote, with caribou hide. The family kept



THE CABIN OUTSIDE FAIRBANKS, 1975–1978

Newfoundlands rather than huskies, being gentler with children and doubling, in a cabin at forty below, as fur blankets. Every December father and son harnessed the team and went out at noon twilight for a Christmas tree.

Alex rode in the sled while Daniel stood on the runners, his eyebrows and beard frosting over; the trees were bowed under so much snow that the only way to find a good one was to kick a white mound and watch the tree spring up out of it. Coming home they stood one on each runner and let the dogs pull. In summer, Alex wrote, he went back to the spot and found they had cut only the top few feet of a tall spruce.

Electricity came in stages. A few years on, Daniel added a two-storey extension to the cabin and ran a power line out to the property, and the family had electric light again. The first thing Alex plugged into it, by his own account, was a computer. But he had met computers before that. When he was about eleven, he wrote, his father was working on a doctorate at the University of Alaska and would leave him for the day at the university's computer room, which everyone called "The Node."



HIS FIRST DOG TEAM, ABOUT 1976 (DIGITALLY RESTORED)

There, on a 300-baud teletype wired to the university's Honeywell mainframe, he played *Super Star Trek* through reams of paper — each move took minutes to print — while graduate students fed boxes of punch cards into the reader. When he got bored he talked them into showing him how to program it.

His first computer of his own was a Commodore VIC-20, which he got for Christmas in 1981, when the cabin had power. It had four kilobytes of memory, which he soon pushed to twenty-four with expansion cards ordered from a magazine. It was, he wrote, "the first home electrical appliance I had ever used in the cabin." His father taught him to count in binary, which he remembered as his only lesson in computer science for years.

He typed in programs from magazines, and then wrote his own, starting with a dungeon game in the manner of *Dungeons & Dragons* called "Dungeoneer," in which the hero was a single pixel and the monsters were single red ones. In the summers he dug outhouse holes and stacked other people's firewood to pay for games on cassette tape. There was no television. It was dark and cold nine months of the year, and reading and programming, he said, were about the only things to do.

As a teenager he played *Dungeons & Dragons* through the long winters with friends from the university families, in one case in a cabin where the parents, both scientists at the university, kept a pen of wolves that the boys had to feed between games. He was taught at home and never got a high-school diploma. A newspaper profile of 2001 put his childhood in two sentences: he spent his first sixteen years in the Alaskan wilderness, in a cabin without running water, electricity or plumbing, and his parents were teachers. He read constantly, and wrote himself a program to learn vocabulary.

> *We come from Alaska to Massachusetts in 1984, after having been 15 years in Alaska, working in the villages and so forth.*

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In 1984, then, the family came back to Massachusetts. Alex, at sixteen, went first, and spent a few months living with his great-grandmother

Krug, Grandfather Krug's widow, who was then nearly ninety and lived to be a hundred and six. Running water, a refrigerator and a telephone were, he wrote, mostly new to him. He picked apples at Atkins Farm and chopped wood to buy computer books, and spent the rest of his time on a Commodore 64, while his great-grandmother, who remembered hearing about the Wright brothers, listened with pride and without comprehension to his explanation that it was a machine that could be taught to think.

School did not take. By the newspaper's account he was sent to high school, did not fit in and dropped out, and within about a year he had sat the University of Alaska's entrance tests and the SAT, on which he scored a perfect 1600. The university, by the account of Michael Drummond, whose book about Alex's Microsoft years turns up later in this chapter, had at first turned him away for want of any transcripts; after the SAT it let him in, and when he signed up for the advanced classes without the prerequisites and did well in them, a counsellor waived the prerequisites.

He was in the computer science and electrical engineering program in Fairbanks long enough to get through, by Drummond's reckoning, about two-thirds of a degree, took classes at the University of Maine, and later taught computer-aided design for the university's civil engineering department, in a lab Autodesk had donated and nobody else knew how to use. Then, without a degree, he went to work. "Interesting young man," Daniel said of him, which, as summaries of a son go, is economical and hard to improve on.

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His first job in technology was in Boston, at Hell Graphic Systems, the American arm of the German company founded by the inventor Rudolf Hell, which made scanners and typesetting systems that cost millions of dollars apiece. "I was 21 and in love with computers," he wrote in a column ten years later. He had no degree, no diploma and no professional experience, and was hired at $26,000 a year on ninety days' trial.

A month in, he was sent to a trade show in New York to learn from the company's expert, Dan Lorenzini, and told to keep out of the way of customers. When the demonstration system crashed in front of an important German visitor, he pressed the reset button, which was the wrong thing to do, and was sent off the show floor. His boss rang that night, and instead of firing him said he would not fire anyone for a mistake made once.

He stayed, moved from customer support to become the company's resident PostScript expert, and was later a product manager there. Drummond's version of the same years has him handed PostScript to study for a few months and coming back the next day to say he knew it, which, as the solutions to his mentor's problems began to show, he did.

