

Curriculum Vitae: Stephen Travis Pope

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Summary

Stephen Travis Pope is a senior-level software engineer, analyst, designer, programming consultant, and mentor. He works as a contract developer, consultant, researcher, expert witness, and mentor for software analysis/design/implementation, applying object-oriented software technology to real-world problems. His primary expertise is in the Smalltalk programming language (VisualWorks, Squeak, and VisualAge), though he has developed large systems in C, C++, and Java as well. He has additional experience in graphical user interface design, project management, software architecture and design, curriculum development and delivery, and technical writing for print and the Web. His research interests are distributed programming, Internet content delivery, and audio signal processing.

Introduction

Stephen Travis Pope studied at Cornell University, the Vienna Music Academy, and the "Mozarteum" in Salzburg, Austria, receiving a variety of degrees and certificates in electrical engineering/computer science, recording engineering, and music theory and composition. He has taught both music and computer science at the graduate level, and has worked as a composer, software engineer, engineering manager, consultant/mentor/trainer, editor, and performing musician. From 1988 through 1997, he served as editor-in-chief of *Computer Music Journal*, published by the MIT Press.

He is currently active as a software consultant specializing in object-oriented software analysis and design, and as a senior research specialist at the Center Research in Electronic Art Technology (CREATE) in the Department of Music at the University of California, Santa Barbara (UCSB).

In his 25 years experience in object-oriented software development, he has held technical and managerial positions in software development at PCS/Cadmus Computers GmbH in Munich, Xerox PARC, ParcPlace Systems, Inc., and Expertcity.com, Inc. in California, and in numerous consulting and mentoring roles in US-based and European industry. He has undertaken research projects at the Vienna Music Academy, the "Mozarteum," Stanford University, U. C. Berkeley, the Swedish Institute for Computer

Science, the Technical University of Berlin, and U. C. Santa Barbara.

Stephen has over 90 publications on topics related to artificial intelligence, graphics and user interfaces, integrated programming environments, object-oriented programming, music theory and composition, and computer music.

Stephen lived in Europe (Austria, Germany and France) from 1977-86, and has spent several years there since then (in Holland and Sweden).

Accomplishments

Stephen's primary software development projects have included:

- Expert systems for music post-production and mastering;
- Music database feature extraction analysis systems;
- General-purpose UNIX windowing systems, user interfaces and libraries;
- Flexible front-ends to "legacy" corporate database systems;
- Integrated Java E-commerce and Object/Relational database frameworks;
- Virtual-reality-based user interfaces and applications;
- Graphical structure-editing-based user interfaces;
- Smalltalk-80, CommonLISP, C++, and assembler software development tools;
- Interfaces between Smalltalk-80 and UNIX C-based software;
- Portable multimedia electronic mail applications;
- Music and digital audio signal processing tools;
- Distributed database for requirements analysis and project tracking; and
- Software for management of ATM networks.

He has been an officer of the International Computer Music Association, and was elected a lifetime member by the board of directors in 1990. He is also a member of advisory committees of both the Institute of Electrical and Electronics Engineers (IEEE) and the Audio Engineering Society (AES).

Education

1979-1982: *Hochschule für Musik und Darstellende Kunst "Mozarteum," Salzburg, Austria*—Composition with Cesar Bresgen, piano with Michael Walter. Honors certificates (*Zeugnisse mit sehr gutem Erfolg*; = 4.0 GPA), 1980-81, in music theory and composition, form and analysis, music history, and orchestration. Taught on the faculty of the Department of Music Theory, Composition and Conducting from 1981 until 1986.

1977-1979: *Hochschule für Musik und Darstellende Kunst in Wien*—(Vienna Music Academy and Vienna International Music Center), Vienna, Austria. Music theory with Günther Kahowez, composition with Roman Haubenstock-Ramati, electroacoustics with Dieter Kaufmann; honors certificate (*Zeugniss mit sehr gutem Erfolg*; = 4.0 GPA) in Tontechnik. Other courses in harmony, counterpoint, conducting, and music history.

