



Richard Fozzard

Software Artist and Forward Thinker

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(updated 6/22/06)

Professional Objective

Success in the designing, building and delivering of exciting and pioneering products in one or more of:

- **Advanced and usable user interfaces**
- **Information architecture, especially Internet/Web**
- **Scientific, medical, imaging, data storage, AI applications**

Skills

- **Programming languages:** Java (+ Swing, J2EE), XML/XSL, Perl, JavaScript, C, Unix shell, SQL, HyperTalk, Fortran, LISP, SAS/SCL, various assemblers.
- **Web development:** JSP, Struts, Tomcat, Java servlet, EJB, CGI. Some Unix (Linux, Solaris, FreeBSD) Web server administration (Apache, NCSA httpd, BEA Weblogic).
- **Strong scientific training** (biology, chemistry, physics, mathematics) in addition to computer science.
- **Rigorous product design and development** from conceptualization and business requirements through UML/OOA design through coding and documentation to test, release and support.
- **User-centered design** and rapid prototyping and delivery of portable applications and repurposing of documents across Windows, Macintosh, Unix/X, World-Wide-Web and hardcopy.
- **AI techniques:** neural networks, expert systems, and hypertext applications for: forecasting, pattern recognition, diagnosis, information retrieval, data/image visualization
- **Storage Network (SAN)** management and product development using native and SMI tools
- **Image processing and real-time** system design and implementation
- **The SAS System,** Reporting and screen design using SCL/FAME.

See also [Details of Skills](http://fozzard.com/resume/skilledetails.html) [<http://fozzard.com/resume/skilledetails.html>]

Work Experience

7/05 - present **[Univ. Colorado/CIRES/NOAA/NGDC Enterprise Data Systems](#)** *Computer Scientist/Information Architect*

Member of the [NOAA Observing System Architecture \(NOSA\)](#) [<http://www.nosa.noaa.gov>] team to develop the new NOAA Enterprise Database and its web-based user interface. Contributed Java classes to a database-independent library which can be used to explore relationships among tables in any arbitrary schema.

Maintenance and development of [NOAA Metadata Manager and Repository](#) (NMMR) [<http://www.ngdc.noaa.gov/metadata>] for archiving, editing, and publishing FGDC-compliant metadata records from NOAA's three Data Centers (NGDC, NODC, NCDC), CLASS (NESDIS), OSEI, among others. Implemented publishing, search and retrieval via URL and Z39.50. This is a web application built using Java, Tomcat, JMX, Struts, XSL and Oracle-XML.

Conceived and built [PageWatcher](#) tool [<http://pagewatcher.ngdc.noaa.gov>] to monitor web page and trigger actions (e.g. email) based on Web content. (Current release has been limited to .gov and .mil pages, and support transitioned to Mark Ohrenschall.)

2/05 - present [Qualstar](#)

Contract Software Engineer

Ongoing contract (full-time until 6/05) to develop SNMP agent for new [XLS high-end tape library](#). [<http://www.qualstar.com/xls>] Agent is based on the SNIA-SML-MIB and the [CIM/SMI](#) [<http://www.snia.org/smi>] standard for storage management, using the [jCIM](#) [<http://cimnavigator.com/jcim/jcimhome.html>] open source package I contributed to. Implemented in Java using Tomcat, JMX, Struts, XSL and AdventNet.

2/01 - 1/05 [CreekPath Systems](#)

Senior Software Engineer

Member of founding software team for [a suite of high-end storage management applications](#) [http://www.creekpath.com/product_services/products.html] for sale to Fortune 1000 companies. CreekPath was a startup founded in 2000 as a Storage Service Provider (SSP) which changed its business model to develop software in 2/01. Product is designed in UML/OOA patterns and implemented in Java/J2EE, XML, Oracle and WebLogic in Unix and Windows development environments for a very wide range of customer hardware and software. I helped design the basic architecture (e.g. the XML/XSL configurable Web UI; see <http://fozzard.com/resume/cpfengshui.html>), collected requirements in cooperation with product marketing and customers, generated design documents, implemented code, and participated in software QA and tech pubs. I worked on nearly all levels of the product: my concentration early on was in Web-based and Swing clients and then with the device API layer using the open [CIM/SMI](#) [<http://www.snia.org/smi>] standard for storage management.

11/99 - 1/01 [Webb Interactive \(was Update Systems, now Jabber\)](#)

Senior Software Engineer

Member of a small team who developed from requirements to release three of four products in [a suite of web applications](#) [<http://www.localmatters.com/products/internet.shtml>] for sale to local business directories and portals for Web-based B2B and B2C communication. (The product suite and technology was sold to Webb, then Aptas/Local Matters. where it continues to be developed and sold.) Designed in UML/Rational Rose OOA and implemented in Perl, MySQL, JavaScript, Java, XML, XSL, Oracle and WebLogic in Unix and WindowsNT development environments. Applications can be branded and localized for the client.

4/94 - 3/02 [The Marketeers / Mall of Catalogs](#)

Founder & Chief Technical Officer

Concept, design and development of software products for e-commerce and the direct marketing industry. The company was a partnership of four people working out of our homes. The [Mall of Catalogs](#) [<http://mallofcatalogs.com>] went online in 1995 and was the original mail-order catalog inquiry generation site on the Web. The same e-commerce back-end was leveraged to produce the Mall of Books [<http://mallofbooks.com> (discontinued domain)], a deep-discount online bookstore. MarketMaster (discontinued product) was a cross-platform database marketing tool, built using The SAS System and SCL/FAME. Closed in 2002 due to inability to spend the required time to maintain and develop the business (I had joined CreekPath, which was in a do-or-die mode as a startup).

9/94 - 11/99 [National Geophysical Data Center, Solid Earth Geophysics:](#)

Conceived and built:

* [GLOBE Teacher's Guide](#) <http://www.globe.gov/sda-bin/wt/ghp/tg> (discontinued link)
 This site (repurposed from 800-page hardcopy) won "Best Web Page in NOAA" award and uses WebBook (below). [Project leader]

* [WebBook technology](#) <http://www.ngdc.noaa.gov/seg/hazard/resource/webbook/>
 Online large document presentation, intuitive Web site navigation, search, self-running Web tours. [Independent project]

- [Natural Hazards Resources Directory](#) [http://www.ngdc.noaa.gov/seg/hazard/resource]
- [GLOBE Digital Elevation Model documentation](#) [http://www.ngdc.noaa.gov/seg/topo/report/]
- "OPPORTUNITIES FOR RESEARCH" WebBook for National Research Council
- NOAA ESDIM Projects: 1998

* **Metadex**

Metadata/web page index and glossary creation system (NOT a "search"). [Independent project]

* [GeoVu data visualization tool](#) <http://www.ngdc.noaa.gov/seg/tools/geovu/>

Development and port (from Windows) of cross-platform application on Unix and Macintosh with C & XVT. [3 person team project]

Extensive use of Web technologies (Perl, CGI, JavaScript). Web server maintenance (Unix-Linux-Solaris/Apache) and Macintosh network management. Various document and graphic design work. Consultation on NASA Pathfinder, Coastal Science Center and other environmental data programs.

3/93-8/94 [Forecast Systems Laboratory, Research Division:](#) Unix/Fortran port from Vax of data quality control and other software for short-term weather forecasting model ([RUC/MAPS](#) surface analysis).

10/89-2/93 [Forecast Systems Laboratory, AI Branch:](#) Concept, design and development (in C and HyperCard) of an electronic scientist's notebook with hypertext, [Metalog](#) [<http://www.cdc.noaa.gov/coads/Boulder/Boulder.Moninger.pdf>] for Vax, Unix, Macintosh, Windows. Metalog was also used for an ocean-atmosphere dataset ([COADS](#)) metadata distribution.