PostScript was the page-description language Adobe had introduced in 1984 to tell laser printers and typesetters what to put where, and in the late 1980s anyone who understood it from the inside was worth something. When Linotype bought Hell and wanted to move him to Kiel, in Germany, he declined and left, and went instead to England, to Harlequin Limited, a Cambridge software house that built a PostScript-compatible interpreter to compete with Adobe's own.

There he worked with a Cambridge-trained mathematician named Jeremy Kenyon, and the pair of them, by a later company biography, wrote a good part of an interpreter running to millions of lines of code; Drummond credits the two of them, Alex then about twenty-one, with building Harlequin's interpreter, two or three times faster than Adobe's on ordinary PCs. When Harlequin opened an American office in Salem, New Hampshire, he came home to work from it, and after a disagreement about moving it to Cambridge, Massachusetts, he left.

Back in Boston he went to ECRM, a maker of laser imagesetters, writing screening algorithms, and consulted for Harlequin's customers on the side. The consulting, he told a magazine later, paid "grotesque money." He wrote columns for the trade press on printing and publishing, and Ziff-Davis named him one of the most influential people in multimedia.

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Late in 1992 a Microsoft recruiter, who had been asking for some time, persuaded him to come to

Redmond for an interview, presented as a free holiday. In Drummond's telling the first step was ten minutes with a Microsoft recruiter, Lee Cole, in a Boston hotel, who asked what he liked about the company. "Bill kicks ass," said Alex, which was evidently the right answer. He arrived in December in shorts and a T-shirt and was put through eleven interviews in a row.

One evangelist, Ken Fowles, asked him to design the ideal remote control. Cameron Myhrvold asked the difference between a TrueType font and a Type 1 font. Brian Moran, by Alex's account cleaning his nails with a Bowie knife, asked how he had debugged an operating system he had written for the 386 in assembly language (he had listened for beeps). The next morning Doug Henrich, who ran Microsoft's Developer Relations Group, offered him a job over breakfast — fifty-eight thousand dollars a year and 2,880 stock options, by Drummond's figures — and Alex asked, reasonably, "To do what?"

The answer was that Bill Gates wanted Microsoft to compete with Apple in publishing, and they wanted Alex to persuade the engineers how. That evening Fowles took him to the company's Christmas party, for employees only, getting him past the door, Drummond says, on a photocopy of his own badge filled in with felt pens. The party filled seven halls of the Seattle Center with a circus, a balloon castle, a haunted house and an arcade. By his own account that party settled it.

He started in January 1993, aged twenty-five, as Microsoft's first evangelist for publishing, in the Developer Relations Group under Cameron Myhrvold; his brief was to win the graphic arts away from Apple and Adobe. Within weeks *InfoWorld* was quoting him, on 22 March 1993, as Microsoft's "technology evangelist to the publishing industry," arguing that printers' service bureaus used Macintoshes only because their customers did. A trade paper, by his later account, had him saying the Macintosh was better for publishing than Windows, which is not a thing a Microsoft evangelist is supposed to say in print.

In Drummond's version the paper was *InfoWorld* and the point was that Microsoft's PostScript printer drivers for Windows 3.1 lagged behind Apple's. Bill Gates e-mailed to ask where he had got such an idea. Alex wrote back with the technical case — the Macintosh sent its pages to the printer in compact binary, Windows in plain text — Brad Silverberg, who ran Windows, told him to stop writing to the chairman, and Microsoft shortly arranged with Adobe to redo the drivers.

Instead of being fired he found himself in the meetings where Microsoft's printing architecture was decided. He wrote that he went on to design the print architectures of Windows 95 and Windows NT, and wrote Gates a speech for the 1993 Seybold publishing conference about reading the news on a screen.

He stayed in those rooms. By his own account he wrote many of Gates's speeches over the next few years and travelled with him; he coached him, he wrote, before a television interview with Connie Chung in 1994, and went to Tokyo with him in 1995 for a deal with the Japanese investor Masayoshi Son. In 1994 he put a proposal in front of Gates that Microsoft make three-dimensional graphics for ordinary consumers a strategic priority — not for engineers and architects, who had expensive workstations for that, but for anybody with a PC and a reason to want a dragon on the screen.

Microsoft also sent him to the GamePC Consortium, an association of game and hardware companies trying to make the PC a better machine to play on, where he spoke at several of its meetings as, in the consortium's words, Microsoft's first game evangelist.

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By 1994 his job had become games. Rick Segal, who ran multimedia evangelism in the Developer Relations Group, needed someone to sell Windows to game programmers, a famously unimpressed audience, and he chose Alex, whom colleagues already called "the Saint," over the other man on his list, Craig Eisler. Eisler happened to be the man Alex lifted weights with.

Alex had come to Microsoft a serious weightlifter and found himself, he said, among scrawny nerds, until Eisler, a short, very strong Canadian programmer hired in June 1993, turned up to spot for him at the Pro Club near the campus; the two of them then teased a third, Eric Engstrom, a self-taught programmer from

Oroville in eastern Washington, about his biceps until he joined the morning sessions. Drummond calls the result an unholy troika, and much of what followed was argued out between sets.

