

BRENDA BALOG

PERSONAL STRENGTHS

- Nine years of engineering experience.
- Object-oriented analysis, design and modeling following the Rational Unified Process (RUP).
- End-to-end system architecture design and implementation.
- Involved in the complete software development lifecycle.
- Solid analytical capabilities, self-motivated, team player, diligent.
- Excellent interpersonal and communication skills with development teams and clients.
- Extensive BEA WebLogic expertise for design and implementation of large-scale EJB-based applications. Proven expertise in server-side Java (J2EE) technologies: EJB, JMS, JSPs/Servlets, and other APIs and services.

SKILLS

- Languages: J2SE, C++, C
- Software Technologies, Products and Libraries:
 - J2EE: EJB, JSP/servlets, RMI, JAAS, XML, JDBC, RMI (BEA WebLogic Server 6.0)
 - O/R Mapping Tool: TopLink 2.5.1
 - CORBA: TAO (The ACE ORB), OrbixMT, OrbixNames
 - UML Modeling Tools: Together/J, Rational Rose
 - JSPs/Java servlets and Java beans
 - Web Application Servers: Jakarta Tomcat 3.2.1, WebLogic servlet engine
 - Jakarta Struts 0.5, Jakarta Log4J, Apache HTTP Server 1.3.19, Microsoft IIS, Netscape Server
 - Real-time feeds: Reuters Triarch, Tibco, S&P feed
 - RogueWave Tools.h++ and DbTools.h++
 - Various Unix tools: Perl, Shell scripting
- Platforms: Intel PC, Sun SPARC, IBM RS/6000, various telecom legacy systems
- Operating Systems: Unix (Solaris 5.6, AIX), Windows NT/2K
- Databases: Oracle 8.1.6, Sybase System 11
- Methodologies: Rational Unified Process, Feature-Driven Development, Zachman framework
- Configuration Management/Builds: CVS, make, Ant, Korn Shell
- Protocols: TCP/IP, GSM, SS7

EXPERIENCE

Architect/Senior Application Developer Bayshore Technologies Inc. 03/00 to present

As part of a small architecture team, modeled, designed and implemented a portfolio management and financial planning portal using the **J2EE architecture** on a **Sun Solaris 5.6** platform. The client is a major financial institution in the UK.

The technologies used for all the application components are described below:

- **WebLogic Server 6.0 (EJB design patterns, CMP)**
- O/R mapping using **TopLink 2.5.1** to an **Oracle 8i** database
- **J2SE (GoF design patterns), Java Mail, JAAS, JNDI, RMI, JMS** queues, **Log4J**
- **Tomcat 2.3**, WebLogic Web container and **Struts 0.5**
- **JSPs/HTML, XML** and Java beans
- **CVS, make, Ant**

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Responsibilities:

- Serve as application architect throughout all the phases of the development. As such, define, design and develop the structure and dependency relationships between the application components.
- Followed the **Rational Unified Process (RUP)** to effectively assign tasks and responsibilities within the development team, as dictated by the PMO policies and procedures.
- Worked with the PM to **identify, mitigate and resolve risk** in various application components and reflect it in the project plans.
- Define application layers and enforce standards and design patterns to be used by the development team, in an effort to achieve uniform and consistent application component architecture (**EJB** and **GoF design patterns**).
- Model, design and implement a significant part of the application components using **UML (Together/J)**.
- Addressed such issues as: **WebLogic clustering, fault tolerance and fail over, HTTPSession replication, JDBC connection pooling and transaction integrity**.
- Mentor new members of the team to quickly become proficient in the use of the J2EE technologies for the application development.
- Represent the company in a series of client technical presentations, installations and deployment.

Accomplishments:

Designed and implemented a number of application components:

- Portfolio management component allows users to create and maintain portfolios and hold positions in stocks, mutual funds, cash equivalents, fixed assets and liabilities and uses update prices provided by the S&P real-time feed.
- User management component allows users to login the portal, create and maintain a personal profile with info such as locale, preferred currency, and contact address and e-mail.
- Trigger service allows users to setup real-time alerts for financial instruments and portfolio prices, as well as periodic notifications of portfolio snapshots, periodic transactions and liability payments. The delivery of notifications is guaranteed using **JMS**.
- Event service allows third-party systems to synchronously log events with the application.
- Security service provides user authentication and authorization and allows administrators to define security roles and privileges (implements **JAAS**).
- Participated in the efforts to improve the system **performance** through extensive **object caching** and SQL prepared statements.
- Installed **CVS** and participated in the creation and setup of a set of **Korn scripts, make files and Ant scripts** used to automate the development environment and the build process.

Application Architect/Senior Developer i|money Corp.

09/99 to 03/00

Modeled, designed and implemented an OO framework for an n-tier, highly transactional application which provides facilities for load balancing, session management, centralised logging, tracing, centralised auditing, configuration management, standard exception and error handling.

The technologies involved in the i|money solution are: **TAO Corba ORB** and services, **ACE** communication framework, **Tomcat, servlets**, JSP HTML and XML generation, **RogueWave Tools.h++** and **DBTools.h++**, Oracle 8.1.6 and **TIBCO** as data sources.

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The business requirements, functional specifications, use-case based analysis and **UML** object models and sequences were delivered iteratively using **Together/E**, in short two-week business cycles, following the **Feature-Driven Development** process.

Accomplishments:

- Participated in all the phases of the software development life cycle, from installing the software, to defining business requirements, modeling, design, implementation and testing of all the facilities described.
- Provided clear application layers and design patterns for the development team to implement new server components.
- Initiated **code reviews** to track the performance, scalability and high-availability of various application components and proposed changes to **software commitments** where appropriate.
- Built a Quote Server prototype. Business logic is encapsulated by **Corba C++** components. Client interaction is presented through **JSP** pages and Java servlets through the **Tomcat** Application Server.
- Built a dynamic load balancing and redundancy service, which features both client and server-selected load balancing mechanisms that implement random and round-robin object migration strategies to provide per-call and per-unit-of-work load distribution. The service is based on the standard **TAO Naming Service**.

