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# Jeffrey David Travis

## Summary

Over 16 years of experience in software engineering and development for custom instrumentation, automated test systems, and system integration. I am the author of two software engineering textbooks on LabVIEW, [\*Internet Applications in LabVIEW\*](#) and [\*LabVIEW For Everyone\*](#), a best-selling book now in its 3<sup>rd</sup> edition from Prentice-Hall.

Currently working as an expert-level consultant for LabVIEW programming and Internet technology software (web services, PHP, ASP .NET, SQL, client-server systems, TCP/IP). My experience includes on-site consulting for many Fortune 500 companies, as well as prior management experience leading small teams of engineers.

I work best in a creative environment, where my ability to communicate with and coordinate projects between highly diverse participants (business, technical, and strategic) is considered an asset.

## Skill Keywords

**Programming languages:** LabVIEW, Java, C, C++, Objective-C, UML, Perl, Visual Basic, ActiveX, LabWindows, Pascal, Fortran

**Internet technologies:** Web programming, HTML, DHTML, XML, CSS, AJAX, Javascript, PHP, SQL, ASP .NET, Perl, CGI, TCP/IP, streaming video/audio, functional design, user interface design.

**Environments:** LabVIEW, Rational Rose, Adobe Flash MX, Adobe Photoshop, Microsoft Visual Studio .NET, Windows, MacOS X, Linux.

**Engineering:** Electrical engineering, Video processing, Biomedical instrumentation systems, analog and digital circuit design, DSP, signal analysis, wavelet analysis, stochastic processes, acoustics, bio-acoustics. Data acquisition systems and hardware, GPIB, RS-232, VXI, National Instruments products, sensors.

## Experience

Jan. 2000–present                      **JTS**                      Austin, TX  
**Owner/Consultant**

As owner of JTS (Jeffrey Travis Studios), I provide expert-level development mainly for custom test & measurement software systems and hardware integration. Clients include **General Electric (GE)**, **Chevron-Texaco**, **John Deere3M**, **Honeywell-Tensor**, **Ingersoll-Rand**, **South African Large Telescope (SALT)**, **National Instruments**, and numerous medium and small firms.

A few sample projects include:

- **Chevron – Design, Development and System Integration of an engine automotive test system.** I designed the data acquisition system and wrote the software (using LabVIEW, SQL, Access) to provide a standalone test system for gathering massive data sets on engine cylinder performance. The system runs 24/7 for 500 hours at a time or longer.
- **John Deere - Software and Hardware development and integration of a Gator “Be The Engine” Simulator.** For this project, done in conjunction with Chevron-Oronite, I was responsible for leading a team of engineers to develop several a

showcase tradeshow displays, including a Gator and Tractor Simulator that integrated a real John Deere tractor for attendees to sit on while they “drove” it through a videogame simulation. Using a closed-loop control system, users would experience the mechanical effects of various oils. Combining the marketing appeal of a Disney ride with sophisticated hardware systems, we used LabVIEW to program the control system, Unity-3D to write the animation fly-through, integrated the hardware system, and did extensive testing.

- **Premise USA – LabVIEW and SQL Developer for an IT Healthcare system.** For several years, I have provided technical consulting to Premise USA to develop and support their healthcare flagship product, the Bed Management System (BMS). BMS is used by hospitals nationwide to optimize and realize efficiencies in patient inflows and outflows. I architected part of their security system in LabVIEW, and worked extensively with MS SQL Server to help develop portions of the code.
- **GE Energy - Design and Development of an enterprise-wide test system used for calibrating oil-drilling tools.** For the world’s largest supplier of oil drilling tools, I designed the architecture and GUI for a networked calibration software (LabVIEW, C++, and SQL Server) that calibrated the client’s hardware tools before shipping. This efficient software system runs 24/7 on over fifteen calibration stations. It replaced their legacy calibration software, increasing yield by 270% and providing a cost savings of over \$2 million/year.
- **CIU - Design and Development of a Video-Recognition Fruit Sorter.** For a client in Mexico, I designed and developed a software system that sorted fruit (such as lemons), using a video acquisition platform (NI-Vision) and LabVIEW. The system incorporated five video cameras reading 140 lemons per second and sorting them by size, color, and weight in real-time. The system allowed the client to move from a proprietary closed system to an open, scalable system that saves them over \$100,000 per installation.
- **Successful development of a commercial graphics software product.** I was responsible for the entire development of a six-figure project that involved porting a professional graphics software product, *Asiva® Photo*, to the Windows environment (from the MacOS). I hired and managed the team of three software engineers that delivered the finished product ahead of schedule. Development was done in C and C++ in the MS Visual Studio and Metrowerks Codewarrior.
- **Development of a web-based training system.** I designed, developed and maintained a web-based training course for legal firms, for the WJF Institute. The system included graphic design, database design (mySQL) and programming (PHP). The web-based system replaced a tedious and costly paper-based system.
- **Large enterprise bed and patient management system.** I helped design (using UML and Rational Rose) the architecture for a client’s commercial bed management system that streamlines patient and bed management at hospitals. I was part of development team for GUI interfaces and database access (using MS SQL Server and ADO).
- **Network architecture and software requirements consulting.** For the South African Large Telescope (SALT) project, I provided consulting and expert advice on the communications and architecture for the telescope control system, a distributed LabVIEW-based system running Linux.
- **Initiated and created an open source tools set for the LabVIEW community,** OpenG, now known as the LOST (LabVIEW Open Source Tools) project.

