

# Jamie Lay

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## Objective

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While working directly with clients in all phases of the hardware/software development life cycle, I have necessarily developed a wide variety of professional skills. While no one person can know everything, it is the ability to adapt and learn, to apply new tools and techniques to resolve specific problems and to continue to grow professionally and interpersonally that defines sustainability in this or any field. As a self-motivated individual whose consulting career has spanned more than two decades, I am looking forward to applying the skills I have learned to increase the profitability of my employer while working with other talented specialists as I continue my formal and self-directed education.

## Experience

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### Macintosh Programming Consultant

1986 – Present

Developed commercial and in-house software titles, drivers and libraries using a variety of technologies.

### Windows Programming Consultant

1998 – Present

Produced commercial applications and driver-level products using appropriate tools and methods.

### Linux, Hardware, Firmware Consultant

2002 – Present

Designed and built microprocessor-based devices and firmware for consumer and retail applications.

## Education & Certifications

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### BS in Computer Science

2015

University of North Georgia, 3.6 GPA

### Electronic Engineering Technology

2012

Lanier Technical College, 3.7 GPA

### Certified Ethical Hacker (CEH v6)

2010

Internationally certified through EC-Council and IACRB in methods of attacking computer systems and software in an effort to identify and exploit weaknesses attackers can use to gain root-level access to the target system.

### Certified Penetration Tester (CPT)

2010

Internationally certified through EC-Council and IACRB in evaluating the security of computer systems, networks and software by simulating attacks by malicious users and in reducing the targeted system's vulnerability.

### USAF

1979

Airborne Mandarin Chinese Interpreter. Top Secret SCI Clearance (Inactive).



## Skills

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**Languages:** C, C++, Pascal, VB, Xojo, Ladder Logic, Java, JavaScript, LAMP, JSON  
**Databases:** Oracle, DB2, SQLite, MySQL, Dbase  
**Tools:** Visual Studio, CodeWarrior, MPLAB, MS Office, MultiSim, Oscilloscopes, Bench Test Equipment  
**Embedded:** PIC/Microchip, Arduino/Atmel, PLCs, HMI, Radios, Card Readers, COTS hardware integration  
**Platforms:** Desktop, Mobile, Handhelds, PLCs. Kiosks, System libraries/DLLs, Drivers, Utilities, Hardware  
**Protocols:** TCP/IP, RS232 Serial, I2C, UART, GPS, Wireless, A/D, D/A, VisaNet, Credit Card Payment Protocols  
**Operating Systems:**  
Macintosh Programming  
Windows Programming  
RTOS Hardware, Firmware  
Linux Programming

## US Patents and Patent Applications

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"Secure Digital Document Distribution With Real-Time Sender Control of Recipient Document Content Access Rights"  
Patent Application No: 13/445,846 (2012)  
James F. Lay, et. al.

"Method and Device for the Prevention of Piracy, Copying and Unauthorized Execution of Computer-readable Media"  
Patent Applied For: US 2008/0289046  
Thomas M. Fryer

"Method for removing labels adhered to a diskette and de-labeling means for doing so."  
U.S. Patent 5,378,300 (1995)  
G. S. Huvard and A. D. Lobo, et. al.

## References

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**54 Bells, Inc.**  
[www.54bells.com](http://www.54bells.com)  
Jim Belanger, CEO and President  
Email: [jim.bellanger@54bells.com](mailto:jim.bellanger@54bells.com)

**Equifax, Inc.**  
[www.equifax.com](http://www.equifax.com)  
Jason Shanks  
Email: [jason.shanks@equifax.com](mailto:jason.shanks@equifax.com)



## Letters of Recommendation

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### 2Geeks in a Lab

[www.jamielay.com/letter.pdf](http://www.jamielay.com/letter.pdf)

