

**AREAS OF INTEREST**

- Effective uses of computers to aid the development of musicians – particularly choral singers
- Software Quality Assurance

**ACADEMIC EXPERIENCE**

**Southern Oregon University, Ashland, OR**

**Fall 2002 – Present**

*Assistant Professor of Computer Science*

**TEACHING/ADVISING/SERVICE**

- Teaching the following courses on a regular basis:
  - CS450/550 - Compilers
  - CS455/555 - Quality Assurance
  - CS257 - Programming II in Java
  - CS200 – Programming I in Java
  - SC211 – Explorations in Science I
  - SC212 – Explorations in Science IIThe Explorations in Science courses are approved for lower division general education credit.
- Have also taught the following courses:
  - CS326 –Systems Software and Architecture
  - CIS200 - Programming I in Visual Basic
  - CIS199 - Roles in Computer Science / Introduction to Computing
- Assisted with the following courses:
  - CS310/PHL310 – Information Technology: Legal and Ethical Issues
- Graduate advisor and committee chair for Ken Lindsay who graduated with an MS in Spring, 2006.
- Capstone project supervision:
  - 2005 – Justin Corn - Audio Data Visualizer project that uses modified Lissajous figures to display the ratio of the user's chosen reference frequency and the input frequency they sing.
  - 2004 – David Young and Ken Lindsay - Pitch Detector project that inputs an analog audio signal and outputs: a frequency spectrum display, the frequency of the fundamental pitch of the input, the name of the nearest note, and an indication of how far the input fundamental is from this note.
  - 2003 – Angelina Todorova and Anna Petersen - License Tracing project that inputs a set of source files and outputs the set of source licenses used by this set of files and whether or not these licenses are compatible.
- Reading and Conference / Practicum courses:
  - Spring 2006 –CS503 - Ken Linsay – Thesis Defense
  - Winter 2006 – CS503 - Ken Linsay - Thesis
  - Fall 2005 – CS503 - Ken Linsay - Thesis
  - Spring 2005 – CS399 – Colin von Heuring – Independent Compiler Development
  - Winter 2005 – CS505 – Ken Lindsay – Beginning Rhythm work
  - Winter 2005 – CS505 - David Wofford – building a compiler of his own design
  - Fall 2004 – CS409 - Sergio Larios – Website development for access center
- Served / Serving on the following SOU Committees:
  - Curriculum Committee (Fall 2006 – present)
  - Financial Aids and Awards (Fall 2002 – Spring, 2005)

**Southern Oregon University, Ashland, OR**

**Winter and Spring 2002**

*Computer Science Instructor*

**TEACHING**

- Taught the following courses:
  - CS257 - Programming II in Java
  - CIS200 - Programming I in Visual Basic

**PUBLICATIONS/PRESENTATIONS**

- K. A. Lindsay and P. R. Nordquist, "A technical look at swing rhythm in music", J. Acoustical Society of America, Vol. 120 (5, Pt. 2) , 3005 (2006) [152nd Meeting (4th joint meeting of the Acoustical Society of America and the Acoustical Society of Japan), Honolulu, Hawaii, 28 November--2 December 2006]
- R. D. Ayers, P. R. Nordquist, J. S. Corn, "Visual feedback for retuning to just intonation intervals," J. Acoustical Society of America, 117 (4, Pt. 2), 2476 (2005) [149th National ASA Meeting and joint meeting with the Canadian Acoustical Association, Vancouver, May18, 2005.]
- P. R. Nordquist, A. Todorova, A Petersen, "License Tracing In Free, Open, And Proprietary Software," Proceedings of the 5<sup>th</sup> Annual Consortium for Computing Sciences in Colleges, Vol. 19, No. 2, pp. 101-112, (12/2003) [Presented at CCSC Northwestern Conference., October, 2003.]
- D. Whitney, P. R. Nordquist, A. Wilson, M. Baker, "Protecting Intellectual Property in an Open Source World," Software Research Institute, panel session in the 13<sup>th</sup> Software & Internet Quality Week Conference (2000). [Presented at Quality Week Conference, May, 2000.]
- D. Maier, P. Nordquist, M. Grossman, "Displaying Database Objects," Proceedings from the First International Conference on Expert Database Systems. The Benjamin / Cummings Publishing Company, Inc., 1987, pp. 59 - 74. (<http://www.acm.org/sigmod/dblp/db/indices/a-tree/n/Nordquist:Peter.html>)

**GRANTS**

- Paul S. Veneklasen Research Foundation Grant to R. D. Ayers and P. R. Nordquist co-principal investigators, \$4000, 2005. (SOU Fund Code 423501.)
- Carpenter Foundation Grant, Category II from SOU, 2003.
- APSOU research release time, 2003.

