

jkemble@gmail.com

https://kemble.design/

Jonathan Kemble

Entertainment Industry Software Engineer

- 15 years experience in entertainment lighting, 25 years experience in software development
- Passionate about intuitive solutions to complex problems, with a proven record of innovation
- Comfortable working alone or in a team, and on any or all aspects of the development cycle

Employment History

Vue, Node.js, TypeScript,
Docker, JSON Schema

Google Cloud Platform,
Firebase

C++, NetBurner, Wireshark

Software Engineer

July 2020 – Present

Megapixel VR, Burbank, CA (remote)

Megapixel VR develops high performance LED screen video processors and monitoring systems

- Developed LED screen monitoring system, including embedded and cloud components.
- Developed highly reliable embedded solution for live corporate productions.

Visual C++, gcc, Qt 4 / 5

OpenCV, FFmpeg

XML, XSD, XSLT

git, Jira

Windows 10, Debian Linux

Senior Software Engineer II / Team Lead

October 2017 – July 2020

Electronic Theatre Controls, Austin, TX (remote)

ETC is a world leader in the entertainment industry, and acquired High End Systems in April 2017.

- Researched automated tracking of lighting fixtures in 3D space, resulting in several possible solutions, and one patent award.
- Developed an advanced color control system for lighting fixtures that seamlessly blends a variety of color spaces, providing simplified user interfaces for complex fixtures with different gamuts.
- Created an innovative color solver, improving the speed of ETC's existing solver by a factor of 25.
- Designed and delivered Hog 4 features: Fixture Builder and Linear Universes.

Visual C++, gcc, Qt 4 / 5,
perf, valgrind

Art-Net, sACN, CITP

Windows 7, Debian Linux

Control Systems Software Manager

February 2013 – September 2017

High End Systems, Austin, TX (remote)

Promoted to manage Hog team while also developing software

- Managed team of 8 developers and 2 testers through Hog 4 software development process: captured customer requirements, wrote design specifications, managed implementation, testing and releases.
- Designed and delivered Pixel Mapping feature, including an innovative user interface allowing rapid and intuitive editing via the Plot Window, which was imitated by multiple competitors.
- Implemented Media Server and Gobo thumbnails, including an efficient deduplicated filesystem.
- Created mathematical model for fading the rate of a running Effect over time, so it ends synchronized with other running Effects.
- Collaborated with ArKaos to create Auto Patch, a fully automated media server discovery and patching feature using CITP and Art-Net.
- Designed the Compound Fixtures feature to handle several use cases of complex fixtures, including significant extensions to selection keystroke syntax, while minimizing impact to the fixture library and playback engine.
- Developed several other console features: Plot Window, Reporting, Batches.

Visual C++, gcc, Qt 3 / 4

CVS, Bugzilla

Windows XP Embedded,
Debian Linux

DMX512

Software Engineer

May 2005 – January 2013

High End Systems, Austin, TX

High End Systems is a major manufacturer in the live events market, providing iconic automated lighting fixtures and control systems

- Designed several Hog 4 console features, including User Kinds and PDF Printing.
- Responsible for Hog 4 user interface graphical style, including all icons and artwork.
- Implemented Hog 3 Windows DHCP and TFTP server to support PXE booting of client devices.
- Rewrote large portions of Hog 3 user interface to eliminate bugs and improve performance.
- Adapted Hog 3 console software for release as Hog 3 PC.
- Developed Echo application for ShowPix fixture content and firmware management.

<p>Visual InterDev, ASP HTML, CSS, DOM IIS, ISAPI Visual C++, MFC Windows NT / 2000</p>	<p>President <i>March 1999 – August 2004</i> <i>payentry.com, Waltham, MA</i> payentry.com provides a rich web interface for payroll data entry on the Millennium payroll system. From inception through Fall 2004, use of payentry.com grew at 8% per month.</p> <ul style="list-style-type: none"> • Developed complete web application and desktop tools, including all graphics. • Implemented reliable, secure, and scalable data center environment, including monitoring tools. • Developed business plan, marketing materials, user documentation and billing mechanism.
<p>Visual C++, MFC COM, OLE, Win32 Microsoft SQL Server, ODBC, T-SQL, ADO Windows 2000</p>	<p>Senior Software Engineer <i>January 1998 – April 2005</i> <i>MPAY Software, Waltham, MA</i> MPAY Software sells and supports Millennium, the leading payroll processing system for independent payroll service bureaus. Millennium is used to pay over 1 million employees nationwide.</p> <ul style="list-style-type: none"> • Designed core middle-tier COM object hierarchy providing database access, logging, and security. • Implemented a multi-threaded batch processing system featuring automatic dependency handling. • Rewrote distributed data synchronization to improve security, reliability, speed and data integrity. • Optimized database and application performance using data from production and test systems. • Created Millennium SDK and taught developer class for staff and third party developers.
<p>Visual C++, MFC Win32, Winsock FTP, SMTP, HTTP, TCP/IP, UDP/IP Windows 95 / NT</p>	<p>Senior Software Engineer <i>February 1995 – January 1998</i> <i>FTP Software, North Andover, MA</i> FTP Software was the leading provider of TCP/IP network stacks and applications for Windows.</p> <ul style="list-style-type: none"> • Developed general purpose TCP/IP based network applications. • Assisted with interoperability testing of various network applications with competitive equivalents. • Developed a reusable library of utility, networking and UI classes, including full documentation. • Created and taught MFC class for coworkers, including presentation, samples and tutorials.
<p>Professional Associations</p>	
<p>GDTF, Carallon, AtlaBase fixture libraries</p>	<p>Observer, Control Protocols Working Group <i>Late 2019 - Present</i> <i>Entertainment Services and Technology Association (ESTA)</i></p> <ul style="list-style-type: none"> • Development of next generation control protocol for entertainment fixtures and devices.
<p>Education</p>	
	<p>Master of Science in Computer Science <i>September 1993 – August 1994</i> <i>Worcester Polytechnic Institute, Worcester, MA</i></p> <ul style="list-style-type: none"> • Thesis: <u>The Display of Multi-Attribute Data using a Presentation Description Language</u>. An AI-based project to automatically graph arbitrary data using semantic and relational metadata. • Research Assistant: Developed an AI rule-based expert system to evaluate the ease of maintaining and repairing a computer network.
	<p>Bachelor of Science in Computer Science <i>September 1989 – May 1993</i> <i>Worcester Polytechnic Institute, Worcester, MA</i></p> <ul style="list-style-type: none"> • Major Qualifying Project: <u>MIDImapper: A multiport MIDI router</u>. An 80x86 embedded system to route real time MIDI messages based on user preferences and message contents. • Junior Project: <u>LEGO-Logo Curriculum Development</u>. A grade school curriculum to teach basic mechanics and programming using LEGO bricks and the Logo computer language. • Vice President, Lens and Lights: On-campus lighting, sound and projection service provider. • Honors: Tau Beta Pi (National Engineering Honor Society), Upsilon Pi Epsilon (National Computer Science Honor Society), Alpha Psi Omega (National Drama Honor Society), Salisbury Prize (Academic Excellence Award).