

Eric Bergerson

Objective Technologies Inc.
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Technical Summary

- 16 years of professional software development experience.
- 14 years of experience in hands-on management of software projects and products.
- Hard-core programmer.
- M.S and B.S. in Electrical Engineering.
- Designed, architected, and implemented systems in Financial Services, Health Care, and ASP vertical markets.
- Designed, architected, implemented, marketed and sold 12 shrink-wrap software products.
- Expert in object-oriented analysis, design and implementation, working in Java, Objective-C and C++.
- Mentored, taught and lectured on object-oriented development, general programming, and financial services development.

Project & Product Experience

[Objective Technologies Inc](#), February 2002 – Present, Employee

Description: General software development consulting with an emphasis on Financial Services.

Projects:

West End Financial Advisors, July 2003 – August 2004, Consultant

Description: Hedge Fund

Project Goal: Analyze equity investment strategy, propose improvements, implement & deploy technical systems to support improvements.

Role: Analyst, Architect, **Programmer**

Languages: Java, SQL, HTML, Excel, Mathematica

Development Environment: Windows XP Pro, WebObjects, MySQL, Java 2 v 1.4, IntelliJ IDEA, Emacs.

Deployment Environment: Linux (GenToo), WebObjects, MySQL, Java 2 v 1.4

Responsibilities: Provide general expertise in system development, financial quantitative analysis and critical thinking.

- Investment Strategy Analysis:
 - Interview all internal and external participants in fund investment strategy.
 - Participate in internal investment strategy meetings.
 - Identify areas for improvement.
- Financial Theory & Research
 - Provide theoretical advice related to options theory, hedging and margin.
 - Provide quantitative modeling in both Excel and Mathematica.
- Custom Software Development – Propose Architect, Implement & Deploy
 - System for identification of market opportunities that meet the requirements of the fund's investment strategy. It includes:
 - Opportunity Knocks – A server process that analyzes the domestic equity market to identify option spreads that meet pre-determined profiles.
 - OKWeb – A web-based application for creating, managing and scheduling jobs for analysis by Opportunity Knocks.
 - Real time data feed API – Programming interface to real-time market data. Generalized to support multiple data vendors. Currently supports Comstock XpressFeed.
 - MySql utilized for both Opportunity Knocks and OKWeb as an object oriented persistent store.
 - Excel Output – All final output is provided, via the web, as Excel reports.
 - System for extraction and manipulation of historical data.
 - Extracts data from FAME, massages it through a series of custom functions and stores the data in MySql.

Results: All client assignments fulfilled. All production systems are up and running.

The Church Pension Fund, April 2002 – June 2003, Consultant

Description: Pension Fund, Insurance

Project Goal: Develop tools for cleaning data from all business units in preparation for integration via a central database.

Role: Architect, **Programmer**

Languages: Java, SQL, HTML, Python

Development Environment: Windows XP Pro, Apache Tomcat, MySQL, Java 2 v 1.4, IntelliJ IDEA, Emacs.

Deployment Environment: Windows XP Pro, Apache Tomcat, MySQL, Java 2 v 1.4

Responsibilities: Designed and implemented the Data Review System for cleaning corporate data. It includes:

- A configurable rule-based program for conforming data to a corporate standard.
- A configurable algorithmic application for identifying duplicate rows within a data set and identifying matching rows between data sets.
- Distributed Servlet-based web applications for reviewing proposed changes and matches by the automated systems by the business units.
- Scope: ~35,000 lines of Java code, ~12,000 lines of documentation.

Results: Completed eight projects on or before schedule, exceeding the required features for each project.

Noggin.com/The-N.com, March 2002, Consultant

Description: Noggin.com and The-N.com are web sites that tie into the Noggin.com cable channel. The sites utilize many different integrated technologies, which are tied together on an underlying set of web applications that handle all of the inter-application communication, authentication and management of persistent data.

Project Goal: Re-architect the site for a new version rollout, which includes splitting the original noggin.com site, into two distinct sites, noggin.com and The-N.com that can have a totally different Look & Feel generated by the common system of web-application and support systems.

Role: Architect, **Programmer**

Languages: Java, SQL

Middleware: WebObjects

Development Environment: Windows XP, WebObjects, IntelliJ IDEA, Emacs, Solaris servers with Oracle, SMTP, and CVS

Deployment Environment: Solaris, Oracle

Responsibilities:

- Re-architect and implement improved authentication systems, including peer APIs for Flash integration.
- Re-factor and improve core foundations.
- Implement new web-based authentication app for both sites.
- Implement smut filters to prevent inappropriate language use.

Results: All client assignments fulfilled on-time and with-in budget.

TIAA-CREF, February 2002, Consultant

Description: TIAA-CREF utilizes a large number of web-based apps that manage persistent authentication and session information in a three-tier system. The middle tier consists of two common repositories for authentication and session information that are accessed by all of the other applications. These applications are accessed via a variety of different inter-application communication protocols serviced in multiple threads.

Project Goal: Analyze and improve the middle tier applications for better performance, especially issues arising out of the use of multiple threads.

