# John H. Fogarty *January 12, 2022*

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## Summary

*Software Architect/Developer* with broad and deep skill sets, and a lifelong passion for learning; comfortable in anything: Python; Java; Node; C++, C# and on anything embedded; OS; Services; Cloud; Apps — Fearless to the point of stupidity.

In junior high I wrote my first code from a *GE* time-sharing, library book; programs in hand, I tracked down the admin for the *Burrough*'s mainframe in the Dallas school district and convinced him let me use their machine. Before finishing high school, I was doing compiler work on the *UT Health Science Center's DECsystem*, and had mastered a dozen languages across multiple systems.

Attended Rice University on a full ticket National Merit Scholarship, but was appalled at the primitive IBM mainframe in the CS department, so switched to physics. My arrogance and youth led me to drop out to form my first company after the first year. Coupled with a hobbyist's skills in electronics, was soon developing embedded computers, operating systems, and communications protocols for *Hewlett Packard*, *AT&T*, *DEC*, *Azurdata*, in my next two startups.

In my twenties, managed a staff of designers and engineers covering every aspect of manufacturing networked, industrial, computer systems. Traveled throughout Europe and Asia, both troubleshooting software/hardware, and handling the technical side of systems sales. Developed business plans, engineering and production budgets, and served on the boards of multiple small companies.

For next few decades, alternated and interleaved deep technical work with the direction of teams and engineering departments. Whenever expanded management responsibilities have threatened to erode my skills, switched to roles demanding greater technical depth and commitment. Currently only interested in serious technical work.

## Experience

### Base2 Solutions
Bellevue, WA

**Advisory Software Engineer/Architect** — *Mar '18 – Current*

Primary designer and developer of an embedded avionics operating system and control environment (Yocto Linux/PPC64, Java, C++) for a major new hardware line. Organizer and founder of Base2's Machine Learning Initiative; mentored engineers in ML technologies; built and taught ML curricula; implemented multiple demonstration projects, primarily using Machine Vision tools. Saved a key customer from disgrace by implementing significant upgrades to an aircraft interiors Android application suite under extreme time and resource pressures, leading to a successful trade show demonstration. Currently working on imaging sensor systems for autonomous delivery drones; mostly Python with a smattering of C++, bash scripting, etc; involves significant coding in robotic control, specialty device drivers, pub/sub and rq/rs networking, SystemD services, AWS Lambda functions, RDMS, IAM, and S3 data management. These roles involve development under DO-178 safety critical SDLC standards.

### S/V Slappey II
Bellevue, WA

**Captain** — *Jul '14 – Jan '18*

Sailed a small sailboat around the US and Mexico, while immersing myself in personal studies; this time in neuroscience, cognitive science, and artificial intelligence. In my spare time, tinker with a book on general AI, "*Considering Thought*," which I hope to publish before I perish.

## Microsoft – Advanced Strategy and Research
<span style="float:right">REDMOND, WA</span>

**Senior Software Development Engineer** *Mar '08 – Jun '14*

Core member of the team designing a green field operating system in a project led directly by Eric Rudder. I designed and developed key elements of the application lifecycle — more specifically, the network model for component discovery, distribution, and loading based on secure content graphs; the execution stack for process management; the build system for the entire OS. Worked on the C#/M# compiler and debugger, capability and resources models, and various protocols.

**Lead Software Development Engineer** *Sep '06 – Mar '08*

Started in the Windows Live/AdCenter group, integrating SMS and email delivery into backend services. Created SQL Server Reporting Services based content authoring and generation tools for ad campaign bidding, monitoring, and reporting. I'm proud that Bill Gates once wrote that I was "more articulate than he was," when commenting on a whitepaper I had written; rare praise from someone not known to give compliments lightly.