Senior Programmer/Analyst

R&D Group, Solect Technologies Group

09/97 to 08/99

IAF3 is a suite of Web based, integrated modules providing the foundation for a fully customizable Billing, Customer Care and Service Management solution.

Responsibilities:

- Responsible for all aspects of **Corba** server development: **memory management, concurrency, evictors/garbage collection, application-level security** and dynamic invocation.
- Determine the functional units of work from the business requirements and provide detailed estimates for the design, development and unit testing effort.
- Design for the major server components using Object Oriented modeling techniques (**UML** and **Rational Rose**).
- Train and mentor new members of the team.
- Participate in recruiting initiatives by screening potential candidates for technical knowledge.

Accomplishments:

The core of the product is a high performance, distributed server that maintains a persistent layer utilizing an **Oracle 8** database. The server interfaces with clients' components through a set of specialized **Corba IDL** interfaces.

- Designed the coarse grained IDL for the Entity Server and implemented the translation layer from the Corba distributed objects to the business objects
- Implemented application-level security (authentication/authorization) based on login name and password. Users are assigned security privileges within IAF3 to perform actions
- Designed and implemented the Entity Navigators, a simple search engine which allows a client application to obtain subscriber information given a search criteria
- Implemented a dynamically configurable auditing facility

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Solar is an Application Server that captures interactive data from client Internet Devices and relays the data to the Corba servers for manipulation, with additional features to address the limitations of traditional Web based applications (**C++** with **Corba IDL**).

- Designed and implemented the Connection Layer and the Request Manager using the ACE framework (the Reactor/Connector/Acceptor design patterns)
- Designed and implemented (in a team of two) the Application Layer as a Corba client for the IAF servers; Session and State Management are ensured during a user session (**C++**)
- Designed and implemented an AutoRegistration tool for the Netscape and IE browsers, employed by Internet Service Providers to automatically register new customers. The Graphical User Interface is implemented in HTML and JavaScript. The **CGIs** are implemented in **C++**. The user data is persisted in an **Oracle 8** database
- Enhanced and optimized C++ CGI class libraries and the IAF2 server DB Access class libraries to the Oracle database (**C++**). Used intensely **RogueWave** libraries. Implemented Oracle stored procedures.

Programmer/Analyst

RiskWarehouse Group, Algorithmics Inc.

09/95 – 09/97

RiskWarehouse (RWh) is an integrated set of client/server applications and databases (Sybase servers on Solaris 5.6; client applications on Solaris 5.6 and HP UX 10.x) which financial houses use to consolidate their securities portfolio data and to analyze their market exposure.

Responsibilities:

- Design and implement various components of RWh
- Technical point of contact with the client (CCF) both during system development and in discovering future opportunities
- Responsible for the integration of the ODB in the final phase of the project

Accomplishments:

- Designed and implemented a Database Access Library for the ODB (Output Database), to ensure database independence for the application (**Sybase/Oracle/file** in **C++**)
- Designed and implemented a scheduling and failure recovery system for the distributed components of RWh and ODB; AutoSys (Platinum) was used for the GUI interfaces and the sequence of execution for the tasks was persisted in a metadata database
- Designed and co-implemented Market Data Utility, which invokes the real-time data insertions from the Reuters feed into the RWh database (**C++**)
- Implemented and optimized the RWh External Loader, which loads financial instruments into the RWh database from flat comma separated files, using metadata (**Perl 5**)
- Enhanced and optimized the real-time data server to allow RiskWatch to remotely link to the **Reuters/MIPS/Tecknekron** real-time feeds from a Digital Unix platform.

Software Engineer

Alcatel Network Systems, France/Romania

06/93 to 08/95

Responsibilities:

- Design and implement client/server applications integrated in the Alcatel E10 switching systems, under ISDN Telephone User Part (in C on IBM RS/6000)
- Consult on project design and specifications

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- Functional test for telecom services, by working directly with the different signaling protocols for telecom: Signaling System no. 7, on the PBX legacy systems.

Accomplishments:

- Designed, implemented and tested (unit and integration tests) the ISDN Availability Control System which optimizes the flow of data and control messages
- Designed, implemented and tested the Automatic Congestion Control system which diagnoses the flow of data and signaling messages exchanged with adjacent branch exchanges and conducts the troubleshooting procedures
- Designed and implemented the Group Messages Handling System which optimizes the flow of control messages (blockage, release or reset of circuits) for groups of circuits between two switching points, for the purpose of optimizing the backup and initialization procedures
- Implemented and tested (unit and regression tests) the User-SCP Signaling System which routes and transparently transports the signaling information between a branch exchange and the switching centers

Associated Software Engineer University of Timisoara, Systems Design Department 06/92 to 10/93

- Designed and implemented a real-time robotic vision system on MC68020 processor (C and 68000 assembling language on a Unix platform). Incorporated artificial intelligence techniques into the system.
- Implemented an operational research algorithm for the optimization of the transfer time and distances in an enterprise; co-implemented GUI component using Xmotif.

EDUCATION

1988–1993 University of Timisoara, Romania

- Master of Applied Science, Computer Engineering Option, specialized in Real Time Systems

1990 – 1993 University of Timisoara, Romania

- Attended Courses in Business Administration
- Courses in Telecommunications, Advanced C++ and Object Oriented Design

INTERESTS

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- Aerobics, cycling, hiking, cross country skiing, sailing, scuba diving, literature and travel.