

John Sloan

Some Guy on the Internet

johnlsloan@gmail.com

Summary

John Sloan is a freelance product developer specializing in real-time and highly concurrent systems: the very small (embedded), the very large (symmetric and asymmetric multiprocessor and multicore), and the very spread out (distributed). At Wright State University, he led a systems administration and network engineering group, introducing the campus to UNIX and the Internet. While at the National Center for Atmospheric Research, he was the head of the section responsible for that national lab's supercomputers, mass storage system, and server farm. While at Lucent Technologies and later Avaya, John worked as a firmware and software engineer on teams to develop and ship six different successful commercial products and major features, working on some for as many as six release cycles. John has published an article in the Proceedings of the IEEE, an entry in the Encyclopedia of Computer Science, and many conference papers and technical reports. He is the inventor of two patents. John has served on both industry and academic advisory panels, has been an invited speaker and panelist, and has served as a visiting scientist and consultant domestically and internationally. He has worked with development groups in such far-flung locales as China, India, Australia, Scotland, Ireland, and New Jersey. He has taught university courses in real-time and embedded software design at the undergraduate and graduate level. He has M.S. and B.S. degrees in Computer Science from Wright State University in Dayton Ohio. His thesis advisor was Bob Dixon. He was named the College of Engineering Alumnus of the Year in 2008. He entertains his friends by blogging under the pen name Chip Overclock, a registered trademark. John is currently the sole employee of the Digital Aggregates Corporation, a firm he founded in 1995. Due perhaps to his broad skill set, he has been described by former managers as "a renaissance man" and as "unfocused".

Experience

Product Developer at Digital Aggregates Corporation

November 1995 - Present (21 years 5 months)

Digital Aggregates is my consulting and contract product development business. It also owns my open source intellectual property. Developed ARINC 717 and other portions of IFE business aviation product. Developed custom platform capabilities for Android/Cyanogenmod-based product. Developed Asterisk channel drivers, codec, and associated device handlers for an Iridium-based SatCom business aviation product. Developed microcontroller firmware for building automation sensors. Hacked Linux kernel and drivers (2.4, 2.6, 3.x) to support new hardware. Developed portions of protocol stack for cellular base transceiver station. Wrote board support package, configured, built and hacked Linux kernel and file systems, and developed device drivers, daemons and applications for custom embedded target. Taught course in embedded development specific to customer's code base. Reverse-engineered competitive product

and developed firmware emulation. Designed and developed Java framework for web services business orchestration product. Consulted on requirements and architecture for Fibre Channel optical switching product. Consulted with foreign government on purchase of supercomputer and other data processing systems.

Product Developer at Cranequin LLC

November 2014 - Present (2 years 5 months)

Cranequin LLC is a wholly owned subsidiary of the Digital Aggregates Corporation. It is the proprietary closed source business to the parent company's open source and consulting business.

Member of the Technical Staff at Avaya Inc.

February 2000 - August 2006 (6 years 7 months)

(Avaya was spun off from Lucent Technologies.) Technical lead for service-oriented architecture/event-driven middleware platform using Java Business Integration enterprise service bus for business process automation product (CPM). Designed and developed C software under Linux for high-availability/survivability feature for PBX product under ISO 9001 conformant processes at SEI CMM 3 (CM ESS).

Architect and technical lead of a team developing reusable library of C++ classes based on POSIX threads for embedded Linux and VxWorks applications. Designer and lead developer of error recovery subsystem, trap generation, alarm management, and other embedded software in C++ under VxWorks for VOIP media gateway product (G700). Routinely dealt directly with customers, both on-site and remotely, for troubleshooting, site support.

Member of the Technical Staff at Lucent Technologies Inc./Bell Laboratories

December 1996 - February 2000 (3 years 3 months)

Designed and implemented hard real-time software in Java and device software and drivers in C, implementing analog station and trunk applications, CODEC and SLIC interfaces, and related infrastructure under C-Executive for VOIP access concentrator product (R300). Designed and implemented traffic shaping, survivability, error recovery, power-on self-test, and other embedded and device software in C++ and assembler under VxWorks for ATM network interface card product (TN2305). Designed and implemented several connection admission control algorithms in C under pSOS for ATM switch product (A500). Performed troubleshooting of ATM network issues on-site for Fortune 500 customers. (Avaya was spun off from Lucent Technologies.)

