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CORPORATE SUMMARY

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|--------------|---|---------------------|---|
| 2008–Present | Zapix ClearCode | Penn Yan, NY | Ajax Web Developer/Designer |
| 1999–2007 | Upoc Networks / Dada USA | NYC | Vice President of Engineering |
| 1997–1999 | Dreyfus Corporation | NYC | Internet Development Client-Server Engineer |
| 1995–1997 | SmartServ Online | Stamford | Director of ADSI & VRU Development |
| 1995–1999 | New York City Department of Correction | NYC | Inmate Telephone System VRU Consulting Engineer |
| 1990–1995 | Digital Equipment Corp. | NYC | Software Principal Engineer |
| 1985–1990 | PBS / Security Pacific Software Services | NYC | Senior Software Analyst |

TECHNOLOGY EXPERIENCE

| | |
|--------------------------|---|
| Web / Internet | LAMP/WAMP, HTML/DHTML, CSS, JavaScript, Java J2SE, JSP, PHP, Perl, XML, SOAP, ASP. Servers: Apache, Netscape, IIS, Spyglass; Resin, Tomcat |
| Cellular Wireless | Network systems integration; SMPP protocol programming, WAP, J2ME, BREW |
| Systems Telephony | NMS and Dialogic APIs on Solaris, Netware, NT Intel/Alpha and DOS Text-to-speech: ScanSoft, Lernout & Hauspie, Centigram Speech recognition: VCS Protocol-level: Voice T1, ISDN PRI, Loop Start, Bellcore ADSI |
| Databases | Oracle, MySQL, Sybase, RDB |
| Tools | Project Management: MS Project, advanced MS Office Word, Excel, PowerPoint, Enact, Visio, TestTrack, CVS Production: Photoshop, Homesite, Multitrack Waveform Sound Editors Programming: Visual Studio, Eclipse, Toad, vi, J++, UML |
| UNIX | Solaris, SCO, Ultrix: Java 2 SE, C/C++, Shell, OSF/Motif |
| Windows | NT Intel & Alpha: Java 2 SE, C/C++, VB, DOS/Assembly |
| VAX / VMS | C, DCL, X-11, OSF/Motif, DECwindows, UIL, SQL, BLISS |
| Patent | US 20050015443 - Personal message delivery system, for Upoc, Inc. |

OVERVIEW

Possessing a multi-discipline technical expertise stretching over 25 years, I approach software engineering challenges with an inventiveness enriched by experience and an excitement for technological solutions. My management style benefits from participation in both large companies and small, from Wall Street to Silicon Alley. A firm believer in the team dynamic, I inspire by example and strive for engineering discipline with clearly defined goals and solid, scalable, reproducible results. Engineers must envision the end user experience. QA testing must be methodical and (to avoid predetermined expectations) isolated from the software production process, while contributing to the improvement feedback loop. As a member of the company team, I have a deep respect for budgets, deadlines, and appropriate rapid development. I have found that my most important role has been the successful balancing of all these dynamics.

2007 to Present

Husband & Wife B & B Business

In the fall of 2007 I left the corporate world and with my wife struck out on a new adventure, leaving New York City and buying a Victorian in the Finger Lakes Wine Country of upstate New York to turn into a bed & breakfast. Since La Belle Vie B&B opened in Penn Yan, NY in 2011, our over 1,000 guests have given us a cumulative 5-star rating on TripAdvisor.

Website Design

Meanwhile, during this period, I designed, coded, and put into production several complex web sites. These sites incorporated data-driven pages and DHTML/HTML5 dynamic elements (resembling Flash but entirely executable on Apple iOS), all of my own design. Below are a sample listing of these sites.

| | |
|--------------------------------------|--|
| OilOnPorcelain.com | Small business site for porcelain artists |
| LaBelleVieBB.com | Small business site for our B&B |
| JeffAndJodifilms.com | Site to introduce work of documentary filmmakers |
| LlewellynLafford.com | My vanity site |
| Zapix.com | My consulting site that describes my photography, website, and graphics work |
| First-Tenor.com | My music site, featuring concert recordings of choral groups |
| Lord-of-Ridley.com | Biographical site for my father (in collaboration with my wife) |

EMPLOYMENT HISTORY

December 1999 – May 2007

Upoc Networks, Inc., subsidiary of **Dada USA, 14 Penn Plaza, New York, NY**
Vice President of Engineering

Overview: Upoc Networks is the leading provider of wireless marketing, community, and aggregation services in North America. Founded in 1999, Upoc pioneered solutions for messaging integration over SMS, MMS, Web, WAP, IVR and BREW technologies, and became a major platform for social networking. Combining that with its direct connections to and relationships with the major carriers in North America, Upoc developed into a strategic marketing resource for media outlets, movie studios, record companies, sports teams and any organization targeting the young-adult demographic. In August 2006 Dada, a global wireless services company based in Italy, acquired Upoc for its technology, mobile experience, carrier network infrastructure and user base.