1974-1977: Cornell University, Ithaca, New York—Bachelor's Degree of Science in

Electrical Engineering (completed in three years). Concentration in computer architecture and design (senior project in digital audio signal processing), courses in computer science, analog and digital signal processing, and a minor in music.

Professional Experience

Industry

1990-present: FASTLab, Inc. (formerly The Nomad Group), Santa Barbara, California—Consultant for object-oriented analysis, design, and programming, user interface software and digital signal processing tools and applications; composition of music and multimedia art. Clients have included Sprint, Parasoft, The US Navy, Johnson Controls, Metropolitan Life, Northrop, Teknowledge, John Deere, Ameritech, and American Express.

1986-1994: Xerox Palo Alto Research Center (PARC), ParcPlace Systems, Inc., Palo Alto, California—Software developer and project manager for the Smalltalk-80 programming system. Design and development of new user interface paradigms and tools for the system. Research into real-time event list scheduling and editing tools. Implementation of music processing environments and other large software tools.

1983-1986: PCS: *Periphere Computer Systeme GmbH*, Cadmus Software Laboratory, Munich, Germany—Manager and lead programmer, artificial intelligence (AI) and graphics software groups, design and development of C, LISP and Smalltalk-80 software for graphics, AI tools and applications, window systems, and graphics libraries. Participation (as a group manager and planner) in several European ESPRIT-funded projects for the development of computer graphics and AI software.

1972-1975 (Part-/full-time): Eventide Clockworks Inc., New York—Design, construction, prototyping and custom projects for a firm producing digital signal processing (DSP) devices for audio applications in recording and sound reinforcement.

Academia

1996-present Center for Research in Electronic Art Technology (CREATE), Department of Music, University of California, Santa Barbara—Senior Research Specialist at an interdisciplinary research, production, and educational center for multimedia art and technology. Teaching in the graduate program in Media Arts and Technology (MAT Program), project management, fund-raising, and other activities.

1993-1996: Center for New Music and Audio Technologies (CNMAT), Department of Music, University of California, Berkeley—Research associate at a computer music research, education, and production center. Project work in composition and music software development.

1989-93: Center for Computer Research in Music and Acoustics (CCRMA), Department of Music, Stanford University, Stanford, California—Visiting scholar and

composer at a computer music research, education, and production center. Project work in composition and music software development.

1988-1997: *Computer Music Journal*, MIT Press, Cambridge, Massachusetts—Editor-in-chief of an award-winning quarterly technical/ artistic journal. Management of manuscript processing and production, organization of special topic issues, writing and editing of articles, budget planning, and public relations.

1980-1986: CMRS (*Computermusik Rechenzentrum Salzburg*) and Mozarteum Academy, Salzburg, Austria—Systems administrator of a center for computer music production and software development, extensive UNIX operating system programming, systems and applications development for AI applications, graphical user interfaces, and various teaching activities. Several commissions for music compositions.

1978-1980 (several visits totaling 15 months): IRCAM (*Institute de Recherche et Coordination, Acoustique/Musique*) Paris, France—Developer of programs for the generation of complex timbres in the MUSIC10 language, installation of their recording studios, concert performances with the Ensemble Intercontemporain under Michael Gielen, composition of works for acoustic and electronic instruments.

Personal Data

Born December 9, 1955 in Ridgewood, New Jersey, USA; citizen of the USA; previous working permits in Austria, France, The Netherlands, Germany, and Sweden.

Native language: English; fluent German and French; moderate Swedish and Italian.

See Stephen's web site (<http://create.ucsb.edu/~stp>), the separate bibliography (<http://create.ucsb.edu/~stp/bibl.html>) and list of compositions (<http://create.ucsb.edu/~stp/pieces.html>) for more complete documentation.