## SozoTek, Inc
<span style="float:right">AUSTIN, TX</span>

**Director of Engineering** *Mar '05 – Sep '06*

Hired directly by Gail Redmond and Ralph Germer to manage a dozen scientists, engineers, and technicians developing image processing, analysis and test technologies for this second round, mobile devices startup. Handled external contractors designing ASICs, PC boards, and electromechanical systems, as well as an extensive patent portfolio. Personally developed GPU versions of custom filters and transforms; psychometric test tools for image comparison metrics; a GUI platform for running imaging tools; and significant work on the design of electromechanical/optical camera module test system. Assisted in direct negotiations with investors and major telco carriers.

## Pervasive Software (now a subsidiary of Actian)
<span style="float:right">AUSTIN, TX</span>

**Principal Engineer** *Dec '03 – Feb '05*

Managed the Pervasive Services stack team: we developed the underlying abstraction and services layer across all Pervasive products; this provided a kind of virtual OS, supporting threading and process models, communications protocols, file and database access, with extensive i18n support, and fully automated testing. I pioneered continuous integration and testing over many Linux, Unix, Windows, and legacy mainframe operating systems. Built the J2EE Connection system for the ETL, workflow, and dataflow engines controlling more than two hundred different database, filesystem, and application interfaces.

**Senior Lead Software Developer — Data Junction** *Mar '01 – Dec '03*

Managed the team that reengineered the ETL product stack for IBM mainframes and mid-sized systems. This technology was critical to the acquisition of Data Junction by Pervasive. Worked on various protocols, including the SOAP and WSDL implementations that enabled Salesforce's APIs.

## LyraSys, Inc.
<span style="float:right">AUSTIN, TX</span>

**Chief Technical Officer** *Mar '99 – Sep '01*

Founder of mobile devices software startup. Designed and implemented a novel mobile applications/services architecture for the emerging WAP phone market based on a dynamic adaptive display model. Cratered and burned when the anticipated market failed to take off, and new money became unavailable; attempts to pivot ran aground against the dotcom crash.

## Linx Data Terminals, Inc.
<span style="float:right">DALLAS, TX</span>

**Chief Architect** *Sep '89 – Feb '99*

Handled all technical and business aspects of product design and development for a line of networked industrial computers. Personally developed operating systems, language compilers, drivers (including a full TCP/IP protocol stack), applications, and support services across a range of processors and embedded devices. Designed and managed hardware from PCB and FPGA design to packaging and test procedures. Founder, officer, and board member of this niche market company, which grew from a handful of people to one with monthly revenues in the millions, shipping and installing products worldwide.

*Please refer to my Linked-in profile for a more complete list of work experiences along with recommendations.*

## Education

**University of Texas at Austin**                        Austin, TX
    **Mathematics, Computer Science**          *1988 – 1990*

**Rice University**                                      Houston, TX
    **Physics, Computer Science**               *1975 – 1976*

## Skills

**Technical expertise:** Software design, management, and implementation, both within and across teams; emphasis on agile methodologies, continuous build/deployment/testing/integration. Proficient in C++, Python, Java, Node, and C#, and others now forgotten — including (but not limited to) Ada, Algol, APL(with the scars to prove it), AWK, Basic, ESPOL, Excel, Forth, Fortran, GO, JOVIAL, JCL, Ladder logic, LaTeX, Lisp, Lua, M#, make, MATLAB, Modula, Pascal, Perl, PL/1, PL/M, Prolog, R, Ruby, SAIL, SNOBOL, TECO, and VHDL, as well as dozens of assemblers. Solid knowledge of various web technologies: HTML+CSS, XML, Node.js, REST, SOAP and JavaScript. Linux, Windows, AWS, and VM administration skills: Bash, batch, Apache, SQL Server, PostgreSQL, MongoDB, IAM, s3, VirtualBox, VMware, Hypervisor.

**Natural languages:** Engish *(native tongue)*, Spanish *(limited proficiency)*, Japanese *(beginner)*.

**Other:** Certified as *Emergency Medical Technician*, and *Wilderness EMT*.

## Interests

**Non-exhaustive and in alphabetical order:** archaeology, artificial intelligence, caving, cognitive science, emergency medicine, genetics, high-angle rescue, mountaineering, neuroscience, open source and open publication, operating systems, protocols, sailing, scuba diving, software engineering, space travel.