



Robert N. Elens, PhD

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Relevant Skills

- **Leading** large-scale research and commercial projects.
- Producing and consuming RESTful **web services**.
- **Front-end** technologies: HTML, CSS, Javascript, React, bootstrap, jQuery, **event-driven** applications.
- **Back-end** technologies: SQL, Java, .NET, C, PHP.
- Test-Driven Development, **Agile** Programming, and traditional Waterfall.
- **Modeling** information systems.

Achievements

- Co-led development of one of the first distributed information retrieval systems used in the field.
- As part of the above project, developed platform-independent C-like language years before Java.
- Helped design and build first computer able to generate music consisting of an arbitrary number of voices in real-time.
- Led project bridging the DoD healthcare IT system with the private sector.
- Led project developing first working prototype of the Nationwide Health Information Network.

Experience

LEAD CONSULTANT, THE ELENS BAY COMPANY, PENSACOLA, FL – 2012-PRESENT (SELF-EMPLOYED FROM 1996)

Software development. Web Development. Multi-platform. Responsive. Mobile to Desktop. Numerous short projects representative of the longer projects listed below. Includes consulting work done prior to creating LLC. (www.elensbay.com)

AUTO AUCTION SOLUTIONS, PENSACOLA, FL – SEP 2013

Web app enabling auto dealers to track their inventories in auto auctions: ASP.NET MVC 4.

BIONYMITY, PENSACOLA, FL – APR 2011 – NOV 2013

Full-stack development. Front-end app for physicians to evaluate patients' suitability for clinical trials. Patients recommended by researches studying pseudonomized patient information: encryption, RESTful web services, JSP.

EHABILITATE, PENSACOLA, FL – MAY 2005 – NOV 2008

Created SPA for tracking patient progress through chiropractic and rehabilitation treatment. Real-time communication between doctor and patient: jQuery, Knockout, MVVM.

OLD REPUBLIC TITLE CO, PENSACOLA, FL – MAY 2005 – NOV 2008

Designed and implemented title insurance application for building legal support documentation for agents and attorneys.: MVC.

NEW ORLEANS APARTMENTS, PENSACOLA, FL – MAY 2005 – NOV 2008

Rewriting apartment search web app: PHP.

SENIOR SOFTWARE DEVELOPER, AUCTION EDGE, PENSACOLA, FL – NOV 2013 – FEB 2017

Originally Auto Auction Solutions – merged Nov 1, 2015 with Auction Edge.

Developed software for managing auto auctions and the companies that run them. Had the largest number of independent US and Canadian auto auction customers of any Auction Management System development company.

RESTful and SOAP web services for simulcast online auctions, floor plan payments, mobile app integration: Java, C#.

iOS and Android mobile app for managing inventory, auction registration, condition reports: Cordova/Phonegap, jQuery mobile, animation.

C# ASP.NET MVC 4 web apps for dealers to track their inventory during auctions.

Web front-ends using javascript, jQuery, bootstrap, knockout, MVC, MVVM.

Agile development processes, Test-driven development.

SENIOR SOFTWARE DEVELOPER, COGON SYSTEMS, PENSACOLA, FL – MAY 2005 – NOV 2008

Developed Operational Communication module providing mobile users access to hospital legacy systems.

Developed parts of HIE back-end for the South Florida Health Information Initiative (SFHII).

Project Manager and Technical Lead on TATRC project to bridge DoD health information system (BHIE) to the private sector. Chose to use the specifications for the National Health Information Network; the first company to produce a working prototype of the NHIN.

CONSULTANT/SENIOR SOFTWARE ENGINEER, RAHD ONCOLOGY PRODUCTS, PENSACOLA, FL – JAN 1997 – JAN 2005

Industry representative to NEMA working group on Radiation Therapy.

Designed Rahd's external interfaces to support rapid adoption of new scanners, linear accelerators, and other planning systems.

Developed Rahd's web-based call/incident and software-change-request tracking systems. (praised in FDA audit as better than even the large companies have produced)

RESEARCH ASSISTANT PROFESSOR/RESEARCH ASSOCIATE, UNIVERSITY OF UTAH, SALT LAKE CITY, UT – JAN 1992 – JAN 1997

Assisted in directing research within the Utah Retrieval System Architecture (URSA) project.

Awarded research grant from University Research Committee to study multimedia retrieval in a distributed environment.

Served as member of MS and PhD students' supervisory committees.

Served as advisor to government Masters students and directed their independent study.

Directed research activities for students in NSF Research Experience for Undergraduates program.

Taught graduate seminar on Human-Computer Interaction.

PROJECT MANAGER, CONTEXTURE, SALT LAKE CITY, UT – JAN 1988 – JAN 1990

Contexture specialized in fast-search hardware and information retrieval / reporting systems.

Directed the redesign and restructuring of URSA system to create a commercial product.

Developed a portable user interface management toolkit allowing GUI's written once to run on multiple platforms.

Installed URSA system at a large government agency.

RESEARCH ASSISTANT, SENIOR DESIGNER, CO-LEADER, URSA PROJECT, UNIVERSITY OF UTAH, SALT LAKE CITY, UT – MAY 1983 – JUN 1990

Pioneered use of persistent, intelligent objects to control heterogeneous distributed systems. (dissertation)

Architect of URSA's human interface.

Co-created a portable software development environment for creating applications for distributed systems (used by Utah Power and Light Co.)

Managed \$50,000 government grant in human factors testing of computer systems.

Developed the approach of using cascading style sheets to control presentation of SGML marked-up documents.

RESEARCH ASSISTANT, UNIVERSITY OF UTAH, SALT LAKE CITY, UT – 1982 – 1983

Co-designed and built 68000-based computer for real-time music generation.

Education

University of Utah, Salt Lake City, UT – PhD Computer Science, 1990
Distributed Systems, Computer Graphics, Computer Music

Florida State University, Tallahassee, FL – BS Mathematics, 1976
Applied Mathematics, Statistics

Professional Societies / Activities

Reviewer for IEEE Computer and other journals.

Previously member ACM for 25 yrs.

Volunteer Work

EDUCATION COORDINATOR THEN VICE-CHAIRMAN, INFORMATION TECHNOLOGY ASSOCIATION OF THE GULF COAST; PENSACOLA, FL – 2008–2015

IT Gulf Coast promotes networking of area professionals and supplies scholarships to local colleges and universities. As Education Coordinator, I managed our scholarship program.

BOARD OF DIRECTORS, SALT LAKE OCD TREATMENT FOUNDATION, SALT LAKE CITY, UT – 1988-1990

Provided educational and pharmaceutical resources for sufferers of OCD who could otherwise not afford them.

Presentations and Publications

Persistent Intelligent Objects in Distributed Information Retrieval, Pacific Northwest National Laboratory, Richland, WA – 1991

Sequencing Computational Events in Heterogenous Distributed Systems, PhD Dissertation, University of Utah – 1990

Persistent Intelligent Objects in Heterogenous Distributed Systems, Central Intelligence Agency, Langley, VA – 1989

Applying Computation Geometry to Indexing Full-Text Databases to Achieve $O(1)$ Retrieval Performance, University of Utah, Salt Lake City, UT – 1985

Honors

Member, Phi Beta Kappa

Associate Member, Sigma Xi Scientific Research Society

Graduated FSU Magna Cum Laude

Skills

I have established a broad range of skills through formal education, job experience, and personal endeavor. Below is a brief snapshot of those skills.

Web	HTML5 ⁽⁴⁾ , CSS3 ⁽³⁾ , javascript ⁽⁴⁾ , AJAX ⁽⁴⁾ , RESTful ⁽⁴⁾ , SOAP ⁽³⁾ , PHP ⁽³⁾ ,
Languages	C ⁽⁴⁾ , C# ⁽³⁾ , C++ ⁽²⁾ , Objective-C ⁽³⁾ , Swift ⁽²⁾ , Java ⁽⁴⁾ , Perl ⁽³⁾
Protocols	HL7 v2.x ⁽⁴⁾ , HL7 v3 ⁽²⁾ , DICOM ⁽⁴⁾ , XML ⁽⁴⁾ , JSON ⁽⁴⁾
IDE/SCM	Eclipse ⁽⁴⁾ , Visual Studio ⁽³⁾ , SVN ⁽³⁾ , git ⁽³⁾
Data Visualization	D3 4.x ⁽³⁾
Testing/Automation	jUnit ⁽⁴⁾ , FitNesse ⁽³⁾ , jenkins ⁽²⁾
General	Healthcare IT ⁽⁵⁾ , Distributed Systems ⁽⁴⁾ , Object-Oriented ⁽⁴⁾ ,