Ray Heath

Information Technology and
General Management

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Senior-Level Consultant

Creating Strategic Competitive Advantage—I help companies turn great ideas into innovative products and services, build intangible assets (brands, networks, intellectual property, and talent), and put profitable results on balance sheets and income statements.

Technical Competency and Leadership—I'm usually brought in to solve difficult, high-risk problems where technical challenges are severe and the way forward is uncertain - leading researchers, developers and project managers in ground-breaking efforts from strategic analysis through architectural implementation.

Ensuring Your Success—I have a single bottom-line factor that drives all components of my value proposition. It is to ensure you succeed in achieving your goals.

Endorsements

Ray knows more about the theory, practice and application of software to making businesses run better than anyone I know.
> *- Ken Winans, Director of Product Engineering and Validation iCAD*

I have never seen anyone else work so hard to learn professional skills, or spend so much personal time and money to do it. I routinely rely on Ray's advice on the most difficult systems architecture issues.
> *- Brian Fielding, World Class Software Architect, at large*

His knowledge and expertise have helped me tremendously and allowed me to grow my business in ways I would have never thought possible.
> *- Peter Pullara, CEO Urban Horticulture Services, Inc.*

Ray's greatest strength is his ability to think strategically. He practices and champions high ethical standards; and has fought to protect the company's future. Ray never blames anyone else for a problem, but solves it then educates the associate. Ray never misses a deadline or commitment; he particularly excels at getting the job done. He is a capable leader; superior dedication, superb motivation and exemplary integrity.
> *- excerpted from Official Capital One Performance Appraisal*

Having utilized Ray's services several times during the past decade, I have absolutely no reservations providing him with the strongest recommendation in any technology-related situation to which he indicates he can bring value.
> *- Ken Miller, CTO Utopic Software, LLC*

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Technical Skills

I am a dedicated learner, constantly upgrading skills in some facet of software development, business process management and dynamic content creation - and I've been doing this consistently for decades. My personal library contains hundreds of programming, mathematics, media, and business-related books. My current work efforts are concentrated on *high-performance processes, architectures and algorithms* in the following categories:

- Machine Learning and Data Mining for Inductive/Predictive Decision Making (via Probabilistic Graphical Models, Bayesian Networks, Markov Chain Monte Carlo Parameter Estimation, Neural Networks, etc.)
- Dynamic Content Creation and Communication Media Tactics
- Virtual Organization Architecture and Strategies (Supplier/Dealer/Consumer APIs, Apps and Portals)

Over the years, however, I've built custom software components, applications and systems for companies from diverse vertical industries that target many different domains, such as: banking, healthcare, medical devices, IT infrastructure tools, retail, grocery, business management, stock market trading, art, music, asset valuation, credit, advertising, hospitality, timeshare, commercial paper, networking, document management, and media processing.

In addition to the custom 'from scratch' functionality, I've written countless wrappers over existing libraries to make functionality more accessible and/or thread-safe, for example: IBM Message Queue, STL containers, IO completion ports, encryption/decryption algorithms, hashing algorithms, compression/decompression engines, streams, Enterprise Library components, HL7, data acquisition, UI frameworks, and resource management APIs.

Perhaps half of all my software development has targeted server functionality where performance and stability are critical. Other components span platforms from desktop workstations, to mobile devices, to the cloud - hitting anything from UI to the data store. Leading-edge technologies are almost always adopted to drive down costs and drive up realization of functional and non-functional objectives. Often technologies that don't yet exist in the marketplace (e.g., custom architectures, algorithms, and database engines) are created to achieve desired goals.

An extremely abridged history of my use of programming languages:

- The mid-1970's had my focus for a couple years on FORTRAN IV, BASIC and assembly languages.
- The mid-1990's brought me to full-time development with C++ and a lot of COM/DCOM class library development for consumption by other developers. There also was moderate UI work using MFC & ATL.
- In the early-2000's much of my work transitioned to Java and.NET – targeting business and devices.
- By the mid-2000's application and library development was largely .NET (mostly via C#).
- Around 2011, I began to make substantial investments in C++ 11 that continues now with C++ 14/17.
- Numerous other languages common to a software developer's tasks such as SQL, JavaScript, CSS, XML-based (HTML, XSLT, etc.) have been employed over the past three decades.
- Recent investments are focused on MATLAB, Swift, Xamarin, Angular2 and .NET Core.

I keep active subscriptions of MSDN Universal (Visual Studio Ent.), MATLAB (including Symbolic Math, Statistics, Curve Fitting, Optimization, Global Optimization, Neural Network, Computer Vision, Image Acquisition, Image Processing, Partial Differential Equation, Compiler, and Parallel Computing toolboxes), Adobe CC, and 3ds Max (among many others) – along with PC/iOS/Mac hardware and cloud resources.

You may view me as an agile generalist with a great deal of deep technical experience and comprehensive capabilities - suitable for tasks where narrowly focused specialists or less experienced technologists are too risky.

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Professional Positions

Information Technology - General Management Consultant   *1997 – Present*
Ray Heath, LLC. I specialize in Information Technology & General Management, attending clients from a wide variety of industries (traditional and high-tech). Work consists primarily of business development, strategic analysis and planning, system architecture, software development, and product/project management. I typically serve Boards of Directors and Senior Management.