Windows 95 was to replace DOS, and most of the games people played on their PCs ran on DOS, talking straight to the hardware in ways Windows did not allow. There was a stopgap: WinG, a small library by a programmer in Microsoft's research group, Chris Hecker, that let games draw to the screen of Windows 3.1 far faster than Windows itself allowed. Alex's first task was to sell it, and he introduced it to the trade press in the company's theatre by putting the Windows 3.1 logo on the big screen and letting a shotgun blast five holes in it.

Brad Chase, the marketing vice-president, told Segal to fire him; Segal pointed out that the journalists now regarded Alex as a hero, and kept him. In August 1994, by Drummond's account, Alex and Eisler asked some thirty of the leading game developers what Microsoft could build to bring them to Windows, and in November Alex was sent round the game companies again. The answer was mostly no: Microsoft's graphics, the developers said, were too slow and too far from the machine.

On 18 November 1994 the three friends put their case in a memo called "Taking Fun Seriously," which, Alex wrote, both Gates and Steve Ballmer read. Then they set out to build what the developers were asking for: programming interfaces that let a game reach the graphics card, the sound card and the joystick almost directly, while Windows stood politely aside. Alex built a prototype that pushed Windows' own graphics out of the way so that *Doom* could run; another programmer, John Miles, built the first version of the sound.

They called it the Manhattan Project. From September to December 1994, Drummond writes, they worked on it without anyone's authorization, under cover of the general scramble to finish Windows 95. In December Alex booked the Developer Relations Group's conference centre and showed the plan to about thirty game developers, who went home in black T-shirts printed with a mushroom cloud and the line from *WarGames*, "Shall we play a game?" Eisler began writing the code on Christmas Eve.

He wrote most of it; Engstrom was the program manager; Alex was what Drummond calls the face man, though some of the first interfaces were built by programmers working for him, and when the managers in the Windows group would not pay for more programmers he found about $1.7 million of his own group's money to hire contractors. In February 1995 Microsoft bought a small London company, RenderMorphics, whose 3D engine, Reality Lab, became Direct3D — by Alex's account he was the one who picked it, and Drummond adds that he first had to win over Michael Abrash, the most respected 3D programmer of the day, before the group vice-president Paul Maritz would approve the purchase.

Brad Silverberg, who ran Windows 95, came close to firing Eisler and Engstrom that spring, abolished the name Manhattan Project and made them soften the radiation-symbol logo; then he saw a game called *Super Bubsy* racing across a Windows 95 screen and became their champion. "I'm not going to fire you," he told Alex, by Alex's account. Colleagues less charmed called the three the Multimedia Mafia, or the Beastie Boys, and the second name stuck for the rest of their careers. That spring the project also leaked to the trade paper *PCWeek*, which put it in the open before Microsoft was ready.

The interfaces went public in April 1995, at the Computer Game Developers Conference in Santa Clara. The conference organizers offered Microsoft very little room, so Alex, on Microsoft's chequebook, hired Paramount's Great America amusement park across the road for the day after the conference closed and called the show Ground Zero. Some fifteen hundred developers came. In a thousand-seat amphitheatre, with the crowd chanting "DOS, DOS, DOS," Engstrom stopped talking and Eisler turned up *Super Bubsy* on Windows 95 to eighty-three frames a second, at which, Drummond reports, the chanting stopped.

The three handed out beta copies of the kit pressed hours before and went to watch the fireworks Alex had slipped into the budget from a roller coaster. *PC Gamer* described him as

"rotund, bearded, winningly affable," and gave his argument, which was that the games business would grow once it was rid of DOS. And the deadline did not move: Windows 95 was released to manufacturers on July 14, 1995, and went on sale on August 24. At the end of September Microsoft released the interfaces as the Windows Game SDK.

The pieces were called DirectDraw, DirectSound, DirectInput and DirectPlay, and the whole of it became DirectX. Drummond says a trade-press wit coined the name and the three adopted it; Alex said later that it came from bypassing the operating system, and that the green "X" of the Xbox descended from the DirectX logo. *Computer Game Review* that November gave his title as Game Technology Evangelist, and added, "yes, that's really his title." His review that half-year was a perfect five, a mark that needed, Drummond says, a signature from very high up.

That year his Microsoft stock options vested, and he bought a red Harley-Davidson Ultra Glide and rode it to the motorcycle rally at Sturgis, South Dakota, with Ken Fowles, the evangelist who had taken him to the Christmas party.

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The difficulty with a new way of making games is that somebody has to make the games. Alex's answer was the one that made his name. He persuaded about two dozen developers to have titles ready for Windows 95, and he went to the companies that mattered most to PC gamers — Origin, and id Software, the small Texas company that had made *Doom* — and id let Microsoft's team bring *Doom* across to Windows. The game that resulted is remembered as the first DirectX game ever published.

To launch it Microsoft held a Halloween party on October 30, 1995, called Judgment Day, on its Red West campus, which was still being finished. Alex organized it, over the objections of the vice-president whose building it was, and came dressed as Satan, with Eisler and Engstrom as attendant demons. A two-storey volcano went up in the new café and a haunted house in the parking garage beneath it, each room designed by a game company; there was a live *Doom* tournament; id brought the heavy-metal band Gwar; about fifteen hundred reporters and developers were invited, and more than forty game companies came.

