Russell G. Wells

Senior Software Engineer, Technical Lead

Personal Info:

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Languages:
Java, C/C++, C#, JavaScript, Typescript, HTML, CSS, Perl, Python, SQL, FORTRAN, various shell scripts, and assembly for various processors.

Also worked with PASCAL, Smalltalk, Ruby & Scala.

Operating Systems:
Windows, Linux, Android, and some embedded platforms, Palm OS, Windows CE.

Technologies:
JSP, J2EE, EJB, Servlets, Design Patterns, JDBC, Web Services, JMS, Ajax, SOAP, REST, XML, XSL, RMI, MVC, JSON, Bluetooth

APIs & Frameworks:
Axis, ActivMQ, JUnit, Struts, Node, JQuery, iBatis, ExtJs, log4j, Ant, Ivy, various other Apache projects. MFC, Winsock, TCP/IP, COM, MAPI, TAPI, TAP, NetBIOS, DAO & ODBC.

Databases:
Oracle, Microsoft SQL Server, Posgres, SQLite, & MySql.

Hardware:
PCs, Gould SEL/32, and various embedded systems (63328, 8051, 8085, 6809 based) and Arduino

Experience:

Higg Co 05/2020 – Current
Lead Developer

- Developed a pseudonymization (pseudonymous-randomization) process to create a copy of the Higg Index database into an anonymized version. Person names, email addresses, phone numbers, street addresses were all modified using anonymizing and randomizing techniques so that the data relationships were preserved but the personal data was anonymized. The project was implemented using Node & Typescript on a CouchDB database.

- Developed analysis scripts to evaluate performance, reliability, and accuracy of some third-party APIs. The project was developed in Typescript using an SQLite3 database to store the data for analysis. Collecting data from several "runs" of the scripts gave insight into how the third-party APIs could be utilized in the main Higg Index product.

- Performed technical evaluation for various technologies and frameworks.

Misc. Unofficial Projects 07/2015 - Current

- Developed the hardware and software for a scrolling message sign. The sign uses an Android application using Bluetooth communications to perform the setup and configuration. Multiple messages, intensity, delay times, and led color can be set for the sign. The hardware consists of an Arduino Uno, Bluetooth module, and various led matrix panels.

- Developed two Arduino projects for automating different enzyme manufacturing processes. Programmed all of the automation software running on several Arduino Nano boards and designed prototypes for the process control electronics.

- Created a multiplayer roleplay game for the SecondLife™. The game is loosely based on other vampire like roleplay games. Implementation spanned the scripting elements of the SecondLife virtual environment to SQL backends and REST interfaces hosted in the cloud using AWS / EC2. Basic tech included RDS database instances and ElasticCache fronting Memcached. Note: This was a learning project for myself to become more familiar with cloud services.

- Designed and implemented a small but complete login / authentication system for managing accounts in web based systems. Pluggable authentication and password systems were made using Java and Python backends, NIST guidelines were implemented for PBKDF2 password handling and authentication.

Bear River Associates, Inc. 09/20/1999 – 6/2015
Technical Lead

- Duties included, software requirements analysis for new projects, high-level time estimates for proposals, work break down construction for proposals and new projects, design and analysis for all project phases, mentoring of other developers, software documentation for projects, and technical documentation for clients.

- Senior developer for porting the BearTracks web applications to hosted environments.

- Technical Lead for the DMM product. DMM is a suite of programs and web applications to track and control access to various types of documentation. The project was developed for the US Pentagon and integrates into the BearTracks project. Withing in the DMM project extensive application monitoring was added to insure all parts of this distributed system were operating.

- Design and architecture for the new BearTracks product. BearTracks is an internal tracking system to manage a variety of business services across an enterprise. Acted as Tech lead for mobile development for Windows CE device written in C++ using wxWidgets cross platform framework

- Design and implementation of a Windows CE application to read and display data gathered from a pipe leak detection system for MetroTech. Written in C#.

- Senior developer ITS tracking system developed for the United States Pentagon. Technical lead and Architect for the mobile application, web application and database. ITS is a clearance tracking system implemented to track deliveries or materials to the Pentagon.

- Technical Lead & Architect for ProRep, a sales automation system (a PDA based system for tracking marketing information for drug sales) developed for Genentech. Responsible for architecting and managing the code development for the Palm based application and implementing the database synchronization between the palm applications and the desktop database.

- Technical Lead for implementing the Field Information System (a combination of Windows CE devices, web applications, and server-side Java technology) for the California Youth Authority. responsible for architecting and implementing a system that integrates Web applications, mobile clients, an Enterprise database, and existing information systems into a comprehensive package to support the field activities of parole agents working for the California Youth Authority.

- Technical lead for porting the ePeg construction Diary system to Windows CE platform. The ePeg project incorporates entering construction diary data in the field using the Windows CE operating system and synchronizing that data with a back end Oracle database using an N-tier model.

CS:Critique (as contractor)　　　　04/01/1998 – 09/11/1999

- Ported 'GO FIGURE' from Windows 3.1 to Windows 95/98/NT. The original program had a custom installer which had to be totally rewritten. CD-ROM and self-extracting versions of the installation were added.

- Architectural design for Point of Sale (POS) system. The system was a networked group of computers requiring dependable communications, fast database replication, error recovery, dynamic configuration options.

Responsibilities included Technical Lead for the project.

