Mike Andrews
Software Engineer

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Recent Work Experience

Shiman Associates, Brookline, Massachusetts   May 1999 - present
Senior Software Engineer, Team Lead

Media Application Server (MAS)
http://www.mediaapplicationserver.net/

A modular, plug-in architecture for platform-independent Internet audio and video. Slated to be incorporated into the X Window System standard to provide desktop audio and accessibility functionality.

- Primary contributor, team lead for 100K line C/C++ open-source and proprietary codebases.
- Directed the technical staff in implementations of DSP algorithms, audio hardware control, and platform-specific optimizations for Solaris, Linux, and Microsoft Windows.
- Prepared and delivered product demonstrations at Linux tradeshows (LinuxWorld, ALS)
- Chaired the audio task force in the X Window System standard organization X.org.
- Managed software releases, feature prioritization, and scheduling.
- Collaborated on the design of open source business models and licensing strategies.

Delivered technical Conference Presentations on MAS:

Integrating Sound and Multi-Media with X - Linux-Kongress 2002, Köln, Germany   September 2002
MAS: The Media Application Server - GNOME Summit, Cambridge, MA, USA   July 2002
MAS: The Media Application Server - GUAD3C, Sevilla, Spain   April 2002

Alexandrian Authority

Provides document repository and e-mail discussion list access for geographically separated groups.

- Designed a filename-based versioning scheme that requires no special client-side software.
- Integrated Solaris and Linux systems-level services: sendmail, majordomo, DNS and bind, apache, mod_perl, and shell scripting.
- Designed and developed the HTML user interface and back-end modules in Perl/CGI.
- Hired and trained new technical staff to take over maintenance and new development.

Education

Worcester Polytechnic Institute (WPI), Worcester, Massachusetts

Master of Science in Electrical Engineering   May 1999
Bachelor of Science in Electrical Engineering with High Distinction   May 1997
Member of Tau Beta Pi (engineering) and Eta Kappa Nu (electrical engineering) honor societies.

Skills

10 years C experience	object-oriented design in C++	POSIX and Linux real-time, threading, dynamic loading
UNIX scripting in Perl, Bourne shell	enterprise web application development in Perl/CGI	mod_perl, apache
programming library interface design	dynamic technical presentations	CVS repository admin, release management
client-server Internet system design and development	multimedia data formats, compression techniques	machine vision, pattern recognition
Internet streaming media	audio quality evaluation	team catalyst

Machine Vision Research

Master's Thesis
An Information Theoretic Hierarchical Classifier for Machine Vision

May 1999

A high-speed decision tree for image recognition.

- Researched information theory, high-dimensional space data representation, data visualization, and numerical processing techniques.
- Developed an exemplar grouping technique, designed for flexibility in hypothesis construction, and applied to achieve rotation- and translation-independence.
- Developed a model training process for automated generation of translation- and rotation-invariant imagery.

WPI Machine Vision Laboratory
Research Assistant

May 1996 - May 1999

Advanced Machine Vision Tool Set (May, 1998)

- Developed an object-oriented image recognition library in C++, featuring vector correlation and pyramid processing.
- Developed Hough transform line and circle detection and matching algorithms.

LSD/DOA Automatic Target Recognition System (Textron Grant; June, 1997)

- Implemented a suite of shell scripts and C image processing applications.
- Developed a constant false-alarm rate detector.

Electronics Engineering Experience

Electronics Engineer
Bose Corporation, Framingham, Massachusetts

May 1995 - January 1996

- Developed a precision multi-spectrum noise source for transducer testing, currently in use in laboratories and product durability test bunkers throughout Bose.
- Developed an automobile switching amplifier final assembly test station.

Audio Research and Projects

XUDP: A Real-Time Multimedia Networking Protocol

- Designed and implemented a multimedia transport protocol with lossless, loss-tolerant, and timed-obsolescence modes.
- Conference Publication: *The XUDP Protocol for Timely Multimedia Transport* In *Conference on Telecom. R&D,* Massachusetts Telecommunications Council. (November, 1997)

Acoustical Analysis of Spaulding Recital Hall

- Drafted plans for both permanent and temporary acoustical renovations.

Independent Term Projects

- Developed a PC-controlled, multi-channel audio mixer and cue system used in WPI theatre shows.
- Designed and tested a power MOSFET, class A, high-fidelity audio amplifier
- Constructed a "Blumlein Shuffler" analog stereo imaging processor.