A year earlier almost no games had been planned for Windows; that Christmas, Drummond counts, there were more than seventy-five. And since Alex could not get Bill Gates to come in person, he got a video instead, in which the chairman of Microsoft appeared, after a fashion, inside *Doom*. *Computer Game Review*, which went, reported a press lunch with Alex, Engstrom and the two founders of RenderMorphics, under the headline "Microsoft Lets Its Hair Down."

Not every pitch went the way he expected. A company called Cinematronics brought him a game in the manner of *Doom* for Windows 95; the head of Windows 95 asked instead for pinball, and Alex carried the message back. The pinball game went into Windows as *Space Cadet*, and for the next several years it was on more office computers than any game had a right to be.

The spring after Judgment Day, at the Computer Game Developers Conference of April 1996, Microsoft launched DirectX 2.0 with Alex's party on a Roman theme, called Pax Romana: the guests were bussed to the arena of San Jose State University, issued togas, and fed from islands of food watched by two real lions, one of which briefly got out. Intel, ATI, IBM and NEC helped pay. DirectX was built into the versions of Windows that followed. That year his team moved to Microsoft's Internet division, and his prototype of DirectX running inside a web browser grew into his last large project at the company, a graphics technology called Chromeffects, meant to bring television-quality animation to the World Wide Web.

About the same time he bought a Hummer over the Internet — a plum-coloured one, delivered to the door of Microsoft's Building 5 — and called it the Saintmobile. To celebrate a DirectX deal with Sega, Drummond relates — a deal for which he had flown to Tokyo with Bill Gates — he drove Sega's chairman and president across Microsoft's lawns in it; he later wrote, in a column called "I Miss My Hummer," of sinking it nose-first in a swamp with two Intel executives aboard, and its career ended against a low overhang at Sea-Tac airport.

In the autumn of 1996 a reorganization gave him new managers, Brad Chase and Tod Nielsen, who had less patience with spectacle than the old ones. In the same reshuffle Eisler and Engstrom were close to quitting, and it was Alex, Drummond says, who persuaded the vice-president John Ludwig to keep them; Ludwig became their mentor. He planned a second Judgment Day for that November on a grander scale: some three thousand guests were to be herded at mock gunpoint from a conference into an alien spaceship designed by the artist H.

R. Giger, built in an aircraft hangar at the Alameda Naval Air Station, where a filmed Bill Gates would peel off his face to reveal an alien. Two million dollars had been spent when Nielsen cancelled it, two weeks before it was due, and the contractors and Teamsters then spent a night locked in the hangar with the spaceship until the Navy's rent was paid. When the magazine *boot* interviewed him that winter, in two long parts in January and February 1997, it photographed him beside the Hummer with a sword, and he explained himself in a sentence: "I like getting in trouble." People justified their computers by work and school, he told them, but used them for fun.

In January 1997 the three began meeting again, over beer now that Engstrom's back had put an end to the workouts, to decide what to build next, and they settled on the World Wide Web, which to men used to games at thirty frames a second looked intolerably slow. Alex's first notion was a flag that waved in a virtual breeze on a web page. From it grew what Drummond calls a "browser on steroids": pages sent to a PC as the bare skeletons of three-dimensional objects, for the computer's own idle power to dress with colour, texture, motion and sound, as a game would. Two DirectX programmers, Bob Heddle and Colin McCartney, did the building under Engstrom; McCartney named it after William Gibson's story "Burning Chrome," and Chrome it became.

Success also brought arguments. By 1997 the games that mattered most were three-dimensional, and the question was whose 3D: Microsoft's Direct3D, or OpenGL, the older standard from the workstation world that id Software's John Carmack preferred and said so in public. The trade press covered the dispute as a running feud, and Alex argued Microsoft's side of it as loudly as he argued everything, inside the company as well as out.

That spring, Drummond writes, he sent the people responsible a three-page warning about leaks to the OpenGL side, and in May reminded Gates and the senior vice-presidents that in March, for the first time, all ten of the best-selling PC games had been Windows games built on DirectX; he thought Microsoft's own 3D chip design, Talisman, a distraction, and said so. In June Chris Hecker, by then outside the company, published an open letter from some fifty developers asking Microsoft to back OpenGL, and Alex's e-mails to senior people about it grew blunter still. Direct3D, much rewritten, is what Windows games use today.

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His time at Microsoft ended in June 1997, the day after the last of those e-mails, when Morris Beton, the group manager in Developer Relations, called him in and told him it was time to pursue other interests. He had seen it coming. Before he went, he took a handful of chocolate kisses from Engstrom's office, left them on his desk for the security staff who would come to clear it, and added a note: "Help yourself!"

He left Building 5 that day, he wrote, "four years and five months after joining the empire." The next day Microsoft announced that it had cancelled its reference design for Talisman. Ken Fowles, who had hired him, told Drummond that the company had grown cautious and Alex had not changed; "This guy single-handedly moved an industry," he said. The trade press reported the departure in July. He then took about a year off, though not from writing.

