



PAUL STURM

Senior Software Engineer

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Summary

Senior Desktop/Mobile/Web Software Engineer, UX designer, and Agile practitioner

Employment History

Senior Software Development Engineer for Esri August 2022 - Current

- ArcGIS Runtime SDK for Qt

Senior Software Engineer for Exposure Software December 2017 - June 2022
(formerly Alien Skin Software)

- Delivered yearly major releases of Exposure X (RAW processing and file management software for professional photographers, on macOS and Windows).
- Designed and implemented innovative user interfaces for image processing, including side-by-side audition view, advanced color editor, and polygon selection tool.
- Designed and implemented efficient workflows for professional photographers, including workspace layout, quick navigation, camera presets, and quick export.
- Ported codebase to Apple Silicon (C++ and Qt).
- Acting as Chief Technology Officer, managed a development team of 5; set product direction; advised on IT.
- As Product Owner, managed the backlog and facilitated our Agile (Scrum) process.
- Maintained interface automation test suite.

Senior Software Engineer for Alien Skin Software December 2014 - December 2017

- Designed and implemented user interfaces for Exposure X desktop photography software, including for importing, tagging, search, watermarks, and printing.
- Integrated build, test, analytics, crash reporting, translation, and other technologies.

Senior Software Engineer for MakeMusic July 2009 - December 2014

- Promoted to Senior Software Engineer for SmartMusic development (an interactive practice tool on macOS and Windows for band, orchestra, and vocal students).
- Re-architected SmartMusic using Qt for an all-new user interface, using WebKit with Qt's JavaScript bridge to provide tight integration with server systems.
- Designed and implemented support for vocal students, including sight reading, tonicization, and warmup keyboard.
- Designed and prototyped SmartMusic Inbox mobile application for iOS and Android.
- Ported SmartMusic engine code to iOS for the iPad version of SmartMusic.
- Provided UX design for teacher-focused web workflows, including grade report, data export, automated assignments, and assignment libraries.

- Re-architected content security model. Scripted automation and back-end processes. Rebuilt Windows installer. Implemented network proxy configuration. Auto-updater.
- Scrum Master of a small team in an Agile environment using Scrum, Test-Driven Development, and Continuous Integration.

Software Engineer for MakeMusic

July 2005 - July 2009

- Moved to the engineering team for the SmartMusic desktop application. Contributed to regular feature releases, including integration with "Impact" online gradebook, support for Method curriculum books, and improvements to the play experience.
- Designed and developed the content authoring and packaging tool for bundling digital sheet music and audio recordings, and the system to distribute it; 4x speedup to content build time.

Website/Database Developer for MakeMusic

July 2003 - July 2005

- Responsible for smartmusic.com website, including marketing materials, music catalog and download, and online subscription activation for the SmartMusic desktop client.
- Designed and developed a rewrite of the website, including back-end order processing and subscription management with XML-based communication to desktop application.
- Provided systems-level support for Solaris servers, including implementation and customization of an automated monitoring system using nagios.
- Perl (CGI, DBI, and Mason), Apache, Oracle, Solaris.

Enterprise Application Integration Developer for Cargill

July 2000 - January 2003

- Provided operational support, system administration, and development of Enterprise Application Integration software to facilitate internal business processes and integration to external partners.
- Implemented High Availability clustering with HP ServiceGuard for TIBCO components; developed tools for automated system maintenance, alert notification, statistical gathering and analysis, and remote administration.
- Developed ORB-like network abstraction layer for Perl, Object-Oriented Perl database abstraction layer for Oracle, and developed an open source Perl library for the TIBCO Rendezvous C API and the Hawk AMI.
- Perl, Java, C/C++ and Visual C++; TIBCO, webMethods, and in-house tools; on HP-UX, Solaris, Windows NT/2000, AIX, and OS/400; with Oracle and SQL Server.

Software Engineer for Information Advantage

March 1999 - July 2000

- Maintained, designed, and developed business intelligence software; maintenance on core OLAP server; rewrote substantial associated servers.
- Designed and developed CORBA-based application server in C++ (with JNI-embedded Java VM and Perl interpreter), providing a distributed environment to host system components.

Skills

Desktop and Mobile

- C++ (Qt, WebKit, CORBA, ODBC, STL, win32); Objective-C (Cocoa, Cocoa Touch); Perl (DBI, Mason, CGI); Javascript; Java (J2EE, EJB, JMS, JDBC, RMI, JNI); Some Python and PowerShell.
- Xcode 13, Visual Studio 2019; Git, Perforce, Subversion, cmake.
- Agile development with Scrum (Jira, Rally); roles as Scrum Master, Product Owner.
- Google Test and OJUnit/XCTest for unit testing and TDD, TestComplete for interface automation, Selenium for browser automation; code reviews with Crucible; Continuous Integration with Jenkins, GoCD; crash reporting with Bugsplat/crashpad.
- UX Design using Goal Directed Design, wireframing with Balsamiq.

Web Development

- Apache/mod_perl, IIS, Tomcat, HTML, CSS, JavaScript, DOM, JSP, ASP.

Enterprise Application Integration

- TIBCO (Rendezvous, Active Database, Message Broker, Hawk); webMethods (Integration Server, Developer, Trading Networks); XML, LDAP.

Operating Systems

- macOS, Windows, iOS, Unix (Linux, Solaris, HP-UX, AIX), Android.

Databases

- Oracle, SQL Server, MySQL, PostgreSQL, Sybase, SQLite.

Education

University of Minnesota - Institute of Technology

1995 - 1999

- Bachelor of Science in Computer Science with High Distinction.
- National Merit Scholar, Honorary Presidential Scholarship, Academic Excellence Scholarship, LANDO Scholarship, Tau Beta Pi.
- Teaching Assistant, Introduction to Programming in C.
- Activities and Societies: Tau Beta Pi.

Interaction Design Practicum at Cooper Design, San Francisco, August 2011

Internships

- *Utiligent*: general maintenance of a large-scale customer service system for utilities companies and development of internal tools; Visual C++, Perl, ASP, and HTML.
- *PRA Solutions*: assisted in conversion of a passenger revenue accounting system for airlines from SunOS 4 to Solaris 2 and maintenance, using C++, Perl, and Sybase.
- *IBM Rochester*: developed departmental intranet using Perl, HTML, and JavaScript.

Patent

Computer Mediated Timed Sight Reading with Assessment
United States 8,697,972

Issued April 15, 2014

<http://www.google.com/patents/US8697972>

<http://branewave.com/resume>