

# Peter Newcomb

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peter@petesbox.net

## OVERVIEW

**Software architect and engineer with over ten years of experience;** enjoys solving real-world problems by discovering and implementing novel combinations of new and proven technologies.

## SKILLS / EXPERTISE

- Software architecture** Invented and implemented an architectural paradigm for technical documentation management at Woodward Aircraft Engine Systems. Increased usability of produced documentation and decreased error. Due to reduced staffing needs, system paid for itself in less than 16 months, and is expected to produce a 358% ROI over five years. Personally provided training that has enabled Woodward to extend the system to include their legacy data.
- Software development** Led development of the HyMinder, MarkMinder, and GroveMinder products through three major revisions, utilizing C++, Python, Perl, Lisp, Visual Basic, Java, XML, SGML, SQL, COM, CORBA, ODBC, Windows, Visual C++, Oracle, the GNU toolset, X-Windows, Linux, and Solaris.
- Hypermedia systems** Co-edited the ISO/IEC 10744:1997 Hypermedia/Time-based Structuring Language (HyTime) Standard. Along with the Guidelines of the Text Encoding Initiative (TEI), HyTime forms the original basis of all XML distributed hypertext mechanisms, including XLink, XPointer, XPath, XML-Info, and RDF.
- Knowledge systems** Invented the “subject indicator” and “scope” distributed knowledge integration paradigms adopted by both TopicMaps.Org's XML Topic Maps (XTM) specification and by the ISO/IEC 13250 Topic Map Standard.
- Internet services** Has configured and continuously maintained email, web, DNS, and other internet services for individuals and organizations for over ten years. Experienced with Sendmail, Postfix, Mailman, Apache, BIND, POP3, IMAP, spam filtering, SSL, TLS, IPsec, PKI, DHCP, IP routing, IP filtering, denial-of-service (DoS) mitigation, and Linux installation, configuration, and administration.
- Internationalization / localization** Developed sophisticated internationalization and localization APIs for middleware systems. Has studied linguistics, natural language processing, speech recognition, language acquisition, and logic. Fluent in conversational Mandarin Chinese (studied in Shanghai and Taiwan).

## PERSONAL INFORMATION

Born June 10, 1972, Englewood, New Jersey; US citizen.

Willing to travel or relocate for the right opportunity.

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## PROFESSIONAL EXPERIENCE

### **Chief Architect, E-Premis Corp.**

**2000 - April 2002**

Worked with business and marketing professionals to define a product strategy for the GroveMinder technology. Developed high-level architectures for each stage of the product roadmap. Developed and delivered presentations about the products and the underlying technologies for and to partners and investors. Analyzed third-party products and technologies for potential synergy or competition. Performed technical due diligence on potential partner's technologies.

### **Consulting Engineer, ISOGEN International Corp.**

**1997 - 1999**

Collaborated with customers and ISOGEN staff to architect, design, and implement standards-based solutions to customers' information management problems. Projects included intelligent automated data structuring software (for West Group), collaborative documentation authoring, quality assurance, publishing, and lifecycle management systems (for Woodward Governor Company and others), and a low-latency, many-language many-author parallel translation management system (for a major printer manufacturer).

### **Senior Software Engineer, TechnoTeacher, Inc.**

**1994 - 2000**

Directed all software architecture, design, implementation, and maintenance done by the company. Architect, designer, and principal implementer of the GroveMinder, MarkMinder, and HyMinder technologies. Maintained earlier versions of the HyMinder and MarkMinder technologies still in use by licensees.

### **Member of Technical Staff, TechnoTeacher, Inc.**

**1992 - 1994**

Installed, configured, and maintained all of TechnoTeacher's computer systems, including local networking, Internet connection, and email. Developed and maintained an in-house distribution of the Linux operating system that was used as a development platform and to integrate a heterogeneous network of SunOS, Solaris, MS-DOS, Windows, and UnixWare computers. Also contributed to the development of the MarkMinder and HyMinder technologies.

## PROFESSIONAL DISTINCTIONS

### **Inventor, GroveMinder architecture (patent pending)**

The GroveMinder architecture provides a practical and predictable way to implement portable information management systems for heterogeneous notations, databases, database management systems, database schemas, and storage systems.

### **Co-editor, ISO/IEC 10744:1997 (HyTime 2nd Edition)**

Architect and maintainer of the HyTime Property Set. Responsible for overall technical rigor of the HyTime Standard and for the presentation of its formal notations.

### **Maintainer, ISO 8879 (SGML) Property Set**

Published by ISO in both the ISO/IEC 10179 (DSSSL) and ISO/IEC 10744 (HyTime) standards.

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## PROFESSIONAL DISTINCTIONS (CONT.)

### **Key Contributor, ISO/IEC 13250 (Topic Maps)**

Contributed the insights and architectural ideas that enable distributed, collaborative creation and use of indexes and knowledge bases that span multiple, overlapping ontologies, taxonomies, and vocabularies.

### **Contributor, ISO 8879 (SGML) Technical Corrigendum 2**

Ensures that XML documents can be processed by SGML systems. Otherwise known as the WebSGML TC.

### **Contributor, OpenSP/OpenJade**

OpenSP and OpenJade are the open-source SGML parser and DSSSL processor that forms the core of the open-source community's documentation publishing tool chain.

## OTHER EXPERIENCE

### **ISP, Pete's Box**

**1995 - present**

Own and maintain a small Internet server (+ secondaries/backups), providing web, email, CVS, and other services for myself and a few other consultants, small businesses, and information management industry groups and consortia. Done as a hobby, not a business.

### **Teaching assistant, Florida State University (FSU)**

**summer 1992**

Assisted in teaching FSU's intensive summer graduate and undergraduate seminar in C++ for music applications, under the aegis of the FSU Center for Music Research. Set up and maintained the C++ programming laboratory environment at the Center.

### **Undergraduate, University of Rochester**

**1991 - 1993**

Studied cognitive science with emphasis on linguistics, logic, and computer science. Also studied electrical engineering. Co-founded, organized, and secured support for an independent team of CS, EE, and ME graduate and undergraduate students to develop a Micromouse robot. Designed and implemented maze search algorithms and co-designed and implemented sensory and control firmware. Participated in visual object recognition and speech recognition research.

### **“Faculty Brat”, Florida State University (FSU)**

**1977 - 1991**

Helped set up three generations of computer classrooms: first Plato terminals, then CPM/Z80 machines, and then OS-9/Atari 1040ST machines connected to SunOS servers. Guest lectured for a graduate-level C class. Learned a lot by bugging CS and music graduate students and professors with questions about my own, largely independent projects, including: original, real-time video games, an integrated development environment for C, a 2-D CAD system, a software synthesizer with a virtual oscilloscope, fractal visualization generators, neural network simulators, a 3-D wireframe animation library, a 3-D ray-tracing library, and an automated software and data distribution system (like rsync).