That September *boot* made him a contributing editor, and his monthly column, "The Saint with Alex St. John," began with the story of how he had come to leave. In October the magazine put him on its cover in a dark suit against a blue sky, under the line "Defector Alex St. John tells all," with a long article of his own inside about the making of DirectX. The same month *Computer Gaming World* published its list of the fifteen

most influential people in the history of computer gaming, and put him at number thirteen.

In November he interviewed John Carmack for the magazine's website. For Halloween that year he paid for a party of his own, at the Showbox in Seattle, with the band The Presidents of the United States of America. When *boot* became *Maximum PC* his column went with it, until August 1999, under the heading "Microsoft Defector Tells All," illustrated with a photograph of him in a priest's collar.

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The rest of the year off, by his own account, went on ballroom dancing, scuba diving and rock climbing, and traded stocks from home, which in 1997 and 1998 was a pastime a great many people in the Seattle area discovered at the same moment. He did not lose touch with Chrome. Engstrom was still his closest friend, and when Chrome, which had nearly been cancelled in March 1998, needed attention in the press, it was Alex, Drummond says, who proposed chrome-plating Engstrom's 1997 Harley-Davidson from end to end, fitting it to shoot flames, and giving it away to whoever built the best Chrome website.

The bike was built, for some fifty thousand dollars; Microsoft's lawyers stopped the giveaway. Engstrom then hired him to write the official white paper for Chrome's debut at the Siggraph graphics conference in Orlando in July 1998 — about twenty pages for more than twenty thousand dollars, Microsoft's first cheque to him since he had left — and Alex hid his name, spelled backwards, in the file name of one of its illustrations. Two weeks before the show Microsoft found it could not hold the name abroad, and Chrome opened on July 21, 1998, as Chromeffects.

Then he started a company to build with it. He persuaded Jeremy Kenyon, his colleague from Harlequin, to come over from England, and the firm began in his house in Kirkland, in what Drummond calls a converted downstairs gym and the company's own history calls the basement; for a while seven people shared about a thousand square feet. They called it WildTangent. In August the team, now eight, moved onto Microsoft's campus, into four first-floor offices in Engstrom's Building 30, to build demonstrations of Chromeffects for Steve Ballmer; by Alex's later account Gates and Ballmer rode the chrome Harley onto a stage.

He offered to fold in flashCast, the Dayton company that had worked on Chrome, and its founder Paul Scholz turned him down. In October 1998 Chromeffects was taken from Engstrom and given to Deborah Black, who delayed it indefinitely, and in November Microsoft cut it back and broke it up. Alex called the delay a smoke screen. Then he remembered that in 1996 the three of them had asked the Internet Explorer team to bury some prototype Chrome code inside Internet Explorer 4, which by now was on millions of computers, and WildTangent found it and woke it up.

"Chrome lives!" is where Drummond leaves him. The motorcycle ended its career in WildTangent's lobby, and WildTangent moved into offices of its own in Redmond, a mile or two from the campus, and changed its business.

WildTangent began by making technology for three-dimensional graphics on the web and became, over the next decade, one of the larger networks of casual games — the short, cheerful games people play in a browser or on a new computer — paid for by advertising inside the games and by a currency of its own that players could spend. Alex was its president and then its chief executive.

The money came in rounds: two million dollars in February 1999, when the staff went from eight to twenty-four; seventeen million in March 2000, led by Greylock and Madrona; thirty-four million in April 2001, led by Sony Pictures Digital and Accenture. Its first product, the Web Driver, came out in September 1999, and a month later it bought the company behind the Genesis3D engine. The board, by March 2000, included Cameron Myhrvold, who had interviewed him for Microsoft. That month Alex gave the keynote at the Game Developers Conference billed as "the Saint," at an event WildTangent called a Game Developer Revival, with a gospel choir.

In November 1999 his Microsoft years became a book: Michael Drummond's *Renegades of the Empire: How Three Software Warriors Started a Revolution Behind the Walls of Fortress Microsoft*, from Crown, with the Library of Congress cata-

loguing it under the names of all three Beastie Boys. Drummond, a newspaper business writer, had been steered to the story by a Chrome contractor in Dayton, Ohio, and built it from long interviews with the three and the people around them; it quotes Alex's e-mails at length.

A paperback followed in 2000 with a new subtitle, *A Tale of Success, Failure, and Other Dark Deeds Inside Fortress Microsoft*, and a new foreword noting that Alex had gone on to build a 3D web business. *Booklist* called it a very revealing look inside one corner of the computer industry; *Salon* was cooler about its subjects, and the *New York Times Book Review* noted that Drummond laid the failure of Chromeffects at the door of office politics and the antitrust lawyers, and wished he had argued it harder.

None of the reviewers disputed the main point, which was that three men had built something Microsoft had not asked for and that the company could no longer do without. Alex himself describes it simply as the book about his adventures at Microsoft.

In May 2000 the DigiPen Institute of Technology in Redmond gave him an honorary degree — a Bachelor of Real-time Interactive Simulation, presented by Minoru Arakawa, the founder of Nintendo of America — for helping the college win accreditation for its first computer-science degree. A newspaper writing about it the next year pointed out that it was the first degree he had ever received.