Section Head, Software Engineer V at University Corporation for Atmospheric Research

July 1989 - December 1996 (7 years 6 months)

Managed section at the National Center for Atmospheric Research responsible for mainframe-based mass storage system, several supercomputers, file servers, and other UNIX-based distributed systems. Developed mass storage architecture, benchmarks, and simulation software in C, SAS, Perl under UNIX, publishing several papers on this work (MSS). Developed user interface, task control, file management, and graphical imaging software in C for distributed Solaris-based film and fiche output production system (TAGS).

Developed portable UNIX-based software tool libraries in C, ported across many platforms, and reused in several projects by other developers (LIBTOOLS).

Director, Senior Computer Systems Engineer, Senior Systems Programmer, Instructor at Wright State University

March 1976 - July 1989 (13 years 5 months)

Technical lead and manager of developers, systems programmers, network engineers, and system administrators. Introduced the campus to UNIX and the Internet. Taught undergraduate/graduate-level ten-week course in real-time/embedded software design. IT manager; system administrator; network engineer; mainframe systems programmer. Developed mainframe-based systems code in IBM assembler, including I/O channel programming.

Certifications

SSBI

2007

Volunteer Experience

Computer Science and Engineering Advisory Board at Wright State University

November 2010 - Present

The Department of Computer Science and Engineering advisory board meets twice a year, typically in the Spring and Fall, to advise the Department on curricula, trends in industry, and related topics. I fly from Denver to Dayton twice a year on my own dime for this opportunity to network with a bunch of interesting folks and try to contribute to an organization for which I have a lot of affection and gratitude.

Robert Dixon Scholarship Fund at Wright State University

January 2012 - Present

The Wright State University Foundation has a scholarship fund endowed in honor of Robert Dixon. Bob was the first faculty member hired by Wright State. His first office was in the farm house on the property while the campus was being built circa 1967. He founded the Departments of Mathematics and Computer Science. He served as chair of both of those departments (some more than once), as well as vice-president of the Faculty and occasionally the director of the computer center. Bob was also my (and many others) mentor and thesis advisor. He's now enjoying retirement in North Carolina. We still keep in touch.

Honors and Awards

Lucent G.R.O.W.S. Award

1998

Wright State University College of Engineering and Computer Science Outstanding Alumni Award

2008

Organizations

Institute of Electrical and Electronics Engineers (IEEE)

Association for Computing Machinery (ACM)

Colorado Technology Association

Publications

Mass Storage Systems

Encyclopedia of Computer Science 2003

Authors: John Sloan

J. L. Sloan, "Mass Storage Systems", Encyclopedia of Computer Science, fourth edition, A. Ralston et al., ed., Wiley, 2003

MaSSIVE: The Mass Storage System IV Enterprise

Proceedings of the IEEE April 1993

Authors: John Sloan, et al.

J. L. Sloan, B. T. O'Leary, D. L. Kitts, B. L. Irwin, "MaSSIVE: The Mass Storage System IV Enterprise", Proceedings of the IEEE, vol. 81 no. 4, April 1993, pp. 621-630

An Implementation of BADJR on the PDP-11

Wright State University Printing Service 1983

Authors: John Sloan

Masters thesis, Wright State University, Department of Computer Science and Engineering, 1983

Skills & Expertise

Device Drivers

Embedded Systems

Software Development

Embedded Software

Linux

Distributed Systems

Unix

Software Design

VxWorks

Linux Kernel

Telecommunications

C

Firmware

C++

TCP/IP

System Architecture

Java

Public Speaking

ARM

Multithreading

VoIP
RTOS
Algorithms
Object Oriented Design
Pthreads
Storage
GCC
Technical Writing
Python
IPC
TDM
POSIX
Asterisk
Product Development
Iridium
Embedded Operating Systems
Sockets
ATM
PIC
PID
API Design
U-Boot
Reverse Engineering
Systems Programming
FreeRTOS
IPv6
Atmel AVR
GPS NMEA
Teaching

Patents

Mass storage system for file-systems

United States Patent 5566331 Issued January 24, 1994

Inventors: John Sloan, Basil Irwin, David Kitts, Craig Ruff

System for accurately performing an integer multiply-divide operation

United States Patent 6457036 Issued September 24, 2002

Inventors: John Sloan

Education

Wright State University

M.S., Computer Science, 1980 - 1983

Wright State University

B.S., Computer Science, 1974 - 1980

Interests

real-time and concurrent software design, applying OO to embedded development, emergent behavior, scalability, economics, measurement dysfunction, game theory, queueing theory, FPGA programming, failure analysis of complex systems, field supportability, applying Android to non-consumer products

