David M. Perkins

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A specialist in problem understanding and hands-on solution development combines the skills of technologist, businessman, and manager to produce real solutions to real problems using real people while achieving schedule and budget objectives.

Skill Summary

Roles:
Adept as a leader or key contributor in any of the following roles:

Project Engineer / Team Leader / Architect – maximizes value of software development activities applying processes to improve performance.
Systems Engineer / Domain Expert – works with customers to define system behavior and communicates required functionality to developers.
Software Developer / Business Analyst – emphasizes working smart to produce high quality software and documentation.
Quality Assurance / Test – experienced with planning and executing testing of mission & safety critical systems.

Business Area Experience:
Commercial, Government Agency and DOD clients, Real-time systems (data acquisition, data analysis, data routing), Command and Control (UAV/UAS & UGV unmanned vehicles, satellites, missile fire control) , Geographical Information Systems (GIS), Parallel Processing, Voice Network Routing, Avionic Displays, Intelligent Agent, Business Intelligence (Medical Healthcare and Travel), Call Center and CRM (Travel industry), Supply Chain Collaboration, eCommerce, Knowledge Management, Artificial Intelligence (AI)

Methodologies:
Experienced in Full Life Cycle of system development including User Interface Analysis, System Design, Software Implementation, System Integration and Test, Configuration Management, Site Installation, and User Training. Primary author of entire life cycle of documentation (MIL STD 1703 / 498) including: Requirements Specifications, System Design Documents, Test Plans and Procedures, System Users Manuals, and Maintenance Manuals.
DO-178B, Software Considerations in Airborne Systems and Equipment Certification (2 yrs)
Unified Process (RUP) (5 yrs), Agile / Extreme (2 yrs), OOA/OOD (5 yrs), ISO 9000 (4 yrs), CMM (5 yrs)

Software/Hardware:
C++ (9 yrs), Java (5 yrs.), C (10 yrs.), C# (1 yr), FORTRAN (10 yrs.), TAL (3 yrs.), MS Visual C++, HTML (2 yrs.), CSS (2 yrs.), Javascript (1 yr.), PHP (3.0 yrs.), SQL Databases(1.5 yrs)(mySQL, Oracle, Sybase), J2EE / Java Bean (1 yr.), JSP (1yr.), CORBA, Web Services (BEA Weblogic Workshop), networking (10 yrs.)(TCP/IP, UDP), XML/XSLT/DTD (1.5 yrs), Rational Rose, Rational Clearcase, Rational Clearquest, Rational Purify, RCS/CVS, Subversion, MS Office, MS Project, MS Visio, UNIX (Solaris, Irix, Linux), Windows (NT,2000,XP), RTOS (Lynx), Digital VMS, Apache, Artificial Intelligence, X-Windows / Motif (6 yrs), Gallium InterMAPhics 3D GIS, Luciad Map GIS, SOSCOE

Security Clearances:
DoD Secret clearance currently active

Education
B. S. Electrical Engineering Georgia Institute of Technology

References
References are available upon request. See professional credentials site http://www.perkinstech.net for testimonials.

Professional Experience

SAIC   **April 2010 – Present**

Huntsville, AL. SAIC is a provider of scientific, engineering, systems integration and technical services and products to all branches of the U.S. military.

Senior Software Engineer
- Army Brigade Combat Team Modernization (BCTM) - (4/2010-Present) – Developing command and control software for the unmanned ground vehicle (UGV) Mule. Developing message routing, processing, and validation for both the controller and vehicle platform using SOSCOE.

Raytheon   **January 2004 – April 2010**
Warfighter Protection Center in Huntsville, AL. Develop software used in Command and Control systems for Air Mission Planning and Missile Defense..

