

John Wisniewski

President, Winc Research
10607 Foothill Blvd.
Lake View Terrace, CA 91342-6819

Office: (818) 899-3922
Fax: (818) 899-2701
sales@wincresearch.com

Security Clearance:

Secret—Active

Education

B.A. Computer Science, SUNY Potsdam, NY 1976

General

Will take on challenging work others avoid. Winc Research has a broad base of experience, with a deep understanding of the individual development issues. Winc Research is always interested in new areas of study. Winc Research is committed to thorough, detailed, exacting standards of project development.

Skill Set

Assembler/Binary/Firmware/Core Dump Analysis	C++ and C, Java, Basic, FORTRAN, PL-1, and others
Software Development Methodology	Middle-lower management; Technical lead
Training & Instruction	SQL, SQL Server, Access and general DB
Technical Writing	Signal processing and recording
Machine Tools (Mill, Lathe, Manufacturing)	Military, Commercial, Scientific and Entrepreneurial Environments
Use of electronic test and production devices such as oscilloscopes, emulator, logic analyzer, spectrum analyzer, PROM programmers	Reverse Engineering of code and systems
Software and product configuration management, problem tracking and problem resolution	Electrical and Mechanical Assembly
Intel, Motorola, Phillips, Modcomp, Atmel processors; Texas Instruments DSPs	Expert court witness

Client, Work and Project History

AMP Monolithic Controller, Solid State Variable Frequency Converter, DDG Degausser (L-3 Communications Power Systems Group 2008 - present) L-3 PSG produces devices to produce AC and DC power aboard nuclear submarines and aircraft carriers, to exacting development specifications (SS-498) from the Navy. Analyzed and produced specifications documents, and coded software for the above systems. Designed and implemented a transaction-based power controller using TCP and UDP sockets, RS232 and RS485 serial connections, Modbus protocol, and .NET framework version 3.5, merging managed and unmanaged code systems. L-3 PSG is unusual in that Digital Spectrum Processors (DSP) are used instead of microcontrollers/microprocessors in these embedded systems.

Languages, Tools & Platforms: Windows development environment, Visual Studio (C/C++) IDE, Texas Instruments C6713 DSP; Texas Instruments Code Composer; "Understand for C++"

Expert Witness on Software Development, *State vs. Chun* (2007) produced report on software condition and reliability for testimony in *State vs. Chun*, a special master's hearing in New Jersey held to provide information for eventual ruling by the New Jersey State Supreme Court regarding use of the Drager Safety Diagnostic's Alcotest 7110 Mk III breath alcohol testing machine. The client was Base One Technologies, New Rochelle, NY. Analyzed/reverse engineered ninety-five source modules in C and 68HC11 assembly language; over 45,000 lines of code. Rebuilt object code from candidate source code, and through analysis tools such as lint, found 19,465 defects in the source, and also found nine serious errors, and described another eleven potentially serious errors.

Languages, Tools & Platforms: Windows development environment, Visual Studio (C/C++) IDE, IAR 8051 development suite, "Understand for C++", lint analysis tools

Web Site: Weaver's Cottage & Redfish Dye Works (2006-present) supervised migration from private ISP to Time-Warner. Designed and implemented their web sites including shopping cart system for Redfish Dye Works. Client is a fiber-arts institution in Canyon Country, CA.

Languages, Tools & Platforms: HTML, Perl, CGI processing, Front Page, Visual Studio

Commander's Tactical Terminal (CTT) and Joint Tactical Terminal (JTT) (US Marine Corps and Contractors 1998-2007) are two related radio receivers that process military intelligence from satellite broadcasts. The software controls and configures the receivers, and then processes the binary information into text-readable messages on the fly. The software then forwards the data over an Ethernet network to other computers for analysis. This software provides filtering of data, and multiple format conversion simultaneously.

Languages, Tools & Platforms: NetBeans IDE, Java, Sun Visual GUI development system, Visual Studio, Solaris operating system, Linux operating system, Windows operating system, SCCS CM system on Solaris, SourceSafe on Windows.

LaundriMate (Winc Research 1996-2006) laundry monitoring product receiving three US patents. Winc Research did all of the hardware design, searched for suitable voices, recorded the phrases and word fragments in three languages, and developed the sensor system for the appliances. Development of this device/product included obtaining FCC approval for Part 68 (Winc produces its own modems) and Part 15 residential emission interference standards. Winc Research is the only manufacturer, and over one thousand units have been shipped and installed in the United States (over 30 states) and Canada since January 1998. Once installed, no units have ever been returned for repair. A major upgrade in 2005 allowed for Internet and e-mail monitoring of the machines, in combination with telephone voice prompts. For a demo, call 310-391-7306, or on the Internet, <http://www.laundryalert.com>, then enter the password "stan9568".