Responsibilities: I collaborated with Upoc's founders on the original design and development of the application architecture, patented messaging technology, and its multi-platform interfaces. In addition to creating and coding many functions, subsystems, and client projects, I managed development and, as VP of Engineering from 2001, guided the entire engineering effort over the following years. In that time, our team built a formidable technology while Upoc grew from five employees to fifty, from zero to three million registered users, and from a social-technological concept into a successful company and desirable acquisition target.

Technologies:

- Solaris, Java SE, C, JNI, DHTML, CSS, Apache, Resin, SQL, Oracle, TopLink, NMS, SMPP, XML
- Management tools included MS Project, Office, Critical Path Enact, TestTrack

Accomplishments:

- Projects for which I led technical design and coordinated development include:
 - The Interactive Voice Response subsystem, including a custom interface into the NMS hardware API, the Java JNI modules, and an extensive feature set: multi-language capabilities, data-driven feature configuration, multi-tap text message creation, and low-level sound file manipulation optimized for cross-platform performance (UNIX, Windows, Telephony, Web, Cellular).
 - The MicroSite tool, enabling the Creative department to turn out data-driven private label products.
 - WAP-to-IVR integrated session automation.
 - DefJam Celebrity Message Machine.
 - In-venue signup IVR for SMS promos.
 - Cross-carrier MMS.
 - Wimbledon XML real-time SMS updates.
 - Carrier-agnostic MSISDN code signup.
 - MMS picture promos and JumboTron feed.
 - Tunefly real-time Radio Song Data SMS feed.
- My biggest challenge and achievement was balancing often conflicting priorities:
 - To build and maintain a solid engineering team with a positive attitude, ready to support the shifting goals and budgets of a startup company.
 - Design a system architecture that anticipates future functionality.
 - Always consider scalability issues; avoid crumbling under too much success.
 - Strive for clearly defined goals and a strict development process.
 - Adopt rapid development techniques to meet market windows and compete effectively.
 - Adjust to real-world-get-it-out-there politics.

September 1997 – November 1999

The Dreyfus Corporation, 200 Park Avenue, New York, NY
Internet Development Client-Server Engineer

Responsibilities: Provide technical solutions and new Website architecture for multiple Dreyfus Business Units; manage engineering projects.

Projects: New Dreyfus Retirement website architecture; Departmental infrastructure support management application; Y2K testing and remediation; New cross-company website architecture for all Dreyfus Business Units.

Technologies:

- Solaris, Windows 3.1, NT; Java, C, DHTML, CSS, UML; Netscape Enterprise Server, IIS, ASP
- Management tools: MS Project, Office

Accomplishments:

- Project Manager and co-designer of the Dreyfus Retirement Systems Website encompassing Dreyfus' first use of advanced Web technologies coupled with 3270 screen-scraping UNIX middleware. Proven business rules were maintained by the IBM mainframe while the end users were provided secure Web access to their accounts.
- Architect for the new Website template for all Dreyfus Business Units. Design incorporated judicious CSS and DHTML that degraded gracefully for earlier browsers, plus a data-driven menu structure to facilitate maintainability and rapid deployment to new sites.

November 1995 – September 1997

SmartServ Online Inc., 1 Station Place, Stamford, CT
Director of ADSI & VRU Development

Overview: SmartServ Online was a provider of real-time financial and information services on multiple platforms from PCs to PDAs. ADSI (Analog Display Services Interface) is a Bellcore protocol for interactive smart-phones. VRU (Voice Response Unit) was a custom voice interface, supporting financial and trading data.

Responsibilities: ADSI and VRU strategic development; implement client enhancements; manage engineering team.

Technologies:

- C, Perl, NT, SCO UNIX; MS IIS, VC++, Office
- Telephony: ADSI, T1 protocol, Dialogic

Accomplishments:

- Developed the ADSI & VRU prototypes into successful products for a customer base of thousands and a client list including Sprint, Bear Stearns, Andrew Peck, and Rickel & Associates.
- Designed Speech Engine State Machine, combining both concatenated-sample and text-to-speech algorithms, capable of expanding trader abbreviations plus all date, currency, fractional, ordinal, cardinal, and market data in a natural human voice.
- Ported applications from MS-DOS prototypes to SCO UNIX to NT 4.
- Designed Web-based remote monitor and control systems for ADSI/VRU servers, including Excel-format usage reports automatically transmitted to Management.
- SmartServ won the 1997 Interactive Services Association Award for Best Screen Phone Application.

January 1995 – 1999

NYC Department of Correction, Riker's Island & 60 Hudson Street, New York, NY
Lead Consulting Engineer for VRU

Overview: The VRU is a critical security layer for the Dept. of Correction, controlling fair access to federally mandated telephone resources for a population of 18,000 inmates. Detainees are entitled to varying levels of phone privileges depending upon their legal status, punitive level and cash account. The bilingual VRU manages all aspects of the telephone session, including initial inmate identification, instructional and informational messages, specific cash availability and call options, call setup, supervision, conferencing, long distance rates, timing and billing. In concert with the VAX servers at Hudson Street and the Harris switches at each facility, the VRU maintains required uptime and availability standards and generates substantial revenue for the city.