**EDUCATION**

- **MM, Choral Conducting**, University of Missouri, Kansas City, MO, 1996.
- **MS, Computer Science and Engineering**, Oregon Graduate Institute, Beaverton, OR, 1985.
- **BS, Mathematics Education**, George Fox College, Newberg, OR, 1979.
- **BA, Music Education**, George Fox College, Newberg, OR, 1979.

**THESIS TOPIC**

A Browser Generator for Viewing Data Structures in Smalltalk (Published at OGI, 1985).

**CONTINUING EDUCATION COURSES**

- Mastering Website Development using ASP (Step technologies October, 1997)
- Java Programming (Object Space November, 1997)
- Essential COM (OCATE December, 1997)
- Unix Internals (OCATE Winter term, 1991)

**INDUSTRIAL EXPERIENCE**

**Bear Creek Corporation, Medford, OR**

**2001-2002**

*E-commerce Systems Analyst*

*2001-2002*

- Analyzed design specifications, wrote test plans and scripts, and executed these tests to assure quality of software projects deployed on the website. Bear Creek Operations websites took between 10 and 20 thousand orders per day during the first half of December with virtually no downtime.

**Intel Corporation, Hillsboro, OR**

**1984 – 2001**

*QA Lead for Dot Station Web appliance*

*2000 –2001*

- Assured software quality for Intel's new Linux-based Internet appliance product for four major software versions on 250000 units to a large multinational customer.
- Saved release cycle time and preserved product integrity by proactively anticipating design problems, finding solutions, and persuading development and marketing teams to adopt these solutions.
- Designed, procured equipment for, and prepared the lab environment necessary to execute end-to-end testing scenarios. Reinstalled and reused computers from other projects saving at least \$30,000 in equipment costs.
- Defined and executed the web appliance end-to-end tests. Found an average of four severe problems each release cycle, which were then fixed before each version was released saving considerable embarrassment and generating customer good will.
- Leveraged test execution efforts by training and directing a team of two to three software test engineers, measuring this team's progress each release cycle, and reporting these metrics to product shipment decision makers.

*QA Lead for Broadcast Data Insertion Tool*

*2000*

- Managed two major releases of NT-based product enabling television operators to insert data into a broadcast signal stream. Both releases were on time and complete. Our multinational partner company accelerated a \$1M payment as a direct result of this work.
- Presided over daily bug scrubs, functioned as the final authority to decide which problems would be fixed, qualified release notes, drove requirements changes through the change control group, and reported testing results for the team.
- Integrated all testing hardware and software including: IP encapsulators, signal multiplexer, upconverter, modulator, and receiver. Created tests for core product functionality and executed them on this hardware. 50 engineers relied on this test platform as a reference for their television applications development and testing.
- Enabled a new class of customer applications by conceiving and demonstrating how to do per-channel ATVEF announcements.

*Process Improvement Consultant*

*1999*

- Invented, implemented, and deployed a program in Perl to ensure compliance with licenses in open source code, greatly reducing the possibility of lawsuits against violation of these licenses. Presented this work at *Quality Week 2000*, an international industry-wide quality conference, in May 2000.
- Documented and delivered defect tracking procedure, policy, and database field definitions for development teams in both Oregon and Arizona and gained consensus on the use of these policies across these teams.
- Improved process quality by writing configuration management requirements and counseling teams as they wrote plans based on these requirements.

*Web developer / Webmaster*

*1996 - 1999*

- Overhauled the web site and server environment for a process improvement group of 25 people: stabilized all operations, obtained and deployed two additional servers, added statistics gathering

capability using both WebTrends and MS Site Server (including SQL Server 6.5 stored procedures), put in place standard tools and procedures for web publishing and source code control.

- Led a team of three people that upgraded the navigation and graphics across this 500-page site in two months.
- Designed, developed, and maintained the web interface (Cold Fusion / HTML / ASP) and database components (Visual Basic / MS Access) of the Build Control System (BCS), a generalized tool for controlling software builds. BCS was used as the build tool for at least 12 projects across 5 organizations in 2 different Intel business groups over a period of 3 years.
- Provided on demand support for three of the 12 projects using BCS. All of my clients successfully built their projects with BCS for at least 8 months under my support.

