**John W Carlson**

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**Objective:**

 A Software Graphics Engineer position.

**Primary Technical Skills:**

* ***Specializes in:*** Web Development (15), GUI/Web Development (20), Data Visualization (3), Data Access (20), Java (15), JavaScript (6), Angular (1), Python (1), Windows, Mac
* ***Languages:*** Java (15), Perl (10), C++ (2), C (4), SVG (1), JavaScript (4), CSS (10), JSON (1), HTML5 (2), HTML (15), Groovy(<1), Python (1), XML (5)
* ***Database APIs:*** JPA (1), JDBC (13), Django (1),DBI (7), GORM (<1), Google AppEngine (<1)
* ***Databases:*** Oracle (20), MySQL (1), Unify (2), PostgreSQL (1), Redis (<1), MongoDB(<1), CouchDB(<1), ElasticSearch (<1)
* ***Graphical User Interface Libraries:*** Angular JS, Angular 2, Java Swing (5), JQuery (1), JQuery-UI (1), Highcharts (1), Kibana, DataTables (1), Gnuplot (1), JfreeChart (1), D3.js (1), HTML5 Canvas (2), Google Maps
* ***Middleware/Frameworks:*** Java EE/J2EE (14), Weblogic (4), Glassfish/iPlanet (3), Spring (4), Apache (3), Node.js (2), expressjs (1), Heroku (<1), Modulus (<1), Meteor (<1), OC4J (2), Grails (<1), Microsoft Azure (<1), AWS
* ***Web:*** Oracle Web Services (1), JAXWS (1), REST (1), Java Web Start w/ JNI & JNLP (4)
* ***Template Languages:*** XSLT, Struts2/WebWork (2), Struts1 (1), JSF (3), ADF (1), Trinidad, IceFaces(2), HTML::Mason(4), Handlebars (<1)
* ***Configuration Management:*** JIRA, AccuRev (1), git (2), Maven2(8), CVS, Make
* ***Operating Systems:*** Linux (RedHat, Ubuntu, Oracle EL) (7), Windows 10 (1) Windows 8.1 (1), Windows 7 (4), MacOSX (Tiger, Snow Leopard, Mavericks, Yosemite, El Capitan, Sierra) (8), Solaris/SunOS (16)
* ***Design:*** OO Design, UML, Relational Design, Visio, MySQL Workbench, E-R Diagrams
* ***Testing:*** HttpUnit, JUnit, Jmeter, Karma
* ***IDE, Editor:*** Eclipse (7), MyEclipse (2), STS (<1), GGTS (<1), NetBeans (2) - X3D-Edit (<1), Xcode (<1), IntelliJ (<1), ace (<1)
* ***Graphics:*** glTF, GIMP, X3D, X3D JSON, X3DOM (w/ JavaScript), X\_ITE, some JOGAMP, JOGL, and Java3D

**Other Skills:**

* ***Languages:*** SQL (20), PL/SQL (1), X3D (1), XPath/JXPath(1), XSL(1), PHP(1), Pascal, Fortran, Icon, Prolog, Lisp, some Objective-C, Applesoft Basic, Business Basic II, Csh & bash, Regular Expressions, YACC, Lex
* ***Database APIs:*** Toplink Essentials (1), TopLink (2), JMS (1), Oraperl/DBD::Oracle (4), Oracle AQ(1), SunEric (2), MatrixOne MQL (2), PhpMyAdmin, Ibatis (<1)
* ***Graphical User Interface Libraries:*** Java: AWT (2) GWT (<1), C++: InterViews (3) some Qt, C: XView SunView (2) Xaw X11 Motif (1) curses (1), Objective-C: (some) OpenGL Cocoa Touch; Perl Web (10)
* ***Configuration Management:*** Ant (2), Cruise Control (2), Perforce (2), Imake (2), Jenkins (<1)
* ***Middleware:*** Tomcat (1), Apache (4),MatrixOne PLMS (2)
* ***Networking & Cloud:*** BSD Sockets, WinSock, Java Sockets, Java RMI,Google App Engine, socket.io
* ***Operating Systems:*** Windows XP (4), Windows 2000 (1), Linux (Fedora, CentOS, Debian, Mint, Cygwin) (7), BSD Unix (4), Ultrix (2), CP/M (3), VMS (<1)
* ***Hardware:*** Dell, Sun, iMac, DEC, Televideo, Apple II, iPod Touch, Serial lines, DSL modems, Cablemodems
* ***Template Languages:*** Java Server Pages (JSP) (14), JSTL (2), Facelets (2), Tiles (1)