## Work History

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- 12/20 - **ADT**  
Senior Software Firmware Engineer. **(Linux, C++, OpenThread)**  
Developing firmware for the Silicon Laboratories EFR32 chipset in support of adding Zigbee/OpenThread to existing alarm hub's embedded Linux OS connected via an RS-232 UART. Configuring bootloader and build IDE to allow compilation for multiple variants of EFR32 chip.
- 12/17 - **Scientific Games**  
Senior Software Engineer. **(Linux, C++, PHP, MySQL)**  
Supporting existing international lottery backend system. Processing EFT, EBP and Credit Card transactions including bulk XML files both in and out of the system using a variety of national and international processors. Maintaining and enhancing PHP administrative system for lottery players including a full suite of payment actions including history, corrections, transactions, etc.
- 9/12 - 12/17 **54 Bells, Inc.**  
Principal Engineer. Database and Web Developer, Hardware Designer, Firmware Developer **(Mac & Win UI, Linux, Apache, PHP, MYSQL, Firmware, PIC, Arduino, RS232, I2C)**  
Designed and implemented a back-end database portal in support of business operations. Created custom GPS tracking and other hardware devices as required.
- 7/06 – 12/17 **Advent Ignitions**  
Hardware and Software Consultant: **(C/C++, MPLAB, Embedded Firmware, PIC, Arduino, RS232)**  
Created desktop UI application, firmware and ICSP (in-circuit serial programmer) for a customer-programmable racing ignition for sport watercraft and snowmobiles interfaced with engine crank sensors and ignition timing to advance or retard engine spark.
- 7/15 – 4/17 **Equifax**  
Java team programmer: **(Java, Smart GWT, Oracle, Eclipse)**  
Facilitated development of mission critical user portal for commercial services. Worked with offshore team and mentored interns in career development and coding best practices.
- 12/10 – 4/11 **AT&T**  
Software Engineer: **(Linux, C/C++, DSD)**  
Worked with the Automated Testing Framework team to improve tools and processes used for the validation of proprietary language (DSD) software written for the iPad and iPhone accounts.
- 6/08 – 10/12 **SafedoX.com**  
Principal Engineer. Hardware and Software Architect **(Mac & Win UI, C/C++, PHP, MYSQL, Xojo)**  
Designed and created a B2B digital rights management system for enterprise and small business.



## Companies using my commercial software

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3M Company  
Air Products and Chemicals  
American College Testing Program  
Anritsu - Corp. Laboratory, Japan  
Apple Computer  
Arco Oil & Gas Company  
Argonne National Laboratory  
AT&T Bell Laboratories  
BellSouth Advertising & Publishing  
Ben-Gurion University, Israel  
Berkeley Systems  
BFGoodrich R &D  
Bonneville Power Administration  
Boston University  
Bristol-Myers Squibb  
Brock University, Canada  
California Institute of Technology  
Cardiac Arrhythmia Consultants  
Catalyst  
Chevron U.S.  
CJ Enterprises  
Coke Erikson Associates  
Communications Research Center, Canada  
Corporate & Education Software  
Corporate Software  
Cray Research, Inc.  
Dugan/Farley Communications  
Duke University  
EG&G Idaho  
E.I. du Pont de Nemours & Co.  
Eli Lilly Research  
FUNDP Computing Centre, Belgium  
Goddard Space Flight Center  
Hughes Aircraft  
Illinois State Geological Survey  
Indiana University  
John Hopkins University  
Lawrence Berkeley Laboratory  
Marine Biological Laboratory  
Massachusetts Inst. of Technology  
McMaster University  
Medical College of Wisconsin  
Medical Education Systems  
Micracor Company  
Milton Hershey Medical Center  
MIT Lincoln Laboratory  
NASA ARC  
NASA Ames Research  
NASA Langley Research  
NASA Lewis Research  
National Cancer Institute  
National Institutes of Health  
National Renewable Energy Lab  
Navy Research Lab  
North Carolina State University  
Northeastern University  
Northern Telecom  
NTT Opto-Electronics, Japan  
Ohio State University  
Philip Morris, USA  
Purdue University  
Sandia National Laboratory  
Santos, Ltd., Australia  
Scripps Institute of Oceanography  
Scripps Research Institute  
Tennessee Computer Specialties  
Texaco  
The Institute of Physics, England  
USC Family & Preventive Medicine  
Union Carbide Chemicals &Plastics  
University of Calgary, Canada  
Univ. California, Berkeley  
Univ. California, Los Angeles  
University of Houston  
University of Iowa  
University of Maryland  
University of Michigan  
University of Notre Dame  
University of Tennessee  
U.S. Air Force Materials Laboratory  
U.S. Army  
U.S. Food & Drug Administration  
U.S. Department of Energy  
Varian Corporation  
W.J. Shafer Associates  
Waibel Technical Computing  
Westinghouse Corporation  
Woods Hole Oceanographic Institute