4/85 - 9/89 [Fischer Imaging](#), Denver, CO

Senior Software Engineer

6/82 - 4/85 [Diasonics](#), Milpitas, CA

Software Engineer

[Diasonics was purchased by Fischer Imaging in 1985]. Digital Radiography startup with first commercial digital radiography machine. Medical image processing software R&D. Real-time acquisition and processing software for hi-res digital x-ray images to & from high speed disks.

Education

9/85 - 8/89	Univ. of Colorado, Boulder (artificial intelligence, neural networks and user interface design. Thesis: "A Connectionist Expert System That Actually Works")	M.S. Computer Science	(GPA 4.0/4)
9/78 - 3/80	Stanford University (neurophysiology and biochemistry)	M.S. Biology	(GPA 3.4/4)
9/74 - 6/78	Stanford University (plus advanced chemistry, physics, electronics, psychology)	B.S. Biology	(GPA 3.3/4)

See also [Details of Education](http://fozzard.com/resume/edudetails.html) [http://fozzard.com/resume/edudetails.html]

References

As a courtesy to my references, please allow me to notify them that you will be contacting them.

Greg Comeau	Principal Architect	Webb and CreekPath, Boulder, CO
Michael Kearney	Principal Software Engineer	CreekPath and Qualstar, Boulder, CO (now at Sun)
Tom Margolis	Senior Software Engineer	Webb and CreekPath, Boulder, CO (now at NCAR)
Fred Puls	VP Accelx Development	Webb Interactive, Boulder, CO (now at Digital Globe)
Tom Bender	Chief Architect	Webb Interactive, Boulder, CO (now at Tendril)
Ray E. Habermann, Ph.D.	Chief Enterprise Data Systems	NOAA/NGDC Boulder, CO
William Moninger, Ph.D.	Director Artificial Intelligence, Forecast Systems Laboratory	NOAA/FSL, Boulder, CO
Paul Smolensky, Ph.D.	Professor of Computer Science	University of Colorado, Boulder (now at Johns Hopkins)
David Gustafson, Ph.D.	VP, Advanced Development	Fischer Imaging Corp., Denver, CO (now at Siemens)

Publications (*Partial list*)

"**Exploring Personal Web Sites as the Next Step in NOAA Web Development**", Fozzard, R., Habermann, R.E., Hayes, P., McTighe, A. in *NOAA WebShop '96*, Silver Spring, MD, June 1996 Referenced in [9/96 Earth Systems Monitor](#) [http://www.nodc.noaa.gov/General/NODCPubs/ESM/ESM_SEP96vol7no1.pdf]. Original paper not available online; related article: [<http://www.ngdc.noaa.gov/seg/hazard/resource/webbook>]

"**Real-Time Quality Control Of Hourly Surface Observations At NOAA's Forecast Systems Laboratory**", Miller, P., Fozzard, R. in *10th Conference on Numerical Weather Prediction*, Portland, OR, July 1994 Referenced in [LDAD Observation QC and Monitoring System](#) [http://www-sdd.fsl.noaa.gov/~fxa/publications/10th_SMOI_98/Miller-et-al.SMOI98.html]. Original paper not available online.

"**COADS Metalog: Dynamic COADS documentation**", Moninger, W., Fozzard, R., Woodruff, S., Slutz, R. in *Proceedings of the 1992 International COADS Workshop*, Boulder, CO, January 1992 [<http://www.cdc.noaa.gov/coads/Boulder/Boulder.Moninger.pdf>]

"**A Connectionist Expert System That Actually Works**", Fozzard, R., Ceci, L., Bradshaw, G. *Advances in Neural Information Processing Systems*, D. Touretzky, Ed., Morgan Kaufmann 1988 (refereed book article) [<http://nips.djvuzone.org/djvu/nips01/0248.djvu>] (requires DjVu viewer [<http://www.djvuzone.org/download.html>])

Full list, see [Publications and Recent Conferences](#) [<http://fozzard.com/resume/pubrefconf.html>]