Role: Debugger, Architect, **Programmer**

Languages: Objective-C

Middleware: WebObjects

Development Environment: Windows NT, WebObjects.

Deployment Environment: Web, Windows NT, Mainframe

Responsibilities:

- Rigorous examination of current systems.
- Implement applications to drive experimental testing for comparison with base-line measurements.
- Improve code where appropriate.
- Defend all choices with measured results and/or well-supported reasoning.
- Fully test new applications
- Analyze risks/rewards of utilizing new middle-tier

Results: All client assignments fulfilled on-time and with-in budget.

Ukibi, Inc., July 1999 – July 2001, *Employee*

Description: Web-based application service provider of contact management engines.

Project Goal: Produce systems for accessing, synchronizing and distributing contact management information over a broad range of mediums, including web, wireless, and PDA technologies. Systems designed to be provided as a service, such that all functionality appears to be part of customer's proprietary product offerings.

Role: Architect, **Programmer**

Languages: Objective-C, SQL, HTML, WML, XML

Middleware: WebObjects, WAPObjets, SyncML

Development Environment: Mac OS X Server 1.2

Deployment Environment: UNIX, Solaris, Oracle

Responsibilities:

- Design and Architecture of entire system, from business objects through user-interface.
- Principle implementer of the core foundation of business objects to represent the domain.
- Principle implementer of the first release of the WebObjects based version of the foundation web application for the system.
- Implemented the first and second major releases of the WAPObjets based version of the system, providing access to contact management information via cell phones and other wireless devices.
- Designed and managed a internet-time release process resulting in a quality assured minor release of the system every two weeks.

Results: Produced the primary product offerings for Ukibi, Inc. worldwide.

LGS Systems, Inc., September 1996 – July 1999, *Employee*

Description: Markets Practice Management Systems for use by Medical Practices and Groups.

Project Goal: Produce a full service practice management system, which handles the administrative, clinical, and billing requirements of a Medical Group. Must be scalable from small offices to distributed groups with thousands of locations and tens of thousands of doctors. Must be very simple to learn (5 – 10 minutes of training for front office staff). Must be database independent and web-ready.

Role: Architect, **Programmer**

Languages: Objective-C

Middleware: Enterprise Object Framework, Foundation Framework, Yellow-box

Development Environment: OpenStep, OpenBase

Deployment Environment: Windows NT or OpenStep, OpenBase

Responsibilities:

- Design and Architecture of entire System
- Implementation of various systems.
- Implementation of Scheduling system, including database, business objects, functional systems and UI.

Results: Produced MDIQ, the primary product of LGS Systems, Inc.

Objective Technologies Inc, July 1990 – September 1996, Employee

Description: Consultants focusing primarily on companies involved in Financial Services. Independent Software Vendor focusing on development tools, database access tools and applications.

Projects:

Republic Bank – Mortgage Analytics Group

Description: Department responsible for producing analytics for trading mortgages.

Project Goal: Develop a system for distributed asynchronous distribution of calculation services. When a client application needs a complex calculation performed, it contacts a central vendor, who launches and assigns a server process to process the calculation request. The client can then send the request to the server, who process the request and asynchronously returns the results.

Role: Architect, **Programmer**

Languages: Objective-C

Middleware: Portable Distributed Objects, Foundation Framework

Development Environment: OpenStep/NeXTSTEP

Deployment Environment: Solaris, NeXT

Responsibilities: Design, Architecture and Implementation of entire project.

Results: All client assignments fulfilled on-time and with-in budget.

Williams Energy – Commodity Trading Group

Description: Department responsible for trading energy commodity securities.

Project Goal: Develop a full trading system, including display or real-time market data and management of trader/corporate portfolio.

Role: Architect, **Programmer**

Languages: Objective-C

Middleware: OTI's Palettes, NeXTSTEP

Development Environment: NeXTSTEP

Deployment Environment: NeXT

Responsibilities: Worked as a member of a team of two responsible for all:

- Design, Architecture and Implementation of the project.
- Mentoring of Williams Energy staff in object oriented development

Results: All client assignments fulfilled on-time and with-in budget.

Phibro Energy – Commodity Trading Company

Description: Financial Services company dedicated to energy commodities.

Project Goal: Develop the core contact management application as the foundation for a company wide trading system.

Role: Architect, **Programmer**

Languages: Objective-C

Middleware: OTI's Palettes, NeXTSTEP

Development Environment: NeXTSTEP

Deployment Environment: NeXT

Responsibilities: Worked as a member of a team of two responsible for all:

- Design, Architecture and Implementation of the project.
- Mentoring of Phibro Energy staff

Results: Project was originally given to competitor with 3-month deliverable. The competitor never produced any usable work. We were given the same project, with a 3-week deliverable. Project was delivered on time and with-in budget.

Lehman Brothers – Sugar Trading Desk

Description: Department dedicated to trading sugar commodities.

Project Goal: Develop a framework for integration of Mathematica™ into NeXTSTEP applications.

