

Richard Bettencourt - (detailed resume)
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OBJECTIVE: A challenging and interesting position as a software developer. Enjoy providing high level Object Oriented architectures and designs, as well as working on all levels of implementation.

EDUCATION:
9/80-6/84
University of Lowell, Lowell Massachusetts
Bachelor of Science in Computer Science, Magnum Cum Laude.
Graduated 3rd in my class. Deans List for four years. CS GPA was 3.9. Course work included Software Engineering, Digital Logic, Logic Design, Microprocessors and Graphics. Paid 100% of school and living expenses.

EXPERIENCE:
3/95-Present
Building Block Software, Webster NY
Owner
Contracted Software Architect/Engineer
Building Block Software performs contracted software consulting services, with a concentration in software architecture and project completion.

Protect-Your-Love-Ones.com
Contracted to provide secure database services and user interfaces for their WebSpace. Using MySQL, Servlets, JDBC, Java2D and JavaServerPages, provided secure user entry and editing web pages. Implemented database actuated alerts, in accordance with their patent, to provide the customer base with a more efficient online alert system. Alerts are sent via a double Opt-In email list, triggered with the Federally supported Amber-Alert system. Also provided secure administrative pages to monitor and provide customer service.

ROES
Worked with SoftWorks Systems Inc. creating the Remote Order Entry System (ROES). ROES is a consumer and professional front end to Digital Photo Mini-Labs written in Java using JavaWebStart, Swing, Drag-n-Drop, Java2D and JAXP. It connects a cross platform application, running on the user's machine, across the Internet, to a remote photo lab server, also Java based, using sockets, FTP, encryption, JavaMail and generated encrypted .zip Files. ROES allowed users to order edited prints of their local digital images as well as Mini-Lab products, in a customized environment. As a part of this effort, worked with SoftWorks in the Kodak Professional Certified Developers program.

Java Performance
Contracted to provide Java Performance Optimization work. Presented a 3 hour presentation to local Java User groups on using high level patterns and abstractions to facilitate late phase, application specific, optimization techniques. Currently

writing a Java Performance book, "Patterns for Performance" based on these techniques.

Kodak Picture Maker

Contracted to provide a new architecture and implementation for Eastman Kodak's Picture Maker 8.0 digital picture reproduction and editing station. The first implementation of the new architecture was done in Java1.3, using Swing, Reflection, Java2D, JavaComm, and is JAI compatible. Takes advantage of the pre 8.0 legacy Picture Maker application implementation through sockets and JNI. Lead the initial optimization team, which brought the system performance from unusable to a respectable level. Used Statistical analysis, via Design of Experiments (DOE), to further optimize System and Java parameters. Received "Best of the Best" Kodak Project Excellence Award for this optimization work.

GEDDS 3.0

Contracted partial redesign and completed implementation of MJWCorp's GEDDS 3.0. The Graphical Electronic Dosimetry Display System (GEDDS) 3.0™ is a Java-based application which provides an easy to use and understand graphical interface for the control and display of radio transmitted electronic dosimetry data. It Incorporated Swing, Jini, RMI, threads, Java2D, JDBC, JavaComm and JNI providing a secure, real-time, high performance, set of client/server applications that communicate seamlessly with standard databases.

Gaming

Designed and implementing an interactive gaming framework structured around game pieces, boards, environments and rules. Currently being used in a simulation of a game produced by a major toy company. The framework assumes a 3D environment with supporting 3D rendering framework.

DogNPony Show

The DogNPony Show was HighSoft's, of Mountainview CA, premiere software product allowing customers to easily record application user interfaces and screen output, while providing a proprietary playback and edit package under Windows 3.1.

Contracted to provide support for a port of the DogNPony Show to Windows 95. Provided low level playback/editing command communication between processes. Provided an OWL based VCR like GUI to the low level recording/playback engine.

Architected the next generation HighSoft multi-media event framework. This designed allows high through low level acquisition, editing and playback of any captured system event.

9/96-1/99

HighSoft INC., Mountain View CA
Principal Software Architect

Tutor

Tutor was HighSoft's second product in the record/playback field. It married Java, Swing, JNI, Quicktime, QT4Java and the proprietary recording technologies to provide a more comprehensive tool for recording applications and playing them back. It produced QuickTime3.0 compliant files, therefore allowing them to be

played cross platform, as well as streamed over the Internet. The Java implementation allowed the application to be used and debugged on the Macintosh.

Architecture/Framework

Architected and implemented the Multimedia Object interface (MMO). By extending and integrating QuickTime's QT4Java, with a subset of the HighSoft Multimedia event framework, the MMO also added a standard attribute interface, as well as grouping and justification of QT elements such as tracks and movies.

MindReader

MindReader was a Knowledge Management product created from the original Tutor application. It added hyperlinks, bookmarks, storyboarding, outlines and knowledge maps.

Architecture/Framework

Extended original frameworks to support the new features.

9/90-8/96

Eastman Kodak Co., Rochester NY

Framework Architect

Research Associate

Senior Software Engineer

IMA(Image Manipulation Architecture)

The IMA was Kodak's core, object oriented, imaging framework for manipulating transformable data including, but not limited to; vectors, images, sound, time and ICIC. Due to the current disclosure arrangements and its priority within the company, no further details can be given about this project.

Architecture/Framework

Senior member of the design and first iteration development team. Integrated requirements and functionality of Research, Advanced Development and Product sub teams. The IMA frameworks are the foundations of Kodak's future digital imaging directions.

Principle Architect

Senior Software Engineer

ICIC(Intelligent Color Imaging & Communications)

The ICIC is Kodak's new image paradigm. It combines Imaging, Segmentation, Composition, Compound Document, 3d and Hyper-links to synthesize an interactive original scene.

Architecture/Framework

Designed the initial ICIC Framework. The design allowed integration with OLE, Taligent and OpenDoc frameworks. Worked with Taligent engineers to incorporate it as their Compound Digital Image, a Compound Document derivative.

Web Pages

Authored the ICIC Web Site comprising 40+ pages on all research and summary information about the ICIC effort.

Principal Architect
Toolkit Technical Leader
Software Engineer

ColorSystems/KCMS(Kodak Color Management System)

The Color Systems group provides a low cost desktop solution to obtain consistent color across the desktop and it's peripherals. ColorSense, a complete color management package, incorporated a developers toolkit, operating system extensions, and an end user application for transparent and/or complete control over the color management process. The toolkit design is platform independent, object oriented, implemented in C++ and was first released on the Apple Macintosh. Received the Eastman Kodak Special Recognition Award.

Architecture/Framework

Designed the initial ColorSense V1.0 Color Management Framework. While withstanding many changes in program and product direction, the architecture allows multiple color science transformation strategies to work in cooperation to supply a total color management solution. This technique allowed Kodak to bring many separate color activities together under one product. This Framework is the foundation of all the ColorSense products.

Redesigned and released V2.0 to Sun in Feb. 1994. This included a cleaner collection based saving mechanism and a profile format abstraction.

Extended and released V3.0 to Sun in Nov. 1994. This included a new transform technology and support for the industry standard InterColor3.0

Runtime Derivability

Designed and implemented runtime derivability which allows a class to be derived independent of its base class and added as that derivation at runtime. Derivatives can be searched, wildcarded and picked at runtime. It uses standard C++ syntax and is designed for use on all platforms.

The Ports...

Ported the Framework and Toolkit to Windows 3.1/NT as a DLL. Jointly ported with Sun which was released as part of Sun Solaris in 1995. Participated in the port to the Macintosh PowerPC.

Association for Color Developers

Participated in the first Association for Color Developers representing Kodak from the software, API and overall architecture perspectives.

KEPS Support

Work with the Kodak Electronic Pre-press Systems (KEPS) organization to produce a driver level API for easy integration of their transform technology into the KCMS software architecture.

Componentization

Provided a new non-Apple component implementing the toolkit. This involved making all of the toolkit objects perform in a Stand Alone Code Resource with support for globals, virtual methods and >32K segments. Worked with Jasik Designs to allow its debugger to debug components. This Component was Apple ColorSync compliant as well as providing ColorSense functionality.

Multiple Platform Support

Directed the Sun Port and implementing the MSWindows port. Since portability was built-in to the fundamental architecture, it took only 2 weeks of a non-KCMS engineer's time to complete the Sun port.

11/92-9/93

Xpert Solutions, Fairport NY

Senior Partner

Xpert Solutions was a software development service organization. Modeled after a law firm, Xpert Solutions is made up of a hierarchy of software architects, designers and developers; each with their own areas of expertise. Participated in reshaping the original organization into a partnership of professionals.

Object Services

As a Senior Partner, created the Object Services group, concentrating on all facets of Object Oriented Solutions. This included consultation, review and/or contract work in OO Design , Analysis and Development. Started the "Objects by the Hour" program, in which Xpert Solutions bids on whole Frameworks, multiple or individual objects.

2/87-9/90

Apollo Computer INC., Chelmsford MA

Software Engineer

Advanced Technology/Base Graphics

The Base Graphics group provide low level 2D graphics, window management as well as integration with the 3D renderers and hardware device drivers for all Apollo Workstations.

WOODY

Designed and provided the simulation and initial implementation of Woody, a low cost 8 bit display controller integrated onto the mother board of the Apollo DN2500. Most of the drawing was done in the software. Woody supported both color and greyscale monitors.

TIGERSHARK

Designed and provided the Double Buffering, Window Management and Truecolor support for TigerShark an HP display controller running on the Apollo 3500/4500 workstations. TrueColor was supported in the hardware by an 8 bit dither. Unlike other Apollo double buffering devices, TigerShark double buffered the whole screen.

DN10000VS

Provided all Domain GPR (2d graphics primitives), some low level device driver, Display Manager and Domain Dialog support for the DN10000 Visualization Subsystem (a high performance RISC based renderer). The DN10000VS, by providing simultaneous multiple Visuals and Pixel Depths (8 or 10 bit pseudo color, 4-4-4 or 8-8-8 24 bit true color), supports: Overlays, Alpha buffers, Z buffers, Multiple Color Tables, Image Planes and Double Buffering. The total pixel depth of 84 bits was configurable to provide many combinations of the supported functionality on a per pixel basis. Made a video taped course for sales support engineers.

WS-TRAITS

Designed and implemented a generic window management device driver for exotic frame buffers, allowing the Apollo Display Manager and XServer simultaneous access to the display without knowing any of the physical details of the display device. The XWindow backing store and the new GPR auto-refresh mechanism utilize these traits.

VCTM (Virtual Color Table Manager)

Provided the detailed design for the VCTM, (a manager of pixel values and viewable color associations) providing a generic base for: XWindow's color table calls, Domain CTM calls, transparent support for greyscale devices, support for multi-headed configurations, overlay colortables, multiple physical LUTs and the interception of direct physical colortable manipulation.

Misc.

Project Engineer for WOLF, a high resolution 8 bit greyscale display controller. Designed and implemented the DEBUG Display Library, a tool used to monitor and diagnose problems with device driver based display controllers.

Software Engineer

Federal Systems

Responsibilities included the design and implementation of all software that Apollo could not buy nor satisfy through other internal sources.

DFP (Domain Form Package)

Redesigned and implemented the DFP, a general purpose form package for stand alone WYSIWYG form creation, update and instance storage. Database backends include D3M, ASCII and Interbase formats.

Misc.

Designed the dual mode keyboard; allowing the use of a Keytronic KB-5153 to provide the correct raw keyboard data for both the Apollo workstation and the Domain PC Coprocessor. Coordinated this effort with Keytronic of Spokane, Washington and Programmit of NY, NY. Designed DBCONV, translating Apollo database formats to DBASE-III files.

Software Engineer

KIMS-I(Kodak Image Management System)

KIMS used the Apollo Domain network to transmit high resolution images and associated annotation to workstations within an office environment.

Low Cost Workstation

Proposed, designed and implemented the Low Cost Workstation(LCW), a general purpose workstation alternative (Apollo DN300/DN3000) to the previous hardware image manipulation solution. The LCW did in software what the other display did in hardware (e.g. Viewing images, Pan/Scroll, Rotation, Annotation, Forms, Terminal Emulation, Mail etc...). Demonstrated the LCW at a Noon Time technical Update for coworkers and management, which led to it's overall acceptance as the workstation of choice. Designed and implemented an IBM RS-232 Device Driver/Type manager for the DN3000, adding addition serial line support directly to the operating system. Received the "KIMS Support Above and beyond the Call of Duty Award".

Misc.

Redesigned a point zoom routine to achieve a real-time magnifying glass illusion. Conceived and designed a new caching scheme that brings images from local cache to the display in 1-6 seconds (typically under 2), when other methods took from 16-30 seconds. Designed and implemented the diagnostic controller, used to analyze system problems, recover from hardware/software failure, and simulate test conditions. Redesigned the use of D3M database calls, reducing the database run time up to 9:1.

3/85-8/85

Author of BugNapper

BugNapper is a source code debugger designed to be used with Borland's Turbo Pascal on an IBM PC/Comp, using graphics or text mode. The user interface uses windows and color to provide a clean separation of the program's screen, code and data. It runs from within Turbo Pascal or DOS and is also portable to other compiler or language environments.

RELATED

ACTIVITIES: Member of SOFA (Software Frameworks Association). Member of the Western NY Apple Developers Association. Alumni member of the U-Lowell Math And Computer Club. Member of the ACM and IEEE.

PATENTS: Patent Pending: "A Camera for Generating and Recording Object Data with the Recorded Image", Docket #73773DMW

INTERESTS: Enjoy my family, hiking, gardening and other outdoors activities.

REFERENCES: Personal references are available upon request.