

Jeffrey S. Dutky

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Skills

Programming Languages

C/C++, Objective-C, Fortran, unix shell scripting (bash/ksh/awk), DCL, HTML, Java, SQL, Rational Rose Rt, Forté TOOL 4GL/Sun ONE UDS

Operating Environments

Linux/HP-UX/SCO Unixware/Sun Solaris/IRIX/LynxOS, X-Windows, Mac OS X/NeXTSTEP, OpenVMS, IBM z/OS, IBM DB2, Sybase, Oracle Rdb, Oracle 9i/10g, MySQL

Paradigms

On-Line Transaction Processing (OLTP), Object Oriented Design and Programming (OOD and OOP), Graphical User Interface (GUI) Programming, Unified Modeling Language (UML), Intelligent Transportation Systems (ITS), Electronic Toll Collection (ETC), Radio Frequency Identification (RFID), Real-Time and Embedded Systems

Employment

Senior Software Engineer, Blackstone Technology Group, San Francisco, California (July 2006 - present)

As a member of the IRS modernization product team I analyzed, maintained and extended various components of the CADE system written in C++ and running on an IBM z/OS mainframe. I evaluated and implemented new business rules in both C++ and in the custom XML rule language developed in-house. I participated in client meetings to clarify specifications and requirements and to explain operational issues.

Senior Systems Analyst, Management Systems Designers Inc., Fairfax, Virginia (Jan. 2006 - Mar. 2006)

Maintained and extended the generic processing system, written in C++, Perl and Sybase Transact SQL, for the EntrezGene database as a contractor to the National Institute of Computational Biology (NCBI) at the National Institutes of Health (NIH) in Bethesda, Maryland.

Software Engineer III, Bruhn-Newtech, Columbia, Maryland (Oct. 2005 - Jan. 2006)

Supported nuclear, biological, chemical and radiological threat assessment systems for various clients (U.S. Army, Navy and Marines) written in C++ on Microsoft Windows 2000 and XP.

- Performed hardware acceptance testing for the Nuclear, Biological and Chemical Reconnaissance Vehicle (NBCRV) project. Tested information system components (embedded mil-spec computers, serial-to-ethernet converters and ethernet switches) at the supplier's assembly site prior to shipment to the customer in Sweden.
- Analyzed and edited portions of the hardware specification for the NBCRV information system during hardware acceptance tests.
- Investigated malfunctions in the serial-to-ethernet converter used in the NBCRV project.

Software Engineer, Lockheed Martin IMS/ACS SLS, Rockville/Gaithersburg, Maryland (Jan. 2001 - Oct. 2005)

Designed, implemented and maintained software for intelligent transportation and electronic toll collection systems (ITS and ETC) in C, C++, Java, awk, ksh and DCL on OpenVMS, HP-UX, Linux and LynxOS systems using Oracle 9i, 10g and Rdb databases and Mark IV active RFID transponder systems.

- Designed, implemented and maintained a generic framework for transaction pre-processing in C and Oracle Rdb.
- Converted the generic transaction pre-processor framework to run on HP-UX and Oracle 9i/10g.
- Developed transaction pre-processors for New Jersey EZPass and California BATA based on the generic framework.
- Maintained and extended portions of the transaction processing and account maintenance systems for New York EZPass and South Carolina Palmetto Pass, Cross Island Parkway, using AWK and Forté TOOL/Sun ONE UDS.
- Researched and wrote a white paper detailing issues and techniques for converting the VECTOR toll processing system from OpenVMS to HP-UX, with concentration on C program portability and conversion of DCL command procedures to ksh scripts.
- Maintained and extended embedded real-time software in the New Jersey EZPass toll collection lanes written in Rational Rose RT and C++ on Linux and LynxOS systems.
- Designed and implemented a configurable transaction processing client written in Java.

Software Engineer, Data Foundation, Baltimore/Riverdale, Maryland (July 2000 - Oct. 2000)

As part of the initial design team for Data Foundation, analyzed, designed and implemented scheduling algorithms in C and C++ for the prototype of the company's flagship product, a Linux based hierarchic storage management system backed by a MySQL database.

- Designed and implemented scheduling algorithms and supporting database structures for Data Foundation's flagship product, a Linux based hierarchical storage management system, using C++ and MySQL.
- Redesigned the database interface layer to properly support queries with multiple return values.

Programmer/Analyst, RMS/Intellisource/ACS GSG, Lanham, Maryland (Feb. 1999 - July 2000)

As a contractor to the TSDIS project at the NASA Goddard Space Flight Center, maintained and extended the operations software for the science data information system of the Tropical Rainfall Measurement Mission. I served as the lead programmer for the ingest sub-system written in C, backed by a Sybase database.