Principal Software Engineer
- ACCS Program - (9/2007-Present) - Huntsville GIS team responsible for the Geographical Information System portion of the Airspace Command and Control System (ACCS) for NATO.
    - o Team leader for the GIS Map Data Management (MDM) component of the ACCS system. The GIS subsystem is developed in Java using the Luciad map product. The MDM component is responsible for building mission specific geographical data sets.
    - o Analyzed GIS performance issues.
    - o Designed a Find Capability for objects on the GIS.
    - o PTR (Program Trouble Report) Czar for GIS responsible for assessment and tasking of PTR work.
    - o Software Engineer responsible for feature implementation and problem resolutions.
- JLENS Program - (6/2007 – 9/2007)– Tethered surveillance system. Supported simulation and test system.
    - o Upgraded simulation software to new Visual Studio version and upgraded vendor software.
    - o Identified updates needed to port simulation system from solaris to linux.
- THAAD Program – (1/2004-9/2007) supported Operator System Interface IPT for the Fire Control System.
    - o Team leader for the Map Situational Display sub-domain of the Operator Systems Interface (OSI) IPT. The Map Situational Display supports THAAD Fire Control force operations battle planning and engagement operations.
    - o Domain expert for OSI IPT assisting with the development of requirements, design architecture, and alternative implementation analysis.
    - o Created a windows based development environment complete with configuration management, bug tracker, and distributed team development approach. The windows prototype code is periodically delivered to the Unix host environment for final integration and test. This multiplatform approach has yielded a 4X improvement in productivity.
    - o Designed and implemented the situational awareness map displays for THAAD Fire Control. This situational awareness subsystem provides both 2D and 3D views. Application consists of approximately 150 C++ classes and over 30K lines of code. The application uses an XML data file to configure the visual attributes such as color, shape, and symbol.
    - o Designed an XML file based message simulation system to replace hard coded test drivers. Redesigned symbology to comply with Mil-Standard 1477.
    - o Worked with vendor to enhance 3D objects to meet required capabilities. Supervised engineering services contract with vendor to define new APIs and capabilities that were added to the Gallium InterMAPhics product. These capabilities were essential to meeting project requirements.
- Raytheon Subject Matter Expert (SME)
    - o Co-authored and instructor of a Software Unit Test course. Developed presentation material and lab exercises.

COBRO (contractor for Engineering Services Group)　　　　　**September 2003 – December 2003**
　　　Huntsville, AL. Developer of logistics software for army helicopters.

Designer Team Lead

Tasked with developing software design documentation for the Special Operations Aviation Maintenance Support System (SOAMSS). SOAMSS currently implemented in Visual Basic 6 and ASP is being upgraded for deployment in .NET.

Web Astute and Web Astute Hosting　　　　　　　　　　　　**2002 – 2003**
　　　Family owned small business, originally a print publication business serving the educational market, shifted to a graphics consultant and then to a web development business.

Multi-tier Web Developer

Design and implement multi-tiered dynamic content web site framework using PHP server-side scripting and MySQL databases. Create customized websites targeted at non-profit organizations and small businesses. Configure Web Hosting reseller system to provide one-stop shopping for clients needing web design and web hosting.

Applied Systems Intelligence　　　　　　　　　　　　　　　**1997 – 2001**
　　　A provider of artificial intelligence agent technology and knowledgebase products. Business product lines include eCommerce, supply chain, business analysis (medical), and unmanned vehicles. Approximately 38 employees with an engineering staff of 20.

Chief Engineer, Project Manager, and Project Architect

- Project Architect for 10 projects over a four-year period for commercial and aerospace customers. Instilled a "product quality" development approach in place of previous unstructured approach.
- Leader of company flagship project, a $3M multiyear project with Boeing to develop an intelligent command and control system for Unmanned Combat Air Vehicles (UCAV). Established joint objectives with Boeing and Air Force. Project developed using an iterative RUP methodology. Mission management and reactive planning were key objectives of ground based intelligent planner.
- Architect and leader of Intelligent Control of Autonomous Vehicles (ICAV) project, the most comprehensive system developed by ASI and the key compelling demonstration of company technology for marketing. Applied Agile (Extreme) development methods. Key technologies included adaptive communications, resource management, and target allocation algorithms. This architecture utilized distributed intelligent agents located on each aircraft and in the ground control position. Conducted manned evaluation to evaluate man and intelligent agent interaction.
- Designed and implemented algorithms for collision avoidance, information management of GUI displays, aircraft formation route planning, and inventory management using C++ and Java. These algorithms were embedded within the ASI Associate System Architect which utilizes a graphical tree representation of plans, goals, and actions, and an informational tree of concept facts.
- Designed, implemented, and tested embedded real-time "Moving Map" avionics display (GIS). Implementation was in C++ using Lynx RTOS and X-Windows. Leader of FAA Qualification effort using a tailored Unified Process.
- Program Manager and Chief Architect for a Call Center and CRM intelligent agent prototype. This prototype system completed in just 90 days, used XML and XSL for the data structures. Evaluated application server environments. Project focused on revenue management under multiple resource constraints.
- Technical consultant for a supply chain collaboration (SCM) system and business intelligence (BI) system. These systems utilize multi-tier web architectures (J2EE) with an embedded intelligent agent. Used HTML, JSP, Palm application, Oracle / Sybase / SQL Server databases, and Java bean technology.
- Chief Engineer – Organized a quarterly "core technology" release cycle. Identified and prioritized features to support emerging projects, marketing initiatives, and development efficiencies. Performed technology assessment of tools and technologies to identify value to organization. Created customer technical briefings and managed the development of conceptual prototypes. Created and taught customer courses and technology briefings. Wrote proposals, performed cost estimation, and negotiated scope of projects.
- Engineering Process - Initiated use of UML (Rational Rose) and Knowledge representation diagrams for system behavior analysis and design. Instituted development process for large scale (RUP), and small scale (Agile / Extreme Method) software development processes including Requirements Traceability, Configuration Management, Quality Assurance, and Documentation Management. (FAA certified, ISO9000 based)