Role: Architect, **Programmer**

Languages: Objective-C

Middleware: NeXTSTEP

Development Environment: NeXTSTEP

Deployment Environment: NeXT

Responsibilities:

- Design, Architecture and Implementation of the project.
- Mentoring of Lehman Brothers staff on general development methodologies and integration of the framework into their applications.

Results: Resulting framework became OTI's shrink-wrapped developer tool product, [MathPalette™](#).

William Morris Agency

Description: Premier worldwide talent agency

Project Goal: Develop a system patch that will insure that ALL documents printed from any NeXT computer on their vast network, will include a non-intrusive pervasive watermark that clearly shows who printed the document and when the document was printed.

Languages: Objective-C

Middleware: NeXTSTEP

Development Environment: NeXTSTEP

Deployment Environment: NeXT

Responsibilities: Design, Architecture and Implementation of the project.

Results: All client assignments fulfilled on-time and with-in budget.

Lehman Brothers – Foreign Exchange

Description: Department dedicated to trading foreign exchange commodities

Project Goal: Fix problems in existing analytics application

Role: Architect, **Programmer**

Languages: C

Development Environment: SunOS

Deployment Environment: SunOS

Responsibilities: Programming

Results: All client assignments fulfilled on-time and with-in budget.

Graph Palette™

Description: Palette for NeXT's Interface Builder development tool

Project Goal: Develop a user interface widget for displaying and interacting with multi-range, single-domain, two-dimensional graphs.

Role: Architect, **Programmer**

Languages: Objective-C

Middleware: NeXTSTEP

Development Environment: NeXTSTEP

Deployment Environment: NeXT

Responsibilities: Along with one other programmer, Design, Architecture and Implementation of the project.

Results: Resulting palette became OTI's shrink-wrap developer tool product, [GraphPalette™](#).

Chooser Palette™

Description: Palette for NeXT's Interface Builder development tool

Project Goal: Develop a user interface widget for displaying and interacting with lists of data.

Role: Architect, **Programmer**

Languages: Objective-C

Middleware: NeXTSTEP

Development Environment: NeXTSTEP

Deployment Environment: NeXT

Responsibilities: Design, Architecture and Implementation of the project.

Results: Resulting palette became OTI's shrink-wrap developer tool product, [ChooserPalette™](#).

OTStringKit™

Description: ObjectKit for NeXT's Interface Builder development tool

Project Goal: An object oriented implementation of the standard C strings.h interface.

Role: Architect, **Programmer**

Languages: Objective-C

Middleware: NeXTSTEP

Development Environment: NeXTSTEP

Deployment Environment: NeXT

Responsibilities: Design, Architecture and Implementation of the project.

Results: Resulting palette became OTI's shrink-wrap developer tool product, [OTStringKit™](#)

Lehman Brothers, June 1988 – March 1990, Employee

Description: Systems Analyst in the Equity Arbitrage department, responsible for program trading, options trading and new product development.

Role: Architect, **Programmer**

Responsibilities: Design, Architecture and Implementation of all projects.

The Electronic Portfolio Management System (EPMS)

Project Goal: Develop a set of applications for distributed parsing, maintaining, evaluating, and executing program trades of baskets with a typical valuation of between \$300 and \$500 million dollars..

Languages: C++

Environment: SunOS, Sybase

The Security Object Library (SOL)

Project Goal: Develop a generic class library of business and systems objects for developing financial trading systems. Forms the foundation of the EPMS.

Languages: C++

Environment: SunOS, Sybase

The EPMS Client Site System

Project Goal: Develop a PC based system to allow Lehman's clients to monitor and interact with Lehman's EPMS services.

Languages: C, C-Worthy

Environment: DOS

The USU Real Time Trading Station

Project Goal: Develop a system to provide traders with a real-time trading environment for making a market in Lehman's proposed Unbundled Stock Unit security.

Languages: C, C-Worthy

Environment: DOS

The USU Historical Study

Project Goal: Develop a collection of analytics and support programs to analyze the theoretical historical performance of the Unbundled Stock Unit security. The project required analysis of the entire price history of the NYSE.

Languages: C

Environment: SunOS, Sybase

Analytics

Project Goal: Develop a collection of analytics to support trading including the Black-Scholes Option Pricing Model and the Cox-Rubinstein Binomial Option Pricing Model.

Languages: C

Environment: SunOS, Sybase

EDUCATION

University of Rhode Island, Kingston, RI

Master of Science in Electrical Engineering, Graduated May, 1988

Carnegie-Mellon University, Pittsburgh, PA

Bachelor of Science in Electrical Engineering, Graduated May, 1986

PUBLICATIONS

- Automated 3D Reconstruction of Tree-Like Structures from Two Orthogonal Views, **Proceedings of the International Conference on Acoustics, Speech, and Signal Processing**, New York, 1988 (with Dr. Ying Sun)
- Automated 3D Reconstruction of Vascular Structure from Biplane Angiograms, **The 23rd Meeting & Exposition of the Association for the Advancement of Medical Instrumentation**, Washington, D.C., May, 1988 (with Dr. Ying Sun)