I worked with the DEC team in 1994 on the initial design and was retained as primary engineer for deployment, enhancement and support. The VRU system has proved highly successful and reliable, in continuous use over ten years, scaling to handle 50,000 calls per day, on 11 servers, with 29 voice T1s to PBXes in 15 separate facilities across Riker's Island and four boroughs.

Projects:

- Inmate Telephone System VRU Deployment, Enhancement and Support
- Voice Recognition Security Beta Design and Field Testing
- Y2K Remediation

Responsibilities: Primary engineer responsible for implementation, enhancement and support of the system.

Technologies:

- C++, DEC Alpha NT, VMS; MS VC++, Office
- Telephony: T1 protocol, Dialogic, VCS, Harris
- Remediation APIs: DNA 3.0 SCSSA, Pathworks 32 7.1a, DECnet/Winsock2

Accomplishments:

- Collaborated on requirements analysis, telephony research, state table design, voice database and system monitor utilities.
- Designed a hardware API layer for Dialogic voice cards, packaging all record/playback and PBX comm/control functions.
- Carried out field installation and system testing and created project documentation, charts and demonstrations.
- Recorded and edited 200 digitized bilingual English/Spanish voice messages.
- Engineered live phased rollout of 24- thru 96-channel systems, 11 servers, 29 T1s.
- Designed the Phase-2 Voiceprint Registration and Verification system employing Dialogic/VCS voice recognition cards and their beta API. Coordinated inmate testing and analysis.
- Enhanced the system's monitoring and statistical collection functions as well as remote connection and network control functions (using OLE and NT-RAS).
- Re-engineered for Y2K compliance including network layer redesign and extensive recoding for latest APIs.

January 1990 – January 1995

Digital Equipment Corporation, 2 Penn Plaza, New York, NY
Software Principal Engineer

Projects:

- DECtrade/PriceWatch market data trading system
- News Server
- NYC DoC Inmate Telephone System

Responsibilities: Extensive design and development in core and application modules; Customer Support engineer; Display and Application Group manager.

Technologies:

- C, C++, X11, DECwindows, OSF/Motif, Dialogic
- VMS, Ultrix, NT; VAX, Alpha AXP

Accomplishments:

- Trader Workstation design and coding for quote page displays, graphing, analytics; ported Motif application from Ultrix to VMS.
- Designed DDE feed for Windows Excel and VB charting.
- Core enhancements for PriceWatch workstation display programs.
- Designed control system for multi-node Sybase db backup with automatic failover.
- Authored extensive Installation, Management and User documents.
- Produced ISO-9000 compliant organizational structures and Sustaining Engineering Plans.

September 1985 – January 1990

Security Pacific Software Services (Sequor), Inc., 61 Broadway, New York, NY
originally **Precision Business Systems, Ltd.**
Senior Software Analyst

Projects:

- PriceWatch trading system (Security Pacific, Montreal Stock Exchange)
- FEDBE Book Entry System (Chase)
- XP/CSMH funds transfer system (Citibank)
- WISE Wireroom System (Bankers Trust)

Responsibilities: User interface design and coding; advanced display technology; real-time quote editor engineering.

Technologies:

- C, Assembly, BLISS, DCL, VT ANSI, Matrox
- VMS, DOS

Accomplishments:

- Designed significant improvements in user interfaces.
- Implemented PC EGA, VT ANSI and Matrox multiple monitor architecture.
- Designed Telerate terminal emulation, winning full Telerate certification for PriceWatch.

EDUCATION & TRAINING

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| NYU School of Continuing and Professional Studies | Advanced Core Java 2 SE, JDK 1.5 |
| Edward Tufte | Presenting Data and Information |
| Dreyfus EDS Inteq | Engineering Project Management; Data Modeling and Relational Data Design |
| Digital Educational Services | C++ Object Oriented Design; Forté 4GL; Windows NT C; ULTRIX C; DECwindows Programming; OSF/Motif User Interface Design; Engineering Project Management |
| Parsons School of Design | Architectural Design |
| Hobart College | B.A. double major: Studio Art & Music Composition |

BACKGROUND & DEVELOPMENT

My mother and father, originally from Germany and England respectively, instilled in me a love of international culture and I traveled extensively from childhood. Their careers as professors of languages & linguistics and music composition & performance influenced my development significantly – combining in a passion for art, music, language, and technology.

My initial career search led to professional stints as actor, singer, projectionist, portrait & wedding photographer, and NYC taxi driver. When, in the 1980s, computer software design emerged as an option, the ideal calling became clear.

What spare time I currently have (after B&B duties) is occupied by choral singing, college music course auditing, photography (grand prize winner of the Life in the Finger Lakes Magazine 2012 Photo Contest), graphic design, music composition and song writing/recording. I have also donated my services to non-profits for concert recording and audio engineering, publicity graphics design, and public forum videography.