

# Daryl O. Lee

## Objective

To apply experience in software engineering and project management to develop products and systems that change the world.

### **2011-2013: Lecturer III, University of New Mexico, ECE Dept.**

Dr. Lee teaches several undergraduate courses in the Computer Engineering curriculum of the Department of Electrical and Computer Engineering at UNM. His specialty is software-related courses. Since joining the faculty he is the lead instructor in the Fundamentals of Programming course, one of the “gateway” courses in the curriculum. In addition, he teaches in the areas of intermediate programming, integrated systems, and software design.

### **2004-2011: Principal Software Engineer, Novint Technologies, Inc.**

Novint introduced the first consumer priced device capable of providing high quality haptic feedback. (Haptics is the use of forces to provide realistic touch sensation in a virtual reality experience.) As Principal Software Engineer, I was responsible for the firmware resident on the device and the host-side low level run time library that transformed from the application programming interface (API) through the USB communications subsystem to the onboard DSP chip that served as the controller for the device, as well as two PIC controllers. The host side software used sophisticated multi-threading techniques to achieve a 1000 Hz sampling interval, pushing the limits of the Windows operating system.

To achieve this level of integration, I used a variety of development environments, ranging from Visual Studio 6 through Visual Studio 2005, the Windows Driver Development Kit, and two separate firmware development environments: Code Composer for the DSP processor and MPLab for the two PIC controllers. These components used C++ and C as the programming languages.

In addition to the low level code, I also maintained and built applications. One used a haptic device to explore an oil field data set as a means of providing three simultaneous 3D data “visualization”: one datum each via visual (color), hearing (sound frequency) and haptics (viscosity) as the 3D probe navigated through the data field. My most recent application was a simulation of the sensation of giving an injection in a knee or shoulder joint.

When the company’s operations were suspended for financial reasons, I continued as a contractor, developing a Windows driver application of the Falcon, and doing the firmware for a four-degree-of-freedom (4DOF) grip for a medical training simulation, and porting the runtime support library to a Linux environment for an explosives robot application.

### **2000-2004: Technical Project Manager and Software Engineer, VisionAIR, Inc.**

VisionAIR produces an integrated suite of software products for the public safety market, primarily police and sheriff’s departments. I served as Manager of Mobile Enabled Systems,

responsible for the products that constituted 60% of the company's revenue. In this capacity, I provided guidance to software development staff in the area of engineering best practices and specific software tools and techniques. I developed system architecture, development processes and standards, and directed distributed project team using a variety of Internet-based tools.

After a company downsizing, I was asked to continue as senior software engineer responsible for maintenance and enhancement of the software resident on mobile units providing real time access to NCIC databases and data-based dispatching services.

Prior to the Mobile experience, I led the full life cycle development of a multi-platform (Unix, Windows) J2EE/XML-based message service applicable to global-scaled service dispatching clients. The technologies used in this position included BEA Weblogic and JBoss application servers, ClearCase and CVS version control systems, and a variety of development assistance tools, such as CruiseControl to automate the system build process.

#### **1999-2000 VEPortals – Product Manager**

VEPortals managed complex US Army and DOE projects integrating product data, manufacturing workflow, and requirements management. Web Information Manager (WIM) provided integration to MS Project combined with Object Database management to provide browser-based centralized control of all project-related data objects. The underlying technology provided the inspiration for the founder's current product family, knowledgeBin. Served as primary author of test plan, documentation, and client support. After leaving for VisionAIR I had an ongoing relationship with knowledgeBin, providing consulting services in the area of usability and multiplatform capability.

#### **1985-1999 Electronic Data Systems, Product Manager**

EDS is a global systems integrator headquartered in Dallas, Texas. I directed implementation of an asset management system for EDS' second largest customer, BellSouth IT Operations. Coordinated business analysts, trainers, and technical support staff and developed data transfer interfaces with legacy customer data systems. This was a Unix, C++ development activity.

I was featured speaker on a national and European EDS tour promoting emerging technologies, with my topic being the role of Unix in a mainframe business. I was selected by executive management to introduce an Activity Based Management system into their IT operations unit, a \$1 Billion per year enterprise.

#### **1984-1985 DSC Communications, Software Engineer.**

DSC Communications was a major provider of digital telephone switching equipment at the Class I level (PBX-like). As a software engineering contractor, I provided software development services using the DEC VMS development system and the proprietary OS used on the switch. The work was done using C and Z8000 macro assembler language. During that time, I developed an emulator for a key element of the switch OS that reduced the development time for the human interface components by about 50%. The emulator was used for several years after his departure to show entry-level programmers what good code looked like.

#### **1979-1984 Micronyx, Inc., Department Manager**

I developed and led the development of a variety of unique systems, including a wireless data communications system for towboats on the Ohio river; a multi-currency vending machine controller, and a multi-protocol communications subsystem.

**1968-1979 Texas Instruments, Electronics Engineer**

I designed the original inertial reference system for HARM missile and performed system integration in Flight Simulation Laboratory

**Education**

1979	Southern Methodist University Ph.D. Electrical Engineering	Dallas, Texas
1984	University of Texas at Dallas MA, International Management Studies	Dallas, Texas

**Military**

1969-1972 US Army, White House Communications, SP-E5

**Technology Matrix**

UNIX/C/C++	27 yrs	HTML/CGI/CVS	5 yrs
OOA/OOD	7 yrs	Javascript, DHTML	5 yrs
Project Mgnt	20 yrs	MSProject	10 yrs
IIS/Netscape/ NT-UNIX/Apache	5 yrs	Java, CORBA, UML, XML, Perl/modPerl	4 yrs
PHP, templates	3 yrs	MySQL, Access	5 yrs
J2EE, JSP, JDBC	3 yrs	Weblogic/Tomcat/JUnit/JBoss	3 yrs