**Work Experience:**

***Carlson Solution Design*** June 2012 – Februrary 2016/June 2016 – Present

Responsibilities

* Wrote test package for testing Web3D consortiums X3D Java Scene Access Interface Library (X3DJSAIL), patched X3DJSAIL. Generated Java, JavaScript, and Python code from JSON via DOM, wrote test scripts, collected and analyzed errors, did roundtrip analysis and differencing of JSON and XML, wrote bug reports to developers at Web3D Consortium. Wrote python and JavaScript layer on top of X3DJSAIL.
* Modified and ported XSLT scripts for XML -> JSON, Java and ECMAScript translation.
* Designed database and wrote downloading and storing code for US census data.
* Wrote X3D JSON loader in JavaScript to load JSON into HTML/XML DOM, a prototype expander for X3D JSON, a post-process X3D JSON flattener, and integrated and modifed JSON schema validators. Also, I wrote a tool to validate types in JSON schema for the flattener. Wrote test scripts in a combination of Node.js and Bash shell scripting. Designed X3D XML documents and converted XML documents to JSON. Converted X3D JavaScript and ROUTEs to HTML5 JavaScript and Event Handlers.
* Implemented JavaScript multiuser authoritative server and metaserver on modulus.io using Node.js, Express.JS/socket.io and REST. Wrote unit tests and validation of REST parameters.
* Integrated a Twitter Sentiment analysis app in JavaScript with a map visualization showing tweets.
* Created visual web graphs for medical ontology using D3.js
* Created prototypes with with JavaScript physics libraries (Box2D)
* Android phone development for Epic Game Ads
* Rendered spherical equations in X3D, X3DOM, Cobweb, C, recorded animations
* Coordinated writing Open GL ES shaders for animated spheres and spherical equations, ported shaders to PlayCanvas, Cobweb, Open GL ES
* Co-developed IRC voting bot in PHP
* Developed two quote bots for IRC.

Awards:

* Awarded Web3D Consortium Membership for work on X3D JSON loader and tools related to the X3D JSON format

Environment & Technologies: Java, NetBeans, JavaScript, PHP, Heroku, Modulus, Meteor, MongoDB, express.js, GitHub, socket.io, node.js, Mac OS X, Windows 8, Windows 8.1, Windows 10, Android, D3.js, MySQL, WebsiteBuilder, X3D, X3DOM, Cobweb, Angular, Kibana, Logstash, Jquery, Bash, MingW64

***Maelstrom Development***

Programmer March 2017

Responsibilities

* Wrote hex-grid code, with zooming, panning, labelling and partial small map overview for 2D game.
* Wrote Python script to take a spreadsheet of cards and produce C++ classes and constructors for the cards for Doom Trooper card game.

Environment and Technologies

* SFML, C++, Python

***Indie Film Network, LLC***

Chief Research Officer October 2016 – December 2016

Responsibilities

* Designed data model
* Managed a consultant doing research on REST APIs for IFN.
* Prototyped Android app for geographic searches.

Environment and Technologies: Powerpoint, MySQL, REST, Cake PHP, Android Studio, Android

***Oxford International***

Consultant, client GE Lighting. Mar 2016 – May 2016

Responsibilities

* In an agile environment, provided software development expertise developing Angular and JavaScript web frontend, Java backend, REST/HTTP services communication, with ActiveMQ messages and PostgreSQL database to GE for the purposes of wireless outdoor lighting control
* Jmeter performance testing
* Did initial setup of UDP, HTTP and HTTPS Nginx load balancer
* Reenabled Karma testing environment
* Drew network map based on D3.js

Environment & Technologies:

 Java, JavaEE, Centos 5, Windows 7, ActiveMQ, Apache, Eclipse Mars, Jquery, Angular.JS, Google Maps, D3.js

***Logos Technologies, Inc.*** Jun 2011 – May 2012

Contractor

Responsibilities

* Implemented rule creation (forms) and editing, storage and JSON generating web GUI for a cybersecurity tool. Interfaced with honeypot engine to provide tracking of triggered vunerabilities.
* Prototyped the user interface
* Created dynamic “workflow” visualization (polled database for updates)
* Did database design and implementation based on high level documents produced by architect.

Environment & Technologies: Ubuntu 11.10, Python, SVG/Raphael, Django, Data Tables, MySQL, JSON, JavaScript, PHP (prototyping), MySQL Workbench, git, redmine

***Lawrence Livermore National Laboratory*** LLNS Oct 2007 – April 2013

 University of California Aug 1991-Sep 2007

Computer Scientist/Math Programmer/Application Developer (SES.3)

For the **Joint Genome Institute**, I wrote the Integrated Tracking System (ITS) for tracking final deliverables and associated metadata through the facility. I produced and consumed JSON REST web services, created JSON schema files for validating JSON, and created test data. We used Groovy on Grails, IntelliJ, Eclipse, CouchDB, Jenkins and git, as well as working with a LIMS.