- Maintained and extended various portions of the TRMM Science Data Information System at NASA Goddard Space Flight Center.
- Corrected flaws in the data ingest protocol software that interfaced with the Goddard DAAC and SDPF.

GLUE Lab Consultant, Engineering Dept., University of Maryland at College Park (Sept. 1997 - June 1998)

Evaluated software prior to installation on the GLUE unix workstations, and performed assorted system administration duties. Monitored the use and operation of the equipment and provided technical assistance to users in the GLUE labs.

- Investigated the use of message passing interface software (MPI and MPICH) to convert open lab workstations into a super computing cluster during off hours.
- Performed various system administration tasks including periodic backup and restoration using AMANDA (the Advanced Maryland Automated Network Disk Archiver) and daily system monitoring.

Senior Programmer, VisTech, Chantilly, Virginia (July 1995 - Jan. 1996)

As a FoxPro programmer, contracting to CDSI, maintained and extended the Department of Education's Direct Loan Servicing System loan origination and loan consolidation systems.

- Wrote a FoxPro module for the Department of Education's Direct Loan Servicing System (DLSS) using Windows Dynamic Data Exchange (DDE) to move files between IBM mainframes and PC Workstations.

Programmer/Analyst, AMCI, Rockville, Maryland (Sept. 1993 - July 1995)

Designed, analyzed, maintained, and extended programs written in C, C++, Fortran, and XBase languages for various federal and local government contracts.

- Modified the FDA's Electronic Inspection System (EIS) in preparation for delivery of the beta release. Redesigned and rewrote the telecommunications portions of the system to provide reliable file transfer over modem and direct serial connections.
- Modified the Navy's PC-based Programmed Manpower Authorization System (PC PMAS) in order to port it from version 5 to version 6 of the TCXL user interface library, and extended the report facility to support both 4 and 8 digit UIC data.
- Analyzed and redesigned the Army Model Improvement and Study Management Agency's (MISMA) MO-SAIC database in order to support the addition of verification, validation, and accreditation document database to the current Models and Simulation document database.
- Redesigned and rewrote the Navy's Fortran-based Strength Planning model (SPAN) as a Windows DLL, and incorporated it into a graphical interface.
- Provided user technical support and system configuration support to Montgomery County Public Schools Transportation division for their R:Base based Fuel Management System.

Hobby & Open Source Projects (available at <http://members.BellAtlantic.net/~dutky>)

- Wrote turner, a program that converts C, C++, or Java source code into syntax highlighted HTML.
- Developed an in-memory logging facility, mlog, to allow post-failure diagnosis of production codes without slowing down the production code, due to file access overhead, or filling the disk with verbose log files. The mlog facility is able to keep adequate log information in only a few kilobytes of buffer memory. The buffer may be dumped to a log file on disk when an error condition is detected or examined in the core-dump if the program terminates unexpectedly.
- Developed a C-based abstract GUI library, stdgui, and widget set similar to Motif or GTK+ in order to support other projects targeted at Linux and X Windows. The library includes a set of simple widgets (buttons, scrollbars, text fields, etc.), portable drawing routines, an automatic widget layout engine and image (pixel images) and picture (serialized drawing operations) support. Widgets may be added to the library as loadable object modules (plugins). The stdgui library is still under active development.
- Wrote a utility to generate MIME encoded email attachments as specified by RFC 2045.

Education

Undergraduate studies in Computer Science, University of Maryland at College Park

- Organization of Programming Languages
- Operating System Theory and Design
- Advanced Computer Architecture
- Advanced Data Structures
- Computer Organization
- Numerical Analysis

Associate studies, Montgomery County Community College, Rockville & Takoma Park

- Physics I, II & III (Mechanics, Electricity & Magnetism, Optics & Modern Physics)
- Calculus I & II, Multivariable Calculus, Linear Algebra, & Differential Equations
- Scientific and Engineering Computation (Fortran and Numerical Methods)
- Database Management Systems: Theory and Design
- Object Oriented Programming with C++
- Assembly Language Programming

Graduate studies, N.I.H. Foundation for Advanced Education in the Sciences, Bethesda, Maryland

- Introduction to C Programming

Professional Training & Certification

- SGI Linux University 1999: Assorted Seminars and Exhibition
- Sun Training: Intermediate Forté Application Development
- Construx Training: Real World Software Testing
- JAI PULNiX EN-Camera Training: Programming and Setup