*Contract Software Engineer to Intel Corp.*

*Summer 1995*

- Focused development team efforts by procuring, deploying, training developers in, and administering Intersolv's PVCS Tracker problem tracking software for the group.
- Assured the quality of Intel's *CNN at Work* PC television viewing software by obtaining and integrating laboratory hardware and software. Saved \$3000 by renting instead of buying hardware.

*Software Development Engineer*

*1984 - 1994*

- Implemented, documented and tested Unix Operating System software running on Intel CPUs. Responsible for maintaining SCSI disk and tape drivers for SVR4.0.4 and for boot / installation diskettes for SVR4.0.3 included in one of the first shrink-wrapped Unix products produced for PCs.
- Justified, procured, installed, tested, administered, instructed users in, and supported software development tools used by up to 50 software engineers in several different Intel engineering groups.
- Designed, implemented, documented and tested the front end of an Ada compiler for Intel's 80960 on Ultrix (a BSD Unix look alike). This compiler was used to compile the entire operating system for a new fault tolerant object-based hardware platform.
- Enabled the Ada compiler to pass the government test suite of 3500 tests for certifying Ada compilers by inventing, implementing, and administering a tool to build and test the compiler nightly.

***George Fox College, Newberg, OR***

***1979-1982***

*Computer Center Manager*

*1979-1982*

- Designed, implemented, documented, and maintained relational databases and interface software to track records for admissions, registration, financial aid, and student accounts. Part of the team that selected the database manager for these institution-wide applications.
- Trained and supported administrative users of this software on a long-term basis.
- Administered the hardware and system software (PDP 11 running RSTS/E) serving both the administrative and academic computing needs of the campus.

**PROFESSIONAL AFFILIATIONS**

- **Member**, Association for Computing Machinery
- **Member**, American Choral Directors Association

**OTHER AFFILIATIONS**

- **Member**, Association of Professors, Southern Oregon University
- **Member**, Association of Oregon Faculties

**COMMUNITY SERVICE**

- Webmaster for the Rogue Valley Youth Choruses.
- Rogue Valley Youth Choruses Steering Committee Secretary (2003 – present)
- Rogue Valley Youth Ensemble Rehearsal Assistant (2003 – present)

- Produce CDs for the Rogue Valley Youth Choruses, Rogue Valley Chorale, and South Medford High School.

**HONORS**

- 2006 – Travelled with SOU chamber choir to Mexico for 6 days and spent one day visiting the faculty of FIMEE, the engineering school of the University of Guanajuato.
- 2005 – Audio Data Visualizer Capstone project chosen as one of two projects in the school of science to represent SOU at the state legislature’s “regional university” day.
- 2004 – Selected to be one of the two faculty representatives for the school of science at Fall 2005 New Student Orientation day.
- 2004 – Pitch Detector Capstone project chosen to represent Computer Science department in the annual SOU School of Science Honors Colloquium.
- 2003 – License Tracing Capstone project chosen to represent Computer Science department in the annual SOU School of Science Honors Colloquium.
- Special recognition by John Wade, the E-Commerce VP at Bear Creek Corporation, for smooth and successful deployment of the IBM CommerceSuite 4.1 website upgrade, October, 2001.
- Cited by HPG for “superb contributions as an individual and as a team member to the Home Products Group”, May 28, 2001.
- Chancellor’s award at UMKC 1994, 1995, 1996.
- Elected treasurer, American Choral Directors Association, UMKC Student Chapter, 1995-1996.
- Special recognition for ensuring that a major release of the 80960 Ada compiler completed on time and met quality goals, 1987.
- Clark Fellow at Oregon Graduate Center, 1983, 1984, 1985.
- Included in "Who's Who Among Students in American Colleges and Universities", 1982-83.
- Oregon Teaching Certificate – granted 1979, renewed 1996.
- Graduated summa cum laude from George Fox College, 1979.
- Elected 1978-79 George Fox College A Cappella Choir President.
- Benson Scholar 1976-79 at George Fox College.

**PERSONAL**

- Co-directed the Medford First United Methodist Church choir with my wife, Pam from 2002 - 2005.
- Directed a choir of 25 people at Intel, 1999-2001.
- Currently sing with the SOU chamber choir. Have sung with the Kansas City Chorale, Rogue Valley Chorale, Southern Oregon Repertory Singers, Oregon Repertory Singers, and Concord Choir (now the David York Ensemble).
- Received Oregon Private Pilot license – 1987.
- Enjoy all team sports (especially volleyball), tennis, skiing, sailing, and fishing.