For the **National Ignition Facility** (NIF), a 192-beam laser, developed software for multiple control and data visualization systems. Developed a Java Swing and Perl web app, OIDV, for visualizing defects on optics with images and overlays, a Perl web app, Quicklooks, for in-shot visualization using images, dynamic plots, scalar data collected at subsecond resolution over several days. Created movies from images. Wrote a Java Swing app and web app, called the change manager for shot setup and approval, adding new diagnostic systems. Implemented post shot Java Web application using images, plots and scalar data. We used many different technologies, including Highcharts, GD, JSF, IceFaces, Trinidaa, JPA, JDBC, YourKit, Eclipse, JIRA, Oracle Windows 7, Windows XP, Mac OS X, Linux, Windows 2000, Struts, JSF, Maven2, CruiseControl, HTML::Mason, Tiles, Facelets, JQuery, JDBC, JPA, TopLink, Oracle, SQL, PL/SQL, Ibatis, NetBeans, UML, Glassfish, WebLogic, OC4J. I also wrote design documents for OIDV. We followed a Software Development Lifecycle and used Agile and Scrum development practices in a formal configuration management environment.

For the **Engineering Records Center** (ERC), primarily working with NIF drawings and metadata, we produced several Perl web and Java web apps, including an enterprise configuration management system to 1000 users, software for archiving documents and drawings to film (**technical lead**), a part-serial number system (**technical lead**), and a digital job order sytem for print orders. We developed a workflow for engineering documents and drawings, developed a database schema. I mentored other members of the team and did pair-programming with them. We used Windows XP, Solaris, iPlanet (now Glassfish), Perl, Oraperl, Java, WebWork (now Struts2), Film Archive Writers, MatrixOne Engineering Central, Matrix Query Language (MQL), Java Server Pages (JSP), Oracle, and NetBeans (form designer).

For the **Engineering Directorate**, I designed and developed a salary management system and an office space charging system. We used Solaris, HTML, Oracle, Java, JSPs, SQL, and web technologies. I was a full-stack developer on this project, implementing SQL queries and an EJB-like interface.

For the **American textile industry** (AMTEX), We designed and developed a secure network publishing and subscribing system called TEXNET C and Java. I wrote the GUI and UI network interface with Java Sockets and AWT on Solaris.

For **Wright-Patterson Air Force Base**, and **Veteran's Hospital, Long Beach**, and **LLNL**, we designed, developed and delivered an electronic commerce purchasing and payment called GATEC (Government Acquisition Through Electronic Commerce). We developed and performed the first automated EDI/X12 Payment over the Internet using RSA encryption and Privacy Enhanced Mail I co-designed with developers from **Bank of America**. I wrote the RFQ and Purchase order applications. We authored an Integrated Development Environment (IDE) and iconic programming by demonstration language called Translator’s Workbench/Translator Engine to translate from EDI/X12 formats to proprietary formats and back, used for RFQs, Purchase Orders, Invoices and Acknowledgements (**technical lead**)--I wrote several “Deskop Objects,” including Calculator, Date Calculator, X12 Branch, and Database Query as well as the acknowledgement code (997s), persistence, XML parser and code generator. We proposed and implemented an s-expression based cross-platform distributed and non-distributed user interface protocol and libraries. We used Solaris, C++, Oracle, InterViews, Windows, Perl, YACC, and Lex.

For the **Defense Logistic Agency** we wrote 2 distributed capacity planning systems and a prototype attribute value database and user interface.

I’ve worked on several other projects at LLNL, including a system for analyzing and annotating remote sensing images, need-to-know based access control of documents, GIS, and full-text search tool, and GIS-based contaminate tracking. We used Motif, Java, C and C++ and PostgreSQL.

**Publications:**

"A Visual Language for Data Mapping," OOPSLA 2001 Workshop on Domain-Specific Visual Languages

“A JSON Encoding for X3D” Web3D 2016

**Miscellaneous:**

Founder of the java@llnl.gov mailing list

Github: <https://github.com/coderextreme>

**Training:**

* C++
* Holub (Learning Patterns by looking at code)
* Object Oriented Analysis and Design
* Webucator PL/SQL
* MatrixOne

**Education:**

B. Sc. Computer Science/Math University of California-Davis. 3.86 GPA

Minor in Geography w/ a cartography course. Graduate level classes in 3D Computer Graphics

**References:**

Brian Lopez 1-925-443-4704 (was lopez8@lllnl.gov)

Bill Maurer 1-925-443-4231 tahotube@gmail.com

George Chamales george@roguegenius.com

Jeffry Hysong

“You are always perfect in many aspects of management. I really like it.” – Dik Wessels