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## J. Michael Birch, MSEE

### Education

University of Pittsburgh, PA M.S. Electrical Engineering GPA 4.0/4.0.  
University of Manchester, UK B.Sc (with honors) Electrical Engineering.  
UCSD Extension: 1997 - present: additional training in Intensive Java, Object Oriented  
Analysis & Design, Wireless Communications, and Internet Architecture & Networking.

### Professional Summary

Software Engineer and Project Director/Producer with 40 years software engineering and senior management experience. Expertise in interactive media, online education, games and all aspects of the software development life cycle. Co-founder GTE Interactive Media.

### Technical Skills

**Platforms:** Game consoles, Windows, Mac OS, OS-X, Unix, VxWorks, RTOS.  
**Programming:** ActionScript, Assembler, Java, C/C++, Director, Authorware, VB etc.  
**Internet-based:** HTML, DHTML, XML, CGI, Javascript, Dreamweaver, Flash, etc.  
**System Design:** Client/Server/Database, Data Communications, UML, Rational Process, Object-Oriented Analysis and Design, User Interface, 3D Graphics and Games.  
**Other:** Interactive TV/Video, Wireless, DVD, Audio/Video Encoding and Streaming.

### Experience

2000  
to Present

#### Computerade Products, Cardiff, CA

*Computerade is a home-based special education software company, founded in 1989. I design and develop software for Computerade based on my wife's content expertise.*

#### SOFTWARE ENGINEER

- Currently designing and developing several iPad apps for Special Education.
- Designed and developed five special education products for Mayer Johnson, LLC.

#### CONSULTANT

- Served as Expert Witness for trial re software development of online games.
- Consultant to local e-learning companies re ActionScript 2.0/3.0 and XHTML.
- Prepared a detailed game and training proposal for IVID re an RFP from Ford.

August 2005  
to June 2006

#### Mira Costa College, Oceanside, CA

*Mira Costa College is an accredited community college serving North San Diego County.*

#### ASSOCIATE FACULTY - INSTRUCTOR

Instructor for IMT-190 Multimedia Programming, intermediate ActionScript 2.0 class and lab. Developed course and created all materials including a comprehensive website (part-time).

February 2004  
to November 2006

#### Accord Solutions Inc., San Diego CA

*Accord Solutions is a high-tech company specializing in super-fast secure computing.*

#### SOFTWARE ENGINEER

Business development, writing SBIR proposals and project management for DoD contracts. Developed visualization tools in Flash ActionScript 2, PHP and MySQL (part-time).

February 2004  
to November 2006

#### Teramedia Communications Inc., San Diego CA

*Teramedia created a targeted TV advertising system but failed to get necessary funding.*

#### SOFTWARE ENGINEER / DIRECTOR CONTENT SYSTEMS

Created Flash MX and MPEG-2 metadata demos for TV executives and investors.

August 1997  
to November 2000

### **CompassLearning, San Diego, CA**

*CompassLearning (aka Jostens) is the leading provider of curriculum based educational software. I developed plans and prototypes for porting existing lessons to online systems. I also directed and led the successful development of 99 new core curriculum lessons.*

#### DIRECTOR R&D, SOFTWARE ENGINEERING

- Programmed prototypes in Visual Basic, DHTML and Javascript to determine which development tools were best suited for new CompassLearning web-based products.
- Prepared standards and development processes to reduce costs, and improve quality.
- Designed the software API to integrate new CompassLearning lessons with web server software based on Apple's WebObjects platform and using a scalable ODBC database.
- Used Rational Requisite Pro to write Use Cases and Sequence Diagrams as a member of the engineering team designing and developing a web-based management system.
- Wrote part of the SIF XML specification, a national standard to enable interoperability of school computers. Represented CompassLearning on the SIF working subcommittees.
- Conducted analysis and wrote research reports on streaming audio/video, wireless LANs, and net appliances for Ripplewood Holdings (\$4B owner of CompassLearning).
- Initiated a strategic plan and discussions with Gateway Computer and America On-Line to provide CompassLearning educational content for schools, on new net appliances.
- Evaluated potential "dot.com" acquisitions and partnerships for CompassLearning by analyzing their services and technologies and reviewing their business strategies.

#### PROJECT DIRECTOR

- Hired a team of 12 programmers and artists, and directed the work of a software development company in Brazil, to develop 99 LAN lessons in Authorware and then integrate them with the Windows NT (and Unix) client/server management software.
- Prepared budgets (>\$1M) and schedules using MS Project. Negotiated payment terms.
- Resolved technical and contract issues with the developer including necessary design changes at no additional cost. Established processes to expedite delivery, test and integration of deliverables. Completed the project on time, and on budget.