By the spring of 2001 WildTangent had a hundred and thirty-five employees and fifty-one million dollars of financing; that year Alex was demonstrating its game *Betty Bad* every hour at the Game Developers Conference, and he wrote a column called "The Saint" again, for the new magazine *Computer Power User*, which he kept up for most of the decade. The hits that kept the company going were small ones, beginning with *Gem Master* and an advertising game for the Toyota Tacoma, and then *Fate*, which became its best seller. By about 2005 its games had been downloaded more than a hundred million times.

On the WildTangent patents filed in September 1999 he and Kenyon are the inventors, for a way of streaming games and other media in pieces as they are needed. They were the first of at least eighteen patents and published applications that name him, filed from 1999 onward and granted as late as 2025: at WildTangent on licensing games with a digital currency; at hi5 on virtual currencies and pricing; and at Nyriad, in New Zealand, on data compression (where he is the only inventor) and on storage built around graphics processors. His own biographies give higher counts, up to thirty-five and more, and the search behind the lower figure was not complete.

He went on television for WildTangent — in May 2008 Neil Cavuto interviewed him live on Fox Business about paying to play games — and in September 2008 its games reached eleven and a half million visitors in a month, which put it third among online game sites. In November 2008 he handed the chief executive's job to his chief operating officer, Mike Peronto, and stayed on as chairman; in March 2009 he left the board. WildTangent went on without him and in 2019 was bought by gamigo, a German games company. Its website is still at wildtangent.com.



ALEX ST. JOHN, 2010

❧

In December 2009 Alex became president and chief technology officer of hi5, a San Francisco social network with some sixty million users a month that was turning itself into a site for social games. In 2010 it bought a small games company in Austin, courted developers at the Game Developers Conference, and, in July, raised fourteen million dollars. That same month, at a party in Seattle during the Casual Connect conference, Alex marked hi5's challenge to Facebook by wrestling a three-hundred-and-fifty-pound sumo champion.

He was thrown out of the ring twice and, on the third try, pushed the champion out — a result GamesBeat reported without speculating on how hard the champion had tried. When hi5's assets were sold to the social network Tagged at the end of 2011, its people started a games network of their own, Magi.com, in Emeryville, and Alex founded it. Among the first games on Magi were titles from HitPoint Studios of Massachusetts, a company run by his younger brother Aaron, which made Magi, for a few months, a family business on both coasts. It closed in June 2012.

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His next interest was a long way from games. A talk at an animation conference in Wellington led to an invitation to Multicore World, a computing conference there, and from that to the Square Kilometre Array, the international radio telescope being planned for Australia and South Africa, whose antennas would produce more raw data than almost anything people had tried to store. From 2012 to 2014 he volunteered for it in his spare time, writing compression code for the raw radio data and helping with the mathematics on graphics processors; he spent much of 2013 teaching himself Nvidia's CUDA language for them.

By then he was living in Cambridge, a farming town in New Zealand's Waikato. He began teaching local students parallel programming in his garage, and found that another Microsoft alumnus, Matthew Simmons, lived in the same town. Out of the garage came Nyriad, which the two of them founded in 2014 to build storage that used graphics processors to keep such data safe, with Alex as chief technology officer. He spoke at Multicore World in 2014 and 2015.

In April 2014 he went back to Alaska. He gave the keynote at Serious Fun, a gathering on educational games at the University of Alaska Anchorage, and then a day of talks at the Fairbanks campus where he had once spent his days at "The Node," among them "Platform Wars and the Rise of Mobile Games" and "How to Get an Awesome Job with a Game/Software Company." A few months later he wrote on his blog that his youngest brother had just become a technology evangelist at Intel, "following the family tradition." In September 2015 he was at the twentieth-anniversary reunion of Windows 95 in Seattle, photographed with Eric Engstrom and two other veterans of the launch.

Nyriad grew. The New Zealand company was incorporated in January 2015, with Alex a director from August of that year. By 2016 and 2017 it had forty-five to fifty engineers, and in June 2016 he gave the graduation address at Victoria University of Wellington, about hard work and the children of farming families; he had meant to show the graduates pictures of his own childhood, the cabin and the dogs and the outhouse hole, and, lacking a projector, put them on his blog instead.

In February 2018 Nyriad raised eight and a half million US dollars from the venture firm Data Collective, and in March he was at Nvidia's conference in San Jose showing its storage appliance. He left the company in March 2019 and sold his shares; he resigned as a director that August. Nyriad itself wound down in 2024.

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In the 2020s he came back to games, and to the problem he had started with at Microsoft: how to get a game from the machine that can run it to the person who wants to play it. In 2021 he founded PlayCast with a co-founder, Trey Overton, encouraged, by one account, by the games investor Bing Gordon. It lets people's idle gaming computers stream games to other players over the internet, peer to peer; he is its chief executive, with a partner from the WildTangent years, Dave Madden, and it is at playcast.io.

