Gary R. Carter
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SUMMARY:

Major contributor to a number of commercially shipped software packages. Emphasis on practical application of software engineering to solve design and performance problems on large codebases and bring products to market.

Years of experience with Windows from 2.1 through Vista and Unix from application development to device drivers. Expert C++ and assembler programmer. Experienced in real-time multithreaded techniques; compiler technology; networking and communications; database applications and internals; GUI programming; Win32 programming; successful approaches to problems encountered in large systems; C, C++, Perl, Java, JavaScript, PHP, SQL, Internet protocols, Visual C++ .NET, Visual C# .NET, Linux, HP-UX, Solaris.

EMPLOYMENT:

Sept 2008-present Freelance consultant

Wrote DOM (depth-of-market) trading simulator for New Era Trading.

Feb 2006-Sept 2008 Eigen Inc. – consultant

Designed and implemented (in C++) a medical X-ray video capture and management suite used for cardiac angiography and catheterization, videofluoroscopic swallow studies, etc. This system performs recording, playback, transmission to DICOM servers and viewstations, and DVD writing. Capture program performs multithreaded real-time simultaneous capture of two video streams from video capture cards, displays it, streams it to disks, and provides playback and review after recording is finished. DICOM archive program ensures reliable delivery across crashes, power and network outages, etc. It is used in cine (high dose x-ray, short exposure) applications to perform mandated capture and automatic DICOM archive of all exposures, and in fluoroscopic (low dose) applications where the operator can select which runs to archive. In two-channel mode (biplane) it is used to record catheterization from two angles. This product is currently in operation in a number of clinics.

In addition worked as part of a small team implementing and debugging other software, including Eigen's DSA product; worked on documentation for government certification of Eigen processes and products; and wrote the build scripts for several products.

2003-Feb 2006 Freelance consultant

Programming: wrote a multithreaded C++ application to process and display stock market data from real-time data feeds, using Visual Studio.NET.

Website maintenance: designed pages using CSS, DHTML, and Javascript. Maintained, updated and debugged websites, using Perl scripts and ASP code, using Dreamweaver, Visual Studio.NET, Photoshop Elements, and Fireworks. Bulletin board systems, e-commerce, audio clips.

Services: Performed hardware configuration, virus and adware removal, software installation and configuration, wireless and wired network configuration, failed hard drive data recovery.

1/2003-11/2003 FileMaker, Inc – Consultant

Member of team that produced latest version of the award-winning FileMaker Database, with 10 million copies sold to date. Adapted previous version's OLE implementation to new database engine platform, extensively tested and revised to ensure compatible OLE embedding of many popular applications. Reworked container copy/paste functionality; improved image handling. Did code profiling and optimization to fix performance problems. Compiled and debugged on both PC and Macintosh, using Visual Studio.NET and CodeWarrior.

2000 – 2001 Informix Software, Inc – Consultant

Member of three-person team that produced a Web search engine showcasing Informix's Extended Parallel Server database as the lookup component. We produced an HP-UX version of this product that impressed Hewlett-Packard enough to purchase it for inclusion with new HP-UX systems. (IBM purchased Informix at this time and canceled the contract.)

Designed and implemented the bot component that fetched and parsed the web pages in C++ using Visual Studio.NET, GNU C++ and gdb on Linux, and vendor tools on Solaris and HP-UX. Co-implemented the search interface to the database in SQL embedded in C++.

Wrote and maintained the build process on Linux, Solaris, HP-UX and Windows 2000 using make, gmake, and shell scripts. Wrote install programs for these platforms.

Informix XPS and HP-UX both have many parameters that must be configured correctly to get XPS to run well on this system. I wrote a new program that installed both XPS and the search engine, which automatically set all the necessary parameters, avoiding many problems previously requiring much time and detailed system administrator knowledge on the part of the user to get an XPS database running properly. This program acted as a web server in order to use the browser as the user interface, resulted in a simple turn-key installation, and made the product much more attractive to HP for mass distribution.

1995 – 2000 Oceania, Inc. - Consultant

Implemented the Oceania Note Editor component of Oceania's WAVE product, a complete medical documentation management system deployed in several parts of Kaiser Permanente. This project was an effort to streamline documentation, provide higher accuracy, and support the ability to do statistical studies over thousands of cases to improve treatment approaches.

The Note Editor was a medical chart editor using mouse-click selection of terms from a structured database of hundreds of thousands of standardized medical terms, procedures, treatments and medications. I also implemented supporting components, including a proprietary object oriented database optimized for fast retrieval of clinical terminology, document persistence mechanisms, and the rendering and editing surface.

The system was implemented on Windows 95 and Windows NT 4.0 using Microsoft VC++ and COM technology. Documents were stored in a Sybase database for single-user setups, and in an Oracle database for multi-user systems.

1992 – 1995 Xerox PARC / Group Communications - Consultant

Member of small team which ported a large workgroup collaboration product from Unix to Windows 3.1 using MS VC++. I then implemented OLE 2.0 container/server support, and a Windows printer device driver to capture bitmaps from programs such as PowerPoint so they could be placed on the product's slides.

10/91 Personafile, Inc. - Consultant

Member of small team developing Personafile's Desktop Recruiter product on Windows 3.1. This product scanned resumes to text using OCR and stored them in a C-Tree database. We used PVCS for version control and the Microsoft C++ compiler.

10/89 Network Dimensions, Inc. - Consultant

Network management console under Windows 3.0: designed object-oriented backplane; designed and wrote pcode interpreter, windowed debugger, network communication layer in pcode and C.

2/86 Ashton-Tate - Senior Software Designer

Designed and implemented dBASE IV Template Language (and coathored book), performance profilers and debugging tools, and automated test bed system; made substantial contributions to dynamic loader; cleaned up configuration management of the dBASE code baseline.

10/85 Ashton-Tate - Consultant

Code review of dBase codebase; performed architectural planning; early advocate of object-oriented techniques and languages (Objective-C and C++); evaluated outside technology for acquisition; interviewed job candidates.

7/81 Pearlsoft, Inc. (Salem and Portland, OR)

Participated in design and implementation of Pearlsoft's CASE technology, later purchased by Ashton-Tate; its InSight, Personal Pearl and Pearl 3 products; and a typesetting program used to typeset all of Pearlsoft's manuals (which won an award from Xerox).

11/77 Lift Engineering and Manufacturing (Carson City, NV)

Wrote an interrupt-driven real-time program for Motorola 6800 based ski lift controller in assembly language, debugged using ICE. Wrote Fortran numerical analysis programs for ski lift engineering design; did mathematical derivation and proof of convergence of algorithm to solve catenary curve equation for ski lift cables.

7/76 University of Nevada, Reno, Seismology Laboratory

Designed and built a low-power field seismic event recorder controller (30 CMOS ICs), and playback interface for TI-810 minicomputer; small multitasking monitor, and playback/display/ upload program on top of the monitor, in TI-810 machine language.

EDUCATION:

University of Nevada, Reno: B.S. Mathematics 1974, plus one semester graduate study; minor in Electrical Engineering.

First Place Winner, Nevada State High School Mathematics Competition, 1967.