Collaborated with other developers to create products like LabVNC (remote Java-based web control), LabSQL (database access) and LabPerl (LabVIEW-Perl connectivity)

- **Film director and writer.** On the side, as an award-winning filmmaker, I write and direct short films that are have been showcased at film festivals around the country. See <http://burningmyth.com>

Jan. 1999–March 2000      **Compuware Corp.**      Austin, TX

**Director of Engineering**

- Was hired to launch an Austin, Texas branch and build a consulting and engineering group that focuses on instrumentation projects, e-business applications, and web development. As part of the management team, I helped grow the branch from 3 people to over 60 people and over \$6 million in revenue in only 15 months. We started the branch with zero customers and achieved profitability (with over 30% gross margin) in only 9 months.
- Used a team-based approach to recruit top technical talent and maintain a high retention rate. For one large client project, successfully helped recruit an e-commerce team of 30 professionals in seven days.
- Authored *Internet Applications in LabVIEW* (2000, Prentice-Hall), the first textbook on applying Internet technologies to virtual instrumentation.
- Developed coding and project deployment standards among the engineering group to provide measurable procedures and processes for fixed-price projects.
- Responsible for project management and development on numerous customer software projects.

1997– Dec. 1998      **Nacimiento Software Corp.**      Austin, TX

**CEO and Co-Founder**

- Launched software company to create a product that integrates instrumentation systems and remote Internet access.
- Created and developed AppletVIEW™, a commercial product now sold worldwide. AppletVIEW is Java toolkit for LabVIEW instrumentation.
- Engaged in sales, marketing and advertising for the company.
- Developed enterprise-level custom Web and Internet applications for businesses, mostly for medical institutions.
- Developed customized system integration and instrumentation systems using LabVIEW and data acquisition hardware.
- Streamlined business process to increase gross revenues 240% in first year.

1995-1997      **VI Technology**      Austin, TX

**Project Manager and Systems Engineer**

- Responsible for initiating, designing, and managing system integration contracts. Managed team of five engineers.
- Authored the textbook *LabVIEW For Everyone* published by Prentice-Hall.

- Developed custom software using LabVIEW and integrated data acquisition and instrumentation hardware systems, including analog and digital systems, GPIB, RS-232, VXI, SCXI.
- Completed functional systems for opto-electronic, semiconductor, biomedical, process control, and virtual reality systems.
- Successfully recruited and managed 75% of the company's workforce.
- Responsibilities also included being the Windows NT System Administrator and Webmaster.

1995 **National Instruments** Austin, TX

**Hardware Engineer (Summer Intern)**

- Designed and prototyped a plug-in analog-output card (PCI-AO-10).
- Troubleshooted customer problems with DAQ cards.
- Performed comparative analyses for building new cards.

1993–1995 **Applied Research Laboratories** Austin, TX

**Research Engineer Assistant**

- Designed and managed an automated system to experiment with human responses to vibration. Technical tasks included integrating LabVIEW software, DAQ cards, DSP programming, signal processing and analysis to run 2-interval forced-choice (2IFC) psychoacoustic experiments.
- Conducted thesis research involving using the wavelet transforms to perform pattern detection and signature validation of otoacoustic emissions (bio-acoustic signals). Used LabVIEW and Matlab to write custom signal processing algorithms.

**Education**

1993–1995 **University of Texas at Austin** **GPA: 4.0**

- Master of Science in Engineering
- Specialty: Electrical Engineering

1990-1993 **University of Texas at Austin** GPA: 3.6

- Bachelor of Science in Electrical Engineering, with honors

1989 **Instituto Tecnológico de Buenos Aires**

- First year of Electrical Engineering

**Publications**

*LabVIEW for Everyone*, 3<sup>rd</sup> ed, Pearson, 2008 (book). The best-selling textbook on learning the LabVIEW programming language from National Instruments, now in its second edition. Adopted by many universities as required text in engineering courses.

*Internet Applications in LabVIEW*, Prentice-Hall, 2000 (book). The first-ever guide to developing and managing virtual instrumentation systems on the Internet.

*LabVIEW Internet Applications Course*, Jeffrey Travis, 2000 (course kit). A course adapted from the previous book.

"An Open Invitation: Open Source Software in LabVIEW", *LabVIEW Technical Resource*, vol. 9, no. 1, 2001.

"Control LabVIEW over the Web", *LabVIEW Technical Resource*, vol.6, no. 2, 1998. (Received award from LTR for "Best Article in 1998")

"Using Java Applets to Remotely Control DC-Servo Dynamometers" (with Farhan Shah), *NIWeek 98 Proceedings*

"LabVIEW-Controlled Next-Generation Gas Delivery System for Semiconductor Manufacturers", *National Instruments Instrumentation Newsletter*, Summer 1996

*The Wavelet-Transform as a Tool for Studying Otoacoustic Emissions*, Univ. of Texas Press, 1995 (Master's Thesis)

"Wavelet-Like Analysis of Transient-Evoked Otoacoustic Emissions," *Biomedical Sciences Instrumentation*, Vol. 30, 1994

**Interests**

Independent film producer and director  
Church ministry with small groups  
Classical guitar degree from Schnabel Conservatory (City Bell, Argentina)  
Writing  
Literature  
Mountain biking

**Languages**

English (native speaker), Spanish (native speaker), French