By April 2026 it had raised ten million dollars and had nineteen staff. He has also become his own broadcaster: on PlayCast's YouTube channel he tells the old stories at length, among them a Halloween "story time" for the thirtieth anniversary of DirectX in October 2024, a two-part "Microsoft Confidential: Taking Fun Seriously," and, in November 2025, a tour of his DirectX memorabilia, which includes the *boot* cover of 1997. Eric Engstrom, whom he called "one of my very best friends," had died in 2020. In July 2026 Alex was announcing something newer still, a media player for artificial intelligence.

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It is a long way from a cabin with a five-and-a-half-foot ceiling outside Fairbanks to the conference rooms of Redmond, and Alex made the trip without a diploma, a map or, it seems, much interest in asking permission. Daniel, telling the family's story into a recorder fifty-odd years after that first Arctic winter, gave his eldest son two words and moved on to the next question.

The public record has needed a great many more: an encyclopedia article, a shelf of magazine pieces, a magazine cover, a list of the fifteen most influential people in his trade, a book with "Renegades" in the title, and some hundreds of posts of his own. Among those posts are the snapshots in this chapter, which, he wrote, his mother dug out of old prints and negatives and scanned for him each Christmas he asked. The technology he helped start in a borrowed corner of Microsoft in 1994 is still how most games talk to Windows, and the boy who learned to program on a teletype at the University of Alaska, while his father studied down the hall, grew up to help decide how the world's computers would play.

THE RECORDS

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Alexander St. John, public LinkedIn profile (logged-out view), retrieved 10 Oct 2026. link

Company websites, checked 10 Oct 2026: WildTangent wildtangent.com (live); PlayCast playcast.io (live); hi5.com (redirects to Tagged); magi.com and nyriad.io (no response); DigiPen digipen.edu.

Photographs: St. John family photographs, 1969 – c. 1976, as posted on Alex St. John's blog (WARC above); "PAX 2006 - Alex St. John," by Relativiox (Flickr), Wikimedia Commons, CC BY 2.0. link

ADDENDUM: ALEX ST. JOHN'S COMPANIES

Company	Role	Years	What it did	Website, 10 Oct 2026
Hell Graphic Systems, Boston	Customer support, PostScript expert, product manager	c. 1988–89	US arm of the German Hell company: scanners and typesetting systems	—
Harlequin Limited, Cambridge, England	Engineer (with Jeremy Kenyon)	c. 1989–92	PostScript-compatible typesetting software	successor: globalgraphics.com (redirects)
ECRM, Boston	Screening algorithms; consulting for Harlequin's customers	1992	Laser imagesetters	—
Microsoft	Publishing evangelist, then game technology evangelist; co-creator of DirectX	Jan 1993 – Jun 1997	Windows print architecture; DirectX 1–5, Chromeffects	microsoft.com
boot / *Maximum PC*; *Computer Power User*	Contributing editor; columnist, "The Saint"	1997–99; c. 2001–09	Computer magazines	maximumpc.com
WildTangent, Redmond	Co-founder; president, CEO, chairman	Jul 1998 – Mar 2009	Web 3D, then a casual-games network paid for by in-game advertising	wildtangent.com (live; gamigo since 2019)
hi5, San Francisco	President and CTO	Dec 2009 – 2011	Social network turned social-games site	hi5.com (redirects to Tagged)
Magi.com, Emeryville	Founder	2012	Social-games network; launched with games from Aaron St. John's HitPoint Studios	magi.com (no response)
Square Kilometre Array (NZ/AU)	Volunteer HPC and GPU consultant	2012–2014	Computing for the international radio telescope	icrar.org
Nyriad, Cambridge, New Zealand	Co-founder, CTO; director 26 Aug 2015 – 23 Aug 2019	2014–2019	GPU-accelerated storage (NSULATE)	nyriad.io (no response; wound down 2024)
PlayCast Inc.	Co-founder (with Trey Overton), CEO	2021–	Peer-to-peer game streaming from idle gaming PCs	playcast.io (live)

Honorary degree: Bachelor of Real-time Interactive Simulation, DigiPen Institute of Technology, Redmond, 2000 (digipen.edu). Recognition: *Computer Gaming World*, Oct 1997, no. 13 of "The 15 Most Influential People of All Time" in computer gaming. Patents: at least 18 filings, 1999–2025 (WildTangent, hi5, Nyriad). In books: Michael Drummond, *Renegades of the Empire* (1999); David Kushner, *Masters of Doom* (2003); Dean Takahashi, *Opening the Xbox* (2002); Rusel DeMaria, *Game of X*, vol. 2 (2019), ch. 11, "The Manhattan Project." Sources for every row: the research notes, §3 and §8.

