Objective Technolgies, Inc. Consulting Services

> "**Objective Technologies may be one of NeXT's biggest marketing assets on Wall Street**."
> *- Wall Street & Technology, June 1992*

Objective Technologies consulting has a mission: to make our clients more efficient and profitable using object-oriented programming. The following information will acquaint you with Objective Technologies, Inc. as a company and show you how our consulting services can benefit you.

> "**Objective Technologies...has been instrumental in showing the financial giants how to slash their data-processing costs while improving their competitiveness.**"
> *- NeXTWorld Magazine, Fall 1992*

Objective Technologies is a boutique consulting and software company with broad expertise in delivering financial services systems of all sizes and degrees of complexity. These systems are typically implemented in heterogeneous, distributed, workstation environments and capitalize on Objective Technologies' specialty: the ability to quickly deliver a custom solution that is profitable, appropriate, manageable, and maintainable. This is accomplished by rapidly mobilizing a development task force to address the customer's needs and problems using cutting edge technological skills.

Objective Technologies has had extensive consulting experience in:

- Trading Systems Development
- Financial Services
- Database Integration
- Object-Oriented Development
- Distributed Systems
- Unix® Workstations
- **NeXTSTEP** Development

Objective Technologies, Inc.

Corporate History

> "**That Objective Technologies has managed to multiply its revenue threefold ... in the past two and a half years is proof that the company is successful....In addition to rapid revenue growth, Objective Technologies, which was the first company to sell commercially available custom object palettes for NeXT, now has ten software products and derives half its income from software.**"
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> > *- VARBUSINESS* magazine
> > > *in an article which named Objective Technologies Inc. one of the top 100 VARs for 1992.*

Objective Technologies was founded in 1990 to develop commercial software and to provide consulting services of the highest quality. The company is financially very stable and is considered to be one of the industry leaders.

Objective Technologies' Founders and Staff

Alex Cone, President, a ten-year Wall Street veteran with extensive experience in the design and implementation of distributed trading systems, founded Objective Technologies in 1990. He spent five years as a research analyst with Salomon Brothers Inc's prestigious Hedge Group in Bond Portfolio Analysis. There he managed a team of programmers and analysts which built software for the firm's trading and analytic departments. After leaving Salomon Brothers he joined Nomura Research Inc. (NRI) where he designed and built all the analytics for its Corporate and Government Bond Trader Workstations. He also designed and supervised the construction of their Securities database. As a freelance consultant, he then moved to Lehman Brother's Capital Market Analytics Group, where he designed and built a tool kit for the construction of networked trading, risk management, and inventory control systems. As a consultant to Salomon Brothers, he built systems to load and update the 10 GB Mortgage Security database.

Eric Bergerson, Objective Technologies' co-founder and Managing Director, gained his Wall Street experience at Lehman Brothers in their Equity Arbitrage Group. His

responsibilities included system development, infrastructure design and implementation, and financial analysis. He developed systems for Real-Time Program Trading, Portfolio Management and Option Valuation. Some of these systems were built upon an object oriented foundation class library, the Security Object Library, which he designed and implemented to support generic trading system development. He also implemented the systems support for due diligence and analytics for new securities—including two year covered warrants issued abroad and the Lehman backed Unbundled Stock Unit.

Other members of the Objective team have degrees from top universities including, Carnegie Mellon University, Columbia University, Yale University, Dartmouth, Oberlin College, University of Kentucky, Seabury-Western Theological Seminary (Northwestern University) and Fairleigh Dickinson University. Besides the previously-mentioned specialties, the staff's interests and expertise include such wide-ranging specialties as: computer music and graphics, artificial intelligence, system administration, and technical writing.

Client and Project History

Objective Technologies have worked with or consulted to many of the major financial institutions in New York City, the United States and abroad. The company has been responsible for creating systems for a diverse set of industries. Some of the accomplishments include Program Trading Systems for Institutional Equities, Commodity Trading Systems supporting Energy Trading, several General Front-End Quote Delivery Applications and Commercial Banking Systems. All projects include extensive research into proper paradigm development and the implementation of generalized class libraries. These object kits not only support the requested system, but enable the client to leverage their investment in Objective Technologies work after the project is over. Often the ownership of these non-proprietary foundation classes is retained by Objective Technologies and the objects become consulting products to be used in future projects (see below).