- Implementation of POS management software. This software managed the information for products, inventory, ordering & receiving, accounting, employees, site configuration, and reporting. System included "assistants" to automate and remind the store manager of important tasks and required duties.

Development of a custom reporting framework to allow the addition of custom reports to the POS management system dynamically.

Development of an Automatic Order System to automate the ordering process with special plug-in modules targeted for specific customers or specific industries.

- Implementation and design for a TCP/IP based network infrastructure, the network consisted of Windows NT, Windows 95 and custom embedded PCs.

Newspager Corporation of America 01/08/1996 – 03/31/1998
Software Engineer

- Design and Implementation for Over the Air Database application running on a 68328 based pager. Information was received from the radio module and stored in a group of hierarchical databases. Each database could be viewed using a GUI-like interface.

- Design and implementation of a configuration database and application API. The main modules in the Savant pager used the configuration database to store persistent settings.

- Design and implementation of a Serial Comm manager and interface. This provided a high level interface to the serial port of the pager. All data in the pager was accessed in a fashion similar to the Windows registry.

- Implementation of an "Active X" control for manipulating parameters stores in the Savant pager. The control was designed to allow third party programs to modify the operating parameters and databases of the pager using the serial port.

- Implementation of a Client/Server program for utilizing the "Multi Group Level Messaging" capabilities of NewsPager™ and NewsPager Data Centers. The project utilizes Windows 95 and Window NT, TCP/IP network communications, extensive database information retrieval using DAO, and serial communications using TAPI.

Intersection Development Corp. 05/1991 - 01/1996
Software Engineer

- Part of the design team for versions 1.0 and 1.5 of the ITMS system, and the primary designer for all the network subsystems. Intelligent Traffic Management System (ITMS) is a distributed control and management system for several different traffic control systems. The system uses a mixture of Windows NT, Windows 3.x., and proprietary hardware connected via LAN to manage and monitor a municipality's traffic operations.

- Traffic Events Server collected "significant events" from multiple traffic systems via various LAN protocols, filtered events, archived events into a database, and supplied events to other monitor applications. The application was a stand-alone Windows 3.x application, but a port to NT and RPC was in process, the database was maintained and managed through ODBC.

- Traffic Events Monitor, monitored several traffic systems and notified personnel of critical events, maintained "Events Server" configuration and provided simple archiving capability of the associated database, interaction with the "Events server" was being updated to the SMNP protocol.

- Traffic Controller Database Editor, a Windows Visual Basic program for uploading, downloading and editing traffic controller parameters. The program updated and maintained a singe database for each traffic system and set of traffic controllers using ODBC. Information was collected from the traffic systems using a VBX custom control which performed the "network" communications. Development of the VBX and associated network interface to the traffic system was included in the project.

- Project Supervisor for the initial version of a "Communications Server". The communications server made available to the ITMS applications up to 32 simultaneous serial connections to remote traffic equipment.

- Initial system setup and testing for ITMS systems at customer sites involved new equipment setup, existing equipment update, LAN trouble-shooting, and software installation. Initial customer training and "technical" overviews was also included.

- Initial User and Technical documentation for ITMS 1.0.

- TracoNet Revision 2 Design, and initial development. This involved a custom interface for the Digiboard line of serial boards to off load most of the serial communications functions directly to the processor resident on the Digiboard, freeing the DOS system from the overhead. Code was developed at the 80x86 assemble level for the Digiboard and the associated DOS drivers.

- Traffic Controller emulation program for testing the base controller functionality and additionally providing a functional demonstration of the controller.

- Traffic Controller database conversion program allowed the conversion of approximately 30 different sets of traffic controller parameters from one specific version to another. This project also involved the development of an entire DOS user interface that was to be used company wide in future projects. (Of course, the company then switched to Windows)

Grant Norpac Inc. 08/1989 - 09/1990
Associate Geophysicist

- Program construction for all phases of testing and analysis of sub-surface seismic processing. A solid knowledge of signal processing techniques and related mathematics needed.

- Software maintenance for the "MegaSeis" processing system. Hardware repair and maintenance for the computer systems (Gould SEL/32 & HP 1000).

Grant Norpac Inc. 10/1988 - 07/1989
Computer Technician

- Supervision of the Drafting and printing departments, Computer operation

and maintenance of the mainframe systems.

Wells Oilfield Specialties   06/1983 - 09/1988
Instrument Technician/Manager

- Instrumentation repair for natural gas, liquid measurement, and process control equipment. Design and equipment specification for gas and liquid measurement systems.

- Wrote a shareware program for generating orifice bore calculations and wrote programs for optimizing tool path used by CNC lathes.

Bella Lewitsky Dance Company 01/1987 – 08/1988
Lighting Designer

- Designed the lighting for the 1988-touring season of the company.

Western Opera Theatre 09/1985 – 11/1086
Lighting Designer

- Designed the lighting for the 1986 & 1987 touring season of the company.
- Toured as the Lighting Designer for the 1986 season.

Bakersfield Community Theatre   01/1982 – 08/1984
Scenic / Lighting Designer

- In-house lighting and scenic designer for 1982 – 1984 seasons, responsibilities also included technical director for this period.

California State College Bakersfield 09/1980 – 06/1982
Assistant Technical Director

- Supervised students in the construction of stage scenery and lighting.
- Master carpenter for 1981 – 1982 seasons

Education: BS Mathematics   University of California, Berkeley
BA Theatre   Cal State Bakersfield