John Sloan

Some Guy on the Internet

johnsloan@gmail.com



28 people have recommended John

"John is a software engineer of great technical breadth and depth. He has superb team skills and leadership skills. His work is fast and of high quality. Still looking for something he can't do well - he's skilled at executive demonstrations, understands both hardware and software, writes code that works, finds creative solutions to the most challenging technical problems, and makes people laugh when the going gets tough. It's a pleasure working with him."

— **Carol Engelhardt**, was John's client

"I worked with John on the development of a new telecommunication platform. I was the software technical lead and John developed most of the Linux platform software. John ported the Montavista 2.6 kernel to our custom platform and developed several platform features. His work was tremendous. The solutions worked right out of the box for the team. He also documented his development in the code and on our team wiki. The level of detail let the rest of the team to quickly understand it. I recommend John highly. He requires little direction and produces high quality work. I am hoping to pull him in to other projects in the future."

— **Eric Wanosky**, managed John indirectly at Digital Aggregates Corporation

"John jumped in to augment a high performance team doing very complex multiprocessor/ASIC/FPGA work. He was immediately effective, not only applying a deep reservoir of prior knowledge but was able to pick up new technologies very quick. I highly recommend him (but we're not finished with him yet!)."

— **Frank Christofferson**, was John's client

"I've had the privilege of being associated with John for many years. I've worked with John vis-à-vis high performance development teams as a peer; I've "directed" John from the perspective of a team lead; I've been "directed" by John from his perspective as a "team lead" and, I've hired and managed John as a contractor in my role as VP of Engineering for a local, Colorado based startup. I know John both professionally and personally. I'm professionally and personally better for our decade plus relationship. Professionally: John is an "architectural giant." John delivers pristine, bug free code. John is committed to best practice. John is committed to his profession, more often than not with the latest technical literature in tow. John has a personal style that "plugs and plays" in any environment. John is ultra-productive, driven to results, yet

remains calm and focused at all times. John can “filter noise” and “cut to the technical chase” in an instant. John is highly educated, highly experienced, and draws from both wells, always at the proper pitch. John is inquisitive. John is a mentor and a teacher, always delivering the “message” through clever, non-threatening portals. John is as technical as he is artistic, the mix being paradoxical to the uninitiated, genius to those that benefit. You’d be lucky to know John as I do. Personally: I know John, members of John’s family, and many friends John and I share in common. I believe the way one conducts their personally life is as important as one’s career life. John is surrounded with “excellence.” You’d be lucky to know John as I do. Ronald D. Phillips VP Engineering Cognitive Solutions Inc. Voice, planet wide: 303.468.1522 Mail, perpetually checked at: ron@rdphillipsconsulting.com"

— **Ronald Phillips**, was John's client

"John is a thorough programmer. John has a lot of experience with programming in general. I have come to understand that firmware development is one of his favorites and he typically applies a lot of "pearls" from his experiences from this domain into regular Java application development. He is a fun guy to work with, very jovial and is a great leader. I would personally love to cross paths with John again if an opportunity were to arise."

— **Prasad Subramanian**, worked directly with John at Avaya Inc.

"John is extremely skilled in a broad set of programming languages and communications protocols. I have worked with few people who can go as technically deep as John can. He is also an excellent communicator/mentor, and is a really great team player. Highly recommended!!"

— **Charlie Farwell**, managed John at Avaya Inc.

"John is a great person to work with. He works on a "Prevention is better than Cure" basis - thinking about how the code and the product will be used in the field, how it affects the performance and writes simple, maintainable, reusable code. He is also a simple person who is always willing to share the knowledge and has amazing breadth and depth of software management. He can be a great mentor and the team looked up to him for suggestions and guidance many times. I endorse him fully with a five (out of five) star rating."

— **Ganesh Krishnan**, worked directly with John at Avaya Inc.

"John is a great guy to work with. Technologically very well informed, extremely diligent and one of the most helpful people I have ever worked with. I couldn't recommend anyone more."

— **Vivek Bhatnagar**, worked directly with John at Avaya Inc.

"John is very thorough, always willing to spend time to help understand an issue or troubleshoot, and dedicated to continuous education. I'm impressed by both the breadth and depth of his knowledge, as well as

the volume of his work. But, I really came to appreciate his understanding of what is required to get a project into the field, what it takes to support a project in the field, and how to plan ahead for that support."

— **Glen Freundlich**, worked directly with John at Avaya Inc.

"John came to us recommended highly by a client. That recommendation was entirely accurate. John consistently delivered results as a software developer for one of our clients. John got special kudos for his expert knowledge and creativity in the work that he did. He would be a valuable addition to any team."

— **Scott Flores**, was John's client

"I have known John for couple years and have great joy working with him. He is a technologist at heart and has in-depth expertise in telecommunication and designing complex software systems. In addition to technology, John has great knowledge on what it means to bring a technology into the market place. John also has excellent communication skills and can play diverse role in an organization. He is a great asset and I am confident that he can bring lots of value & technical expertise in small & big organizations."

— **Praveen Mammni**, managed John indirectly at Avaya Inc.

"John is a seasoned professional who brings a lot of passion to his work. He has wide-ranging expertise and knowledge – something of an engineering Renaissance man. John joined my software development team early, on a forward-looking project that would employ a lot of new technologies while also interworking with a handful of legacy products. Within a very short time, John ramped up on the domain and new technologies, proposed appropriate directions for putting the product together, and started cranking out high quality, performance improving code. He proved to be a very dependable, self managing contributor to our team. Not only does he deliver flawlessly on his personal assignments but he volunteers to take on responsibilities based on the team's needs and puts in extra hours over nights and weekends to meet goals. John works well with other team members, keep abreast of all sorts of new technologies and approaches, and brings a fresh but grounded approach to the work."

— **Marianne Mitchell Literati**, managed John at Avaya Inc.

"John is an outstanding individual with talent in both the low level details of technical projects and an ability to view things from a high level to understand how to manage things and keep a project focused. He has a wide variety of experience in all aspects of software and embedded software that would be a tremendous asset to any project."

— **Don Leuenberger**, worked directly with John at Avaya Inc.

"John is a software engineer of extraordinary breadth and depth. His tendency to take personal ownership of technical problems and make them his own results in him being highly sought after as either an individual developer or team lead. I look forward to the day when I can work with John again on new projects."

— **Doug Gibbons**, worked directly with John at Avaya Inc.

"I had the pleasure of working with John on a large scale project at Avaya and he brought a wonderful array of knowledge, talent and leadership qualities to the table. His work output and contributions were always of the highest quality, extremely thorough and delivered on time. I would highly recommend John for any project since his experiences run the gamut from low level firmware to high level application software. I look forward to working with him again in the future."

— **Brendan Flood**, worked directly with John at Avaya Inc.

"I have had the pleasure of working with John on a couple of different projects. He has always impressed me with his knowledge and skill in software engineering. He frequently writes thoughtful articles of interest on his website and invites his readers to comment whenever possible. His willingness to engage in open talks on his website is mirrored by his willingness to talk and share information on the job. His thoroughness and attention to detail are exemplary and I can always count on John to produce excellent work."

— **Gwilym Evans**, worked with John at Avaya Inc.

"I enjoyed working with John very much. He is on the cutting edge of technology. In addition to his day to day work, he found time to keep current on present and future developments. The latter was especially appreciated because he shared his interests and discussed them with us, often forewarning of us problems we could encounter. For example, John researched the problems in threading models in the multi-core/multi-processor systems and alerted us to what we might expect to see. I have referenced his blog on threading to others in Avaya and outside. So, he pushed us outside of our narrow focus of getting today's problems fixed and encouraged us to look farther down the road."

— **Rodney Black**, worked directly with John at Avaya Inc.

"John is among the most prolific developers I have ever worked with. I can think of nobody else that I would prefer if I needed somebody to write a huge amount of quality code in a timely fashion. John also has a tremendous breadth and depth to his knowledge. He has expertise spanning the gamut from machine code to high level web services / SOA. John is a consummate professional that could almost certainly have a major positive impact on just about any software development project."

— **Joel Ezell**, managed John at Avaya Inc.