A SHORT CHRONOLOGY

1967	Born in Berkeley, California, where Daniel was a doctoral student.
1969	To the Brooks Range with the family on January 1; turns two there.
c. 1969–72	The Pribilof Islands: St. George, where his parents teach; the Cannikin evacuation, Nov. 1971.
1973–84	Allakaket; then the moss-insulated cabin outside Fairbanks.
c. 1978–81	Learns to program at "The Node"; a VIC-20 for Christmas 1981.
1984	A few months with his great-grandmother Krug in Massachusetts; the family moves back.
c. 1988	Hell Graphic Systems, Boston, at 21; then Harlequin, Cambridge, England, about three years.
1992	ECRM, Boston; recruited in the fall; eleven Microsoft interviews and the Christmas party in mid-December.
Jan. 1993	Joins Microsoft's Developer Relations Group as its first publishing evangelist.
1994	Games evangelist under Rick Segal; survey of game developers with Craig Eisler (Aug.); "Taking Fun Seriously" and the "Manhattan Project" with Eisler and Eric Engstrom (Nov.–Dec.).
1995	Ground Zero at Great America (April); DirectX 1.0 (Sept.); Judgment Day, Oct. 30.
1996	Pax Romana launches DirectX 2.0 (April); Judgment Day II cancelled (Nov.).
June 1997	Leaves Microsoft after the Direct3D–OpenGL e-mails (June 11 by his column; press reports in July).
Oct. 1997	On the cover of *boot*; no. 13 of *Computer Gaming World*'s fifteen most influential people.
1998	Writes the Chrome white paper (July); starts WildTangent with Jeremy Kenyon in his Kirkland house; Chromeffects delayed and broken up (Oct.–Nov.).
1999	*Renegades of the Empire* published (paperback 2000); first WildTangent patents filed.

2000	Honorary degree, DigiPen Institute of Technology; $17 million for WildTangent.
2008–2009	Hands on the WildTangent chief executive's job; leaves the board.
Dec. 2009	President and CTO of hi5; the sumo bout follows in July 2010.
2012	Founds Magi.com; begins volunteer work on the Square Kilometre Array.
2014	Co-founds Nyriad in Cambridge, New Zealand; speaking tour of the University of Alaska.
2021	Co-founds PlayCast; chief executive.
2024–2026	Tells the DirectX stories on PlayCast's YouTube channel; announces an AI media player, July 2026.

THE PHOTOGRAPHS

Photographs of Alex St. John found on 10 October 2026. Family photographs and the openly licensed photograph are reproduced; the others are copyright, not cleared for print, and are listed with their sources only.



1969
Alex with two young women and a moose antler in the snow, Brooks Range; print captioned "Alex & friends, Brooks Range Alaska 1969." St. John family photograph, posted on Alex St. John's blog (2016). Used in this chapter.
Catalogue record



1970
The family in parkas in the snow; print captioned "St John Family St George Island Alaska 1970." St. John family photograph (blog, 2013). Used in this chapter.
Catalogue record



1975
Alex in a fur-ruffed parka by a woodpile; print captioned "Alex St. John Fairbanks Alaska 1975." St. John family photograph (blog, 2013).
Catalogue record



1975–1978
The log cabin outside Fairbanks with its two-storey extension and woodpile; print captioned "Fairbanks cabin 1975-1978." Does not show Alex. St. John family photograph (blog, 2014). Used in this chapter.
Catalogue record



C. 1976
Alex in the dog sled his father built, with Newfoundland puppies; captioned on the blog as his first dog-sled team. A smaller print is captioned "Alex and wantabe sled dogs Fairbanks 1976" (blog, 2013). St. John family photograph. Used in this chapter.
Catalogue record



1970S
Alex in a pit hauling a bucket of earth: the yearly new outhouse hole. St. John family photograph (blog, 2016).
Catalogue record



2006-08-25
Alex St. John speaking on stage at PAX 2006, Bellevue, Washington. Relativiox (Flickr), CC BY 2.0. Used in this chapter.
Catalogue record

1995 – 1999
Not cleared: with colleagues and a battle-axe, 1995, and beside his crimson Hummer, c. 1996 (his blog); *boot* #05 and #06 (Jan.–Feb. 1997, photographs by Mark Madeo: with a sword beside the Hummer, at the wheel, "Mister DirectX"); *boot* #13, #14 (cover, p. 25, p. 44) and #17; *Maximum PC*, Nov. 1998 and Aug. 1999 (column pages with headshots, one in a priest's collar). Imagine Publishing / Future US.
Catalogue record

C. 2000 – 2012
Not cleared: studio portraits with a cigar (*Episodic Content Mag*, GamesBeat, Open Parallel, D.I.C.E., his blog's bio page); WildTangent management-page portraits, c. 2002 and c. 2005; *Edge* #191 (2008); Fox Business still (2008); with Nolan Bushnell, New York, 2008 (N'Gai Croal, Flickr); the hi5 years, 2010–12: GDC panel, the sumo bout, IGDA, London and SXSW talks, Magi.com portrait (hi5 Networks, Flickr; GamesBeat). Also two 2006 Flickr photographs under licences unsuited to a sold book: a close-up (jontintinjordan, CC BY-NC-SA 2.0) and the PAX keynote (Wade Rockett, CC BY-ND 2.0).
Catalogue record

C. 1999 – 2024
Not cleared: UW Video interview still; UAA Serious Fun keynote still (2014); Windows 95 reunion with Joe Belfiore, Vic Gundotra and Eric Engstrom (his blog, 2015); GTC 2018 interview on Nyriad's Orion (insideHPC); PlayCast channel webcam still (2024). Full list with sources: work/first-pass/archive-replies/alex-st-john-public/images.csv.
Catalogue record