As part of the consulting practice, Objective Technologies personnel are in high demand internationally as leaders of training programs and seminars and lectures. Objective Technologies staff have conducted complete courses, training sessions and programs for financial services organizations in London, Paris (at La Bourse), Tokyo, New York and throughout the United States.

Courses and training program topics have included:

- Financial Systems Development and NeXTSTEP
- Architectural Analysis
- Object Oriented Design
- Object Oriented Database Management Systems
- Design Considerations for NeXTSTEP Optimizations, and
- Efficient Relational Database Usage in Financial Systems Development.

Seminars and lectures have covered:

- Mission Critical Application Development
- Financial Services System Design, and
- Leveraging Third Party Objects.

Consulting Services

Objective Technologies have always made it a practice to carefully tailor the consulting practice to the needs of the clients; each consulting relationship is carefully negotiated to meet the needs and expectations of both parties. Over the years, however, a pattern has developed which is both flexible and mutually beneficial.

Typically, one or more Objective Technologies project task force leaders will meet with the client to determine the client's needs and carefully examine the problem(s) to be solved.

A task force of Objective Technologies' personnel (and sometimes client employees) begin an intensive design phase to determine the basic design goals and fundamental principles which will govern the system's development process. Next, one or more consistent paradigms are developed to support the system's implementation and usage.

A study of third-party software is made to determine what already-tested-and-available software can be integrated into the system and what must be custom-designed. Objective Technologies' philosophy is always to make the most efficient use of the resources at hand: leverage as much existing software as possible, buy whatever software will facilitate the project, and finally, construct whatever software can't be purchased.

The results of this process are then presented to the client. Advantages and disadvantages of each design aspect are discussed and decisions are made.

Objective Technologies usually contracts with a client using a phased design approach. In consultation with the client, a large project is broken down into smaller phases. During this consultation, it is important that the final phased production design balance the client's business needs with the system programming requirements. The result: Objective Technologies' extensive experience can enable certain phases of the project to begin making the customer money even before the entire system is completed. As always, the specifications of each phase are rigorously defined and approved by the client.

Each phase is divided into three stages: development, first deliverable and client testing, and final acceptance. As each of the phases reaches the deliverable and client testing stage, the development of the next phase is begun. This scheduling technique allows each of the larger project's "building-blocks" to be tested for structural integrity while the other interlocking pieces are being created. This process facilitates design and testing while, at the same time, allowing programmers the luxury of tailoring the design of each phase to every other piece of the project "on the fly" if necessary. In addition, the process stimulates creativity and allows the software team to check for and correct design flaws and coding errors at the earliest possible stage of the project. The result? A very robust custom application.

Under normal circumstances, Objective Technologies and the customer treat each phase as a separate contract under rule of the main contract; an approach which promotes a continuous dialogue with the client during the design, programming and testing phases. Objective Technologies has found that this results in a final product that, ultimately, closely matches the client's specifications. In fact, the coordinated efforts of the two parties, usually results in a product that exceeds original expectations.

Object Oriented Programming

Objective Technologies Inc. was begun partly as a result of the founders' growing discontent with traditional programming solutions in the area of Financial Services. They wanted to bring a more efficient, manageable, maintainable and profitable method of development to the market place. The opportunity existed in the unique combination of facilities available from within NeXT Computer's NeXTSTEP. NeXTSTEP provided integration of a powerful operating system (Mach), superior graphics (Display PostScript, Renderman), strong distributed support (built in networking, powerful inter-process communication and distributed objects) and many other features. The most important feature, though, was the pervasive use of object-oriented technology, upon which all else was built and built into.

Objective Technologies, Inc.

One of the prime reasons that clients employ Objective Technologies, is to exploit the depth of knowledge and deft use of Object Oriented techniques. The philosophy is to generalize as much of the separate functionalities required to support each project. These elