Allan Doyle
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Education

Massachusetts Institute of Technology	S.B. Computer Science and Engineering, 1980.

Professional Positions

International Interfaces, Inc.	Needham, Massachusetts	
	President	1999 to Present
GTE (BBN Technologies)	Cambridge, Massachusetts	
	Division Scientist	1998 to 1999
	Senior Scientist	1995 to 1998
	Scientist	1989 to 1995
	Staff Scientist	1987 to 1989
Index Technology	Cambridge, Massachusetts	
	Software Engineer	1986 to 1987
Massachusetts Institute of Technology	Cambridge, Massachusetts	
	Research Engineer	1981 to 1986
Digital Equipment Corporation	Marlboro, Massachusetts	
	Systems Engineer	1980

Professional Responsibilities

International Interfaces, Inc. – 1999 to Present

President and Founder. Develop business centered on idea of collaborative development of open interface standards. Projects include architecture and design for OpenGIS Consortium Interoperability Programs (Web Mapping Testbed, Geospatial Fusion Services, Joint Mapping Tool Kit) as well as other, privately funded interoperability projects. Perform all duties involved with establishing and running a business with US and international customers and partners.

GTE (BBN Technologies) – 1987 to 1999

Group leader, senior systems architect and technical business development leader in the field of geospatial decision support systems. Identify new opportunities and turn those opportunities into new business. Team with other BBN groups or other companies to capture DARPA programs. Negotiate technical teaming agreements & statements of work, generate white papers and proposals. Lead group of 8 people in the construction of OpenMap™ as well as in carrying out contract work.

Corporate representative to the Open GIS Consortium, an industry trade association dedicated to producing a software architecture providing transparent access to heterogeneous geoprocessing resources in a distributed environment. Within the Open GIS Consortium, lead an initiative to develop middleware standards that will allow WWW-based mapping systems to interoperate and connect to a wide variety of mapping sources. Represent GTE at both the technical committee and management committee levels.

Technical Architect of the OpenGIS Web Mapping Testbed, leading a group of 20 companies in the development of the first Internet standard for web-based mapping.

Constructed the first large-scale demonstration of interoperable geographic information systems for the FGDC (Federal Geographic Data Committee). Included definition of the project, leadership and coordination of 2 universities, 2 government agencies, 6 commercial organizations and the Open GIS Consortium staff in pulling together the system and delivering it within a two-month period.

Senior geospatial systems consultant, Dynamic Database Study Panel, a DARPA ISO sponsored program. Member of a panel of experts to help refine the concept of a Dynamic Situation Model for complex, multi-dimensional theater-level views of current situations.

Senior systems architect, Advanced Logistics Program (ALP), a DARPA ISO sponsored program. Represent BBN interests in systems architecture at DARPA and other DoD organizations; prepare systems architecture documents and briefings; evaluate and incorporate other DARPA, DoD, and commercial

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program architectural concepts into the ALP architecture; and help ensure that ALP succeed architecturally while being sensitive to competing interests and demands throughout the DoD R&D organizations of DARPA, DISA, and the Armed Services.

System architect and leader of a team developing OpenMap™, open systems mapping software. Project management, overall architecture, technical leadership, budgeting, customer contact, business development, software design, coding in C, C++, Tcl/Tk, and system documentation.

Research and development of a system allowing X Window System applications to be shared over multiple workstations. Real-time data collection software; participate in design of a custom VME board for high-speed data acquisition; firmware design; multi-processor software; develop fault-tolerant database; port an X11R4 server to 1680x1200 display controller; UNIX system programming; VME hardware system integration.

Index Technology (Now Intersolv) 1986 – 1987 - Systems programming team member. Port PC-based CASE tools to DEC, Apollo, and Sun workstations. Write graphics driver code, interprocess communication code. Systems programming under VMS, Domain/IX, and UNIX. Consultant to other software teams as well as to marketing and QA groups.

Massachusetts Institute of Technology 1981 – 1986 – Research Engineer. Design computer systems for research in various aspects of the human visual system in infants and adults. Translate researchers' needs into system specifications and designs. Real-time systems were based on Intel 8086/88 and Digital PDP-11 series processors and hardware. Build a multi-machine computer facility from the ground up for the Center for Cognitive Science. Technical, administrative, staffing, and budgetary responsibility for a large PDP-11 system, several small PDP-11 systems, and 50 Rainbow PC systems. Design hardware interfaces and write real-time control software under RT-11 and UNIX.

Digital Equipment Corporation (Now Compaq) 1980 – Systems Engineer. Design memory page mapping hardware as part of a multiprocessing product design concept. Design new packaging for a floppy disk subsystem. Provide technical liaison with other groups within Digital to help coordinate product design and research efforts.

Related Experience

1997-Present: Chair, WWW Mapping Special Interest Group, Open GIS Consortium. Develop a middleware approach to defining services to assemble maps from different sources onto a user's screen.

1995-Present: Management Committee Representative, Open GIS Consortium.

1994-Present: Technical Committee Representative, Open GIS Consortium.

1982: Teach C Programming to MIT Department of Psychology graduate students.

1976-1980: **Jacksonville State University**: design and build a dual-processor system for controlling a behavioral research laboratory. Complete design of a system bus translator, a series of interface cards for the system bus, and software to control the system, including a multi-processing kernel written in MACRO-11; **MIT Media Lab** (formerly Architecture Machine Group): design and build a digital interface for an Interdata computer capable of storing short bursts of 8 bit digitized sound which were sent to a number of D/A converters with controlled phase delays; **MIT Infant Vision Lab**: design and build a series of analog processing modules used to process EEG data taken from sensors attached to infants' heads to aid in the analysis of their visual systems.

Professional Training: 1989: Ada Programming; 1995: Developing Effective Leaders; 1996: Time Management; 1996: Interviewing Skills

Other: Bilingual, English/German. European and domestic travel. Previous security clearance.

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Publications

Doyle, A., Editor, "Web Map Server Interface Specification Version 1.0.0," Open GIS Consortium Specification 00-028, April 19, 2000

Doyle, A., "Interoperable WWW Mapping (Towards a Geospatial Dialtone)," GITA 1999 Professional Development Series – Introduction to Open GIS Seminar, April 26, 1999, published by GITA, Aurora, CO, USA.

Doyle, A., Dietrick, D., Ebbinghaus, J., and Ladstätter, P., "Building a Prototype OpenGIS Demonstration from Interoperable GIS Components," Published in: A. Vckovski, K. E. Brassel, H.-J. Schek: Interoperating Geographic Information Systems". Proceedings of the 2nd International Conference, INTEROP'99. 328pp. Lecture Notes in Computer Science Vol. 1580. 1999. Springer Verlag, Berlin.

Nebert, D., and Doyle, A., "Discovery and Viewing of Distributed Spatial Data: The OpenMapTestbed," Published in: J. Strobl and C. Best (Eds.), 1998: Proceedings of the Earth Observation & Geo-Spatial Web and Internet Workshop '98, Salzburger Geographische Materialien, Volume 27. Institut für Geographie der Universität Salzburg. ISBN: 3-85283-014-1

Doyle, A., "FGDC Hosts Multivendor Interoperability Demo," OpenGIS® Newsletter, December 1997, Vol. 2 No. 4, Open GIS Consortium, Wayland Massachusetts

Doyle, A., "Web Mapping Group Offers a New Level of Interaction with Digital Data," GIS World (supplement), 1997, September, pg. 6

Doyle, A., "WWW Mapping Framework", Open GIS Consortium Project Document 97-009, 1997, 7 pp.

Doyle, A., "Software that Plays Together - A System Integrator's Viewpoint," Geo Info Systems, 1995, May, 50-51

Doyle, A., BBN Report No. 7818 Mapping Analysis Tool for Transportation: Storyboard, 1994, BBN Systems and Technologies.

Briscoe, H., and Doyle, A., BBN Report No. 6695 TAC1b User Manual, January 1988, BBN Laboratories Incorporated.

Doyle, A., BBN Report No. 6694 TAC1b System Reference Manual, December 1987, BBN Laboratories Incorporated.

Doyle, A., BBN Report No. 6557 TAC1a System Reference Manual, June 1987, BBN Laboratories Incorporated.

Briscoe, H., and Doyle, A., BBN Report No. 6511 TAC1a User Manual, April 1987, BBN Laboratories Incorporated.

Gwiazda, J., Bauer, J.A., Doyle, A., Held, R., "Vernier Acuity and its Meridional Variation in Children," 1986 Meeting of the Association for Research in Vision and Ophthalmology.

Bauer, J.A., Thorn, F., Heath, D., Doyle, A., and Held, R. "Adaptation of Dynamic Distortions Induced by Varilux 2 Progressive Addition Lenses," 3rd International Symposium on Presbyopia, 1985, Haiti.

Doyle, A., "The Last Word on FinalWord," Microvision, 1985, July/August, 14-17.

Doyle, A.F., An LSI-11 system for real-time control and data acquisition, S.B. Thesis, MIT 1980.

Palya, W.L., and Doyle, A.F., "A simple LSI-11 system for real-time control, interevent time storage, and data analysis," Behavior Research Methods and Instrumentation, 1980, 12(2), 210-20.

Doyle, A.F., and Palya, W.L., "A hierarchical LSI-11 system for real-time control, interevent time storage, and data analysis," Behavior Research Methods and Instrumentation, 1980, 12(2), 221-31.

Palya, W.L., and Doyle, A.F., "A relay driver and contact closure sensing interface for an LSI-11 DRV11 parallel I/O board," Behavior Research Methods and Instrumentation, 1978, 10(4), 485-87.