January 1990  
to April 1997

### **GTE Interactive Media (GTE-IM), Carlsbad, CA**

*GTE-IM (aka GTE ImagiTrek) was created as a startup venture within GTE. As employee #1, I wrote part of the strategic plan and grew GTE-IM to 140 people and ~\$40M revenue. In 1997 GTE closed the division to focus on Internet infrastructure rather than content.*

#### DIRECTOR OF PRODUCT DEVELOPMENT (1995-97)

- Directed development of advanced 3D graphics games for Windows, Sega, Sony Playstation etc. programmed in C/C++, and using graphics created on SGI rendering systems, and with AVID, Compositum and other professional Audio/Video tools.
- Defined product requirements and design specifications and supervised all aspects of software development for 2-3 concurrent projects developed in the UK, and Europe.
- Established schedule, budget and milestone deliverables for each \$1M - \$2M project. Conducted frequent project reviews, evaluated deliverables and approved payments.

#### DIRECTOR OF BUSINESS DEVELOPMENT (1994-1995)

- Reviewed 100s of proposals and game designs. Worked with GTE legal counsel to prepare development contracts. Evaluated the ability of developers in the US, Canada and Europe to succeed with leading-edge technology and to create great games.
- Won key projects and good terms from leading international developers (Argonaut, Funcom, Attention to Detail, etc.) over competition from Sony, Virgin, EA, etc.
- Successfully negotiated an agreement with the Rolling Stones to develop and publish the best-selling Voodoo Lounge interactive music CD-ROM.

DIRECTOR OF TECHNOLOGY (1990-1994)

- Hired and supervised GTE-IM's startup software engineering team with up to 12 people. Initiated innovative projects in MPEG, CD-ROM, CD-I, and interactive TV set-top boxes that firmed up the technical direction and met the business goals required by GTE Corp.
- Directed internal MIS operations until the company could afford separate staff.
- Created, designed and developed the novel Time Traveler "Hologram" arcade game. Acquired a license for the patented hologram technology and sold the manufacturing rights to Sega, Japan. The game generated sales revenue of over \$18M.

September 1988  
to January 1990

**SAIC, San Diego, CA**

*Science Applications International Corp is a major DOD communications contractor.*

PRINCIPAL SYSTEMS ENGINEER

- Designed the UNT Multi-Network Controller (MNC) and Interface for the US Navy based on TCP/IP protocols. Devised an architecture that significantly improved performance.
- Directed two engineers programming the MNC and related components in C/C++.

July 1986  
to June 1988

**Pacific E/O Center, La Jolla, CA**

*PEOC was the San Diego division of Recon Optical Inc. based in Chicago.*

BUSINESS MANAGER / SENIOR ENGINEER

- Prepared budgets and schedules, and managed multi-million DOD contracts for development and test of ATE (automatic test equipment) hardware and software.
- Supervised vendors and evaluated quality and completeness of deliverables then signed off on progress payments. Ensured timely acceptance by DOD customer.
- Prepared successful proposals for ATE systems and interactive training software.

May 1985  
to June 1986

**Intelligent Images Inc., San Diego, CA**

*III was a High-Tech startup that created realistic interactive simulations for medical training.*

DIRECTOR OF TECHNOLOGY

- Hired and supervised 4 programmers and created a series of award-winning computer controlled videodisc simulations for realistic emergency care training & education.
- Prepared schedule and budgets, directed and integrated the internal effort with software development work by an independent vendor.

August 1984  
to May 1985

**SDSU School of Business, Information Systems, San Diego, CA**

*Full-time faculty member at San Diego State University, School of Business*

ASSOCIATE PROFESSOR / LECTURER

- Prepared and taught undergraduate courses in Data Communications, Operating Systems, and Programming Languages.

1965 to 1984

**Control Data Corporation, La Jolla, CA**

*Software development. Small computer division of a Fortune 500 company. 450 people.*

MANAGER / PRINCIPAL SOFTWARE ENGINEER

- Project Manager and Lead Software Engineer for a wide variety of industrial control , data communications and educational software projects, written in Assembler and C.
- Managed development of PLATO educational courseware and runtime systems for various microcomputers. PLATO was the first online educational computer system.
- Manager of a Hot Line software support and MIS operations group with up to 24 staff.

**MISCELLANEOUS**

- Speaker and panel member at industry events, and local professional groups.
- Published papers on process control, interactive video, PLATO for PCs, etc.
- Developed initial web-site for Mayer-Johnson Co: [www.mayer-johnson.com](http://www.mayer-johnson.com).
- US Citizen. Senior Life Member IEEE, MIT Forum, Commnexus, SDSIC.