MacKenty Software Services

Edmund R. MacKenty, Proprietor

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Resumé of Edmund R. MacKenty

Summary:

Senior Software Architect and Project Manager, with extensive experience defining scalable, extensible, network client/server architectures. Recently CTO of an Internet venture, I gained a keen appreciation of business needs, methods and strategies, and enhanced my team leadership skills. I created and patented new audio user interface technologies and integrated them with Internet standards. As a consultant for seven years, I gained extensive knowledge of many different technologies and several kinds of businesses, and solidified my problem-solving techniques. Before that, I designed and implemented significant portions of the first commercially viable speech recognition system. I have over twenty years of experience with Internet technologies and software design.

Employment Experience:

2001-present **MacKenty Software Services** Watertown, MA

Sole Proprietor of software consulting firm, assisting companies with my skills in the areas of software architecture and design, Internet technologies, business practices, project management and systems analysis. Recent projects include:

- Embedded Linux networking tools
- Serial I/O package for high-performance audio
- Linux network security

1999-2001 **WebPresence, Inc.** Acton, MA

Co-founder and Chief Technical Officer of a venture-backed company creating audio user interface technologies for the mobile devices industry.

- Developed business skills in planning and strategy, management, presentations, and operations.
- Designed architecture for Internet deployment of our proprietary interactive audio system technology, utilizing radio industry content providers, advertisers, telecom and wireless transmission, and emerging voice portals.
- Created architecture for and managed development of a distributed, scalable platform in Java for insertion of individually-targeted advertisements into continuous streaming audio programs.
- Performed all project definition and management tasks for development team. Managed teams of three to six developers for various projects.

1997-2001 **Sonicon, Inc.** Watertown, MA

Co-founder and Chief Technical Officer of a self-funded company creating and patenting audio-based user interface technologies.

- Developed system for the representation of abstract concepts using sound.
- Developed techniques to represent HTML and all SGML-based languages using speech combined with non-speech cues.
- Authored patents on the above items, directed attorneys through domestic and international filing processes.

1992-1999 **MacKenty Software Services** Philadelphia, PA

Sole Proprietor of software consulting firm, working on design and development projects. Projects included:

- A mission-critical, real-time, distributed telephony call-processing server with an embedded, custom, high-level call programming language. This allowed call dialogs to be reprogrammed without taking the system off-line and without expensive software development.
- Design of a distributed audio server to supply on-demand voice recordings to a telephony system.
- Tools to convert UNIX documentation into SGML, working with members of the DOCBOOK standards committee for Unix Systems Labs, Novell and SCO.
- Implementation of CASE systems and UNIX networking debugging at Novell.
- Design and development of an ActiveX voice recording object for Lernout & Hauspie's speech group.
- Continued product enhancements of medical voice applications for Kurzweil AI and Lernout & Hauspie.

1984-1992 **Kurzweil Applied Intelligence** Waltham, MA

Software Engineer on a Research and Development team creating large-vocabulary voice recognition systems in C and assembler on Sun/UNIX, AT/MS-DOS and VAX/VMS systems.

- Involved with all phases of products from definition to release.
- Tasks included language-modeling, user interface design, real-time programming and inter-processor communications on multi-processor systems, and system specification and design.
- Defined object-oriented programming methodologies for the development team when O-O was a purely academic concept.
- Became the in-house UNIX guru, our resource for all things UNIX.
- Designed and implemented an integrated voice and text processor with its own windowing interface, and later ported it all to Windows.
- Helped define and maintain heterogeneous network and Internet e-mail systems.
- Became the "go-to" person for assembler- and source-level debugging.

1983-1984 **Martin Marietta Data Systems** Princeton Jct., NJ

Programmer for ITSoftware division. Wrote applications and systems software in C, assembler and PASCAL on an IBM-PC to integrate, support and augment a set of diverse desktop applications. Designed and implemented data transfer protocol and format conversion routines, a windowing package, and a device driver for a coprocessor board.

1982-1983 **Carnegie-Mellon University Robotics Institute** Pittsburgh, PA

Research Programmer on the Image Understanding Project developing a three-dimensional spatial modeling program in C and LISP. Learned UNIX and many Internet protocols.

1980-1982 **C-MU School of Urban and Public Affairs** Pittsburgh, PA

Programmer on statistical analysis routines in FORTRAN for an interactive data analysis program. Telecommuted during summers via the Internet.

1978-1979 **HZI Research Center** Tarrytown, NY

Programmer on EEG collection and analysis programs in FORTRAN on a PDP-11/45. Wrote dexterity and response measurement programs for evaluation of learning disabilities in assembler on and Apple II. Analyzed sleep study data on an IBM OS/360.

Education:

1979-1983 **Carnegie-Mellon University** Pittsburgh, PA

B.S. in Applied Mathematics (Computer Science). Additional studies in artificial intelligence, systems design and cognitive psychology.

Patents:

US 6,085,161: Lead Inventor and Author: System and Method for Auditorially Representing Pages of HTML Data.

US 6,088,675: Lead Inventor and Author: Auditorially Representing Pages of SGML Data.

US 6,125,347: Co-inventor: System for controlling multiple user application programs by spoken input.

Patents Pending:

PCT/US98/22179: Co-inventor and Author: System and Method for Representing Complex Information Auditorially (Application approved by IPEA, pending in US and Europe).

Co-inventor and Author: System and Process for Synchronizing Data Between Broadcast Media and the Internet (Application pending in US).

Systems:

Operating systems:	Linux, UNIX SYSV/BSD, VMS, AmigaDOS and Windows.
High-Level Languages:	C++, C, Java, Unix Shells, PERL, LISP, and FORTRAN.
Networking:	TCP/IP, NFS, HTTP, SMTP, PPP, UUCP and SMB.
Document Markup Languages:	SGML, XML, HTML, VoiceXML, Troff, and PostScript.
Assembler Languages:	68020, 80386, Z-80 and 6502.
Source Control Systems:	ClearCase, SCCS, RCS and PVCS.

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