Project Manager - Senior Software Engineer   *2002 – 2004*
iCAD, Inc. (NASDAQ: ICAD) produces Medical Devices that perform Computer Assisted Detection. Products operated in isolation, unable to communicate with external systems. I was recruited to lead DICOM integration efforts (enabling communication between the devices and external systems), manage projects, and mentor development staff. Responsibilities included participation in strategic planning meetings, process improvement, software development, contract negotiation, managing/reviewing technical work of others, and technical liaison to business partners and European sites. Proper diligence was at all times given to adherence to IEC & FDA Quality Guidelines. I created Intellectual Property to enable strategic partnerships (Estimated NPV: $25MM) as Co-Inventor of system capable of processing medical images produced by diverse medical image acquisition modalities (US Patent Application No. 10/722,138; filed 11/26/2003). I served Senior and Upper Management (CEO, VP Engineering, and Advocacy).

Principal Software Architect   *2002*
Symeron Technologies primarily served its parent, Bredel Corporation (a Healthcare Consulting & Management Firm) and affiliated companies BayCare & Trillium (which operate a number of hospitals and clinics). I was brought in by the CTO to help build the corporation's technical abilities and architect IT systems focused on giving the conglomerate strategic advantage against their competitors. Common tasks also included participation in Strategic Planning, Profit & Loss analysis, Budgeting, and establishment of formal Development Processes. In addition to primary responsibility for architecture of the proprietary MIS, I led in the application of Exchange Server and other commercial enterprise systems. I served Senior Corporate Management (CEO, CIO and CTO).

Project Manager - Internet Development   *2000*
Buy, Sell or Hold, Inc. was an Internet-based company providing automated technical stock analysis and portfolio tools. At the time, the firm held the reputation for employing the best computer science talent in the Tampa Bay area. I was recruited to lead strategic partnership capability initiatives, requiring application of both business acumen and emerging technologies. After departure of the CTO, I was tasked with managing all technical staff; and continued to assist the firm well after evaporation of investment sources - until such time a merger could be executed. I served Senior Management (CEO).

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Lead Software Developer *1998 – 2000*
Capital One Financial (NYSE: COF) is a Fortune 500 Company providing financial services (most notably credit cards) primarily to consumers, and operating large call centers. I was the lead developer for most of the Distributed Services Business Class Library projects (object-oriented middleware, used globally for mission-critical line operation applications). Additional responsibilities and contributions included: team leadership, establishment of formal processes and procedures for geographically distributed development, Y2K investigation analysis and testing, mentoring, developer training, and recruitment. Obtained highest performance rating awarded to anyone within Capital One's leading IT group; responsible for the Enterprise Business Class API – utilized globally for mission-critical line operation applications (approximately 20,000 employees); commended for strategic contributions and leadership. I served mid-level management.

International Advertising Manager *1995 – 1996*
PaceTech is a medical device manufacturer focused on emergency monitors. I was recruited to establish in-house international advertising and public relations capabilities – setting goals, policies and procedures. Responsibilities included budgeting, negotiations, computer systems, ad development, photography, service bureau relations, ad placement, printing, press releases, etc. I served Senior Management (CEO, and VP International Marketing).

CEO - COO *1988 – 1997*
Wetstone, Inc., was a profitable, service-oriented firm; and represented my second serious business venture. Initially, the company's income was largely derived from remanufacture of Musical Instruments, servicing music stores throughout the state of Florida. High-Mix/Low-Volume Manufacturing operations leveraged Six Sigma and other quality processes. The firm made heavy use of Computers for accounting, inventory, graphics, CRM, and engineering applications. After the EPA began to regulate requisite chemicals, a transition was made to emerging Information Technology and Management Consulting services. This extremely entrepreneurial period sharpened powerful negotiation and strategic skills. Clients ranged across a wide variety of industries. Ultimately, I suspended most operations (between 1997 and 2000) in order to accept an offer from Capital One, extending expertise of systems development within large corporations. I served Entrepreneurs and Senior Management.

CEO - COO *1983 – 1988*
Beachwood Music Corporation was a full-line music store and my first serious business venture. Founded on a shoe-string budget, Beachwood grew to become the largest Guild Dealer in the country and the largest Dean Markley Dealer in the Southeast. The company was an early adopter of Technology, employing use of PC-based point-of-sale and accounting software; and had an esteemed, state-of-the-art instrument repair facility. This was where I (as the owner) began to appreciate the realities of competitive environments. The experiences formed the turning point where I transitioned from a Musician running a business to a highly competitive manager focused on creating strategic competitive advantage. I served Musicians, other Music Stores, and Music Educators.

Professional Musician *1976 – 1998*
While mainly focused on Guitar and Lead Vocals, performance also included percussion, keyboard, and various stringed instruments. Concurrent employment included work as a music arranger, guitar instructor, luthier, sound engineer, sales representative, and store manager.

College

Eckerd College—Business Management	*1999 – 2000*
Hillsborough Community College—Business Management	1999
University of South Florida—Computer Music / Physics / Electrical Engineering	*1973 – 1976*