"John worked with me (I was the project lead) as we built the first VOIP gateway for our communications system. John was very thoughtful and attentive to detail. Our system requirements needed more detail before he could proceed with his job developing some analog trunk interfaces. John carefully investigated the issues and developed some protocol interface diagrams to essentially show a complete flow for the protocol exchange. Secondly, in addition to doing his java based design quickly, I was very impressed with the fact

that he did very thorough interoperability testing. Our design team never had to go back to John and ask "did you think to cover this in your design?". John always was a step ahead and had carefully thought through the necessary customer usage situations. In short, he is one of the most efficient engineers for which I have worked with in over 30 years in engineering!"

— **Wayne Zakowski**, managed John indirectly at Lucent Technologies Inc./Bell Laboratories

"John is an incredibly smart individual; He was working on some pretty complex ATM CAC algorithms and Traffic Shaping. He would always start his explanation with "I was doing some back of the envelope calculations and ..." The funny thing was, most of would need a small Cray to keep up with his envelope! Marty Lowrey Cisco Systems Inc."

— **Marty Lowrey**, worked directly with John at Lucent Technologies Inc./Bell Laboratories

"I highly recommend John, as he has the breadth and depth as a software engineer to handle any software challenges. My work with John was very enjoyable, educational, and successful. I look forward to the day when I can work with him again."

— **Randy Billinger**, worked directly with John at Lucent Technologies Inc./Bell Laboratories

"John is very self motivated and self directed and takes full accountability for his deliverables. He is very strong technically and is eager to take on any new challenge. He pretty much single handedly implemented a very complex mathematical algorithm for Connection Admission Control (CAC) for our ATM project."

— **Alan Mulberg**, worked directly with John at Lucent Technologies Inc./Bell Laboratories

"I highly recommend John. I've worked with him on several projects. We worked in difficult customer situations where his technical knowledge and customer interaction skills were excellent. He created special software tools to quickly sort and analyze large amounts of data. Not only were these experiences successful, they were enjoyable."

— **John Jensen**, worked with John at Lucent Technologies Inc./Bell Laboratories

"John brought great insights into his software development, engineering traffic management engines for the ATM interface with skill and style. He also proved himself dedicated and innovative in product trial support with first customers."

— **Kenneth Howard**, worked with John at Lucent Technologies Inc./Bell Laboratories

"John is a great guy to have in your organization: one of those rare individuals who successfully melds strong technical and management skills -- an excellent leader who carried the respect of of his staff. During our

concurrent tenure at NCAR I considered John to be one of my most trusted mentors and colleagues. I'd look forward to working with him again in the future!"

— **Jeffery Kuehn**, worked with John at University Corporation for Atmospheric Research

"I have both worked with John on software development projects and have worked under him when he was a section manager. In my opinion, John is one of the best software engineers I have come across. He produces software of very high quality, and he does the necessary research to ensure he is using suitable algorithms and designs for the task. As a manager I found him to be easy to get along with and supportive of his staff. He did not shy away from the very necessary tasks of technical planning and personnel management. I would not hesitate to either work with or work for John in the future, and highly recommend him to anyone."

— **Craig Ruff**, worked indirectly for John at University Corporation for Atmospheric Research

"I first new John Sloan as a Graduate Student. I was his professor. He was easily one of the best students I ever had. I later new John as a colleague when he was part of the professional staff at Wright State University (and also taught at WSU). John was the epitome of what a Systems Manager/Systems Programmer/Director of Computer Services ought to be. I have had the good fortune of knowing some excellent such professionals in my 4 decades of being a computing professional. I myself held such a position before returning for my Ph.D. and I was, quite frankly very good at it. Not as good as John though. Not nearly. John was, without question, the best I have ever encountered. His combination of high technical competence, service orientation, and boundless energy and enthusiasm made working with him both productive and enjoyable. Over the years since we worked together, I have followed his career with interest, since he represents one of the best products my university at that time ever produced. I most certainly endorse John Sloan enthusiastically and without reservation. He is what all computing professionals should aspire to."

— **Al Sanders**, worked with John at Wright State University

"I had the pleasure of working with John while he held all three of these positions. John showed superior intellect and initiative in all of them. As Sr. Computer Systems Engineer, John also developed strong leadership skills. The breadth and depth of John's technical knowledge is formidable, and his administrative skills sound."

— **Dale Courte**, worked indirectly for John at Wright State University

[Contact John on LinkedIn](#)