Languages, Tools & Platforms: Windows, Dallas 80C320 assembly language, Keil/Franklin development suite, client/server/TCP-IP technology, Public Telephone System protocols, modem protocols, serial device drivers for Windows and 80C320 device, Front Page, C/Perl CGI programs.

MedScale (Winc Research 2002-2003) is a medical monitoring device for Congestive Heart Failure patients. The device is in the beta-test stage, with four prototypes completed. The device will report daily patient weights as a first indicator of condition changes in congestive heart failure patients. Using technology leveraged from LaundriMate, the device will input data into a remote server and provide analysis tools for cardiologists. Winc Research is developing the server software, including the telephony receiving the equipment, and developing the case, hardware and embedded software for the medical device.

Languages, Tools & Platforms: MS-DOS and Windows environments. Visual Studio, C/C++, device drivers, modem and serial device protocols.

Infinity Cataract Surgery machine (Medical Technical Products 2000-present) is a device using ultrasound to remove the lens of the eye for treatment for cataracts. Winc Research designed and implemented the SVGA graphics elements (sprites) with TFT touch screen and mouse interface, operating in a MS-DOS-like environment, as well as all of the functional and operational software for the device.

Languages, Tools & Platforms: MS-DOS and Windows environments. Visual Studio, C/C++, device drivers, modem and serial device protocols.

SS-2 Surveillance system (US Marine Corps and California Microwave 2000-2002) is a small portable embedded NT Server system for radio signal interception (intelligence surveillance work), based on PC-104 CPUs and peripherals. Winc Research provided software, electrical assembly and testing/verification services.

Languages, Tools & Platforms: Windows NT environment.

Advanced Mission Planning Software (US Marine Corps, Army Special Forces, California Microwave 1998-2002) is a system to allow better mission planning and communication over an Intranet/Internet, using either the Netscape or Internet Explorer browsers. While the system was primarily coded in HTML, it needed Common Gateway Interface (CGI) modules coded in C++ and using ODBC database interfaces, to maintain security. Winc Research designed, coded tested and delivered this portion of the system, as well as tested the HTML scripting.

SCSM system (US Marine Corps, California Microwave 1998-2002) Reverse-engineered SIGINT Common Sensor Module (SCSM) software from Digital Access Corporation, a collection of DCOM servers and clients to perform signal intelligence communication and acquisition. After the reverse engineering phase, Winc Research developed an interface module to perform communication between California Microwave's Common Gateway System and the existing SCSM systems.

Languages, Tools & Platforms: Windows NT, C/C++, MS Access

KCAL Television Membership Card system (KCAL-TV, 1996-2000) Designed and implemented a turnkey database system for KCAL television, with automated telephone data entry. This database program and supporting software supported 8 telephone lines and 1000 calls per day, and Winc Research equipment and staff processed over 320,000 individual calls. Also designed, manufactured and implemented prize machines for the KCAL Card program for use at promotional events. This system tracks membership attendance and awards prizes for each promotion run. This program is Visual C++ MFC based and uses database, audio, and video multimedia applications.

Languages, Tools & Platforms: Windows, C/C++, MS Access

Interpreter Assignment System (Coto Interpreting, 1998-1999) is a TSAPI-compliant Computer Telephony program to answer calls and track billing for an on-line language interpreter service. This program answered calls from clients, looked up the client information in an Access database using the Caller ID, and looked up and called appropriate interpreters for conferencing, then timed the calls for client billing.

Languages, Tools & Platforms: The program was Windows-MFC and ODBC based, with database object support.

Print Buffer Computer (AlphaMerics, Inc. 1997) Designed and implemented 80x86 based C and C++ programs for PC-104 based systems for Alpha Merics, Inc., including an HPGL plotter and printer-buffering program to support Alpha Merics' plotting tables. Winc Research also developed a calibration package to measure the flatness and linearity of the plotting surface before system shipment.

S-300 Badge/Card system (CardKey, 1997) is a Z-80 based embedded access-control system to implement security and attendance monitoring for businesses, coded in C and assembler. The system supported 30,000 badges (cards) per site, and implemented remote monitoring through telephone lines. Designed and implemented several components of system including report printing, remote access through modems, RS232 monitoring, RS-485 protocols, and password encoding.

HUMS system (Teledyne Controls 1993-1996) is a VME-bus-based embedded system for the US Navy CH-46 helicopter. This was a 68360 based processor to monitor performance of a neural network based vibration and regime analysis system developed by the Navy, and also monitor performance of a Teledyne Health and Usage Monitoring System (HUMS) Avionics system. This monitoring program was used to evaluate these two systems in a fly-off competition. The project was coded primarily in C and machine language, including several IBM PC based RS-232 simulation routines for development testing.

Winc Research also coded the embedded software for the TI-9900 8-bit processor for the HUMS system for Teledyne Controls, including data acquisition of sensor data, and recording data onto flight recorder media. This system was coded entirely in machine/assembly language.

Micro-Sandblasting (COMCO, 1996) Designed and developed several robotic process-control systems for COMCO, Inc., a maker of micro-abrasive systems. These systems are in use at Sandvik, a maker of lathe and tools, and at CaterpillarTractor's gasoline engine plant in Rockford, Ill. In addition to coding and testing, Winc Research provided on-site troubleshooting and support at the Caterpillar plant.

VCR programmer; Business reminder (Voice Powered Technology, 1993) Implemented voice recognition technology for Voice-Powered Technology, including a business reminder now on the market, and a voice command based VCR controller, which has been discontinued.

Various Toys and Products (Voice Control Products 1994-1996) Implemented voice recognition technology into several toys and consumer products for Voice Control Products Incorporated, of Monterey, CA. Various 8-bit microprocessors were programmed, including 68xx and 8048. All coded at assembly or machine language level.

Programmable DFDAU (Teledyne Controls 1990-1991) Developed customized routines for Digital Flight Data Acquisition Unit (DFDAU), an avionics unit to record FAA required data to the flight crash recorder. This unit records general data information to the additional data recorders used for airline maintenance and analysis. Programs were coded in C, and developed under VAX VMS.

Designed and implemented a customer programmable version of the DFDAU software, which reduced the amount of coding necessary to implement common changes for airline customers. Also designed and developed a C++ Object Oriented ground system to modify the programmable software.

US Military Projects (Teledyne Controls 1990-1991) Worked on several military projects for Teledyne Controls, including the US Navy F-14 monitoring system, which is based on the 1553 bus, VRTX, and coded in 8080 assembly language and C, and display software for the USAF C-17 transport, written in 68000 assembly language and C.

SOCS (Telos Corp. 1989-1990) is orbital modeling and prediction software to support RCA data communication satellites. This system, in FORTRAN, helped maintain geo-synchronous orbit position. Knowledge of physics, orbital mechanics and time calculations including Julian dates, was essential for software analysis and modification.

Radio Science Ground System (JPL, Telos Corp 1981-1990) Cognizant Design Engineer at the Jet Propulsion Laboratory (JPL) for the Deep Space Network Radio Science data acquisition software during the Voyager encounters at Uranus and Neptune. The computer-controlled subsystem was coded in HAL-S, a NASA-unique block-oriented programming language, and Modcomp assembly language. Design and implementation supported Radio Science experiments at Venus and Mars during this period, including support for USSR science experiments. Position included travel to Australia to train technicians and troubleshoot before encounters.

Telemetry Ground System (JPL, Telos Corp 1981-1990) Worked on telemetry subsystem software for the DSN Mark IV upgrade project. System coded in Assembly language.

Monitor and Control System (JPL, Telos Corp 1981-1990) was the major architectural addition for the DSN for the Mark IV upgrade project. Before this system was developed, operators had to manually configure up to 12 computers for a single track of a probe such as Voyager. Played key roles in system design, coding, test and qualification, and developing coding and documentation standards for development group. Coded in HAL-S and Modcomp assembly language.

USAF B-1 bomber countermeasures system (AIL division of Eaton Corporation 1976-1981)
Designed, coded, tested, documented, and supported embedded system for AN/ALQ-161 defensive avionics system for USAF B-1 bomber. This was a defensive radar jamming system for the aircraft, coded in assembly language.

Designed, developed and supported a data acquisition system for the flight test program of the AN/ALQ-161 system to evaluate system performance, coded in FORTRAN.

References

Paul Bodeau	Y-Not Engineering	(562) 299-8331
Larry Coleman	L-3 PSG	(714) 956-2000 x142
Brad Pollack	Advanced Laundry Devices	(310) 450-0216
Tom Roebuck (USMC CWO3 ret.)	MDA Technologies	(703) 730-9444 x221