Mantech Real-time System Labs   **1995 - 1997**
> *A startup division of Mantech International that specializes in development and installation of advanced signal processing systems for the Department of Defense. Generated $2.5M in first year sales with 10 employees.*

Co-Founder and Senior Systems Engineer

- Developed an X Windows/Motif based signal analysis system. This project required the addition of new functionality to an existing system as well as the development of new independent capabilities.

- Implemented, a real-time embedded (VME) DSP radar processing system.

- Wrote multi-level correlator to find frame synchronization pattern in high noise environment.

Loral Data Systems   **1988 – 1995**
> *The Signal Processing Systems Group of approximate 150 employees provided key telemetry signal processing technology to the Department of Defense. Loral Data Systems is now part of L3 Communications.*

Project Engineer / Project Manager

Technical Leader for six different systems ranging from a remotely deployable embedded signal processing system to a worldwide command and control system. Responsible for design, development, deployment, and training for over fifteen installations. Recognized for exceptional cost/performance productivity techniques (increased profit margin from 10% to 25%) and for an innovative auto-adaptive networked (TCP/IP and UDP) control interface design. Key contributor as writer, cost estimator and critical reviewer to proposals and white papers, which resulted in continuing customer business.

- Designed an embedded DSP / VME based data acquisition system controlled from a workstation using an operator-oriented graphical user interface.

- Designed and implemented a specialized network interface in 4 months.

- Managed the simultaneous development of two systems using a pooled project staff of junior engineers. Both projects presented significant technical "firsts" and schedule challenges. By utilizing innovative technical and managerial approaches the project staff delivered superior products, on schedule and under budget.

- Key contributor to the development and integration of an external site interface of a fully remotely deployable system. Participated in the installation as the only on-site software engineer providing both software support and maintenance training.

Harris Corp. - Information Systems Division   **1982 – 1988**
> *The Information Systems Division of approximately 1000 employees provides information technology systems to the Department of Defense Intelligence community.*

Lead Systems Test Engineer / Quality Assurance / Simulation

- Test Manager responsible for a one million dollar test budget to integrate and test a communication demodulation system composed of 40 racks of equipment and over 100 thousand lines of code. Supervised writing of over 2000 pages of software integration and system test procedures.

- Design consultant for an imagery enhancement system. Identified system architecture modifications and algorithm verification techniques to provide a quantitative measure of image enhancement.

- Lead Integration Engineer for a fault tolerant signal routing system of over 80 thousand lines of software. Wrote the System Integration and Test Plan and Procedures and executed the procedures integrating the software system. A major contributor to the System Development Test and Evaluation Procedures and Shift Leader during factory and site acceptance testing. This test program provided the model for future test programs

Loral Display Systems, Atlanta   **1980 – 1982**
> *This 120-employee division provided state of the art display systems for the aviation community. Loral Displays is now a part of L3 Communications.*

Lead Software Engineer / Simulation

Implemented over 40 thousand lines of software for an airborne warning and control system for the German Navy and Royal Air Force. Designed and developed a simulation of the aircraft command and tactical systems and a simulator of radar detector interfaces to the AWACS system. Cited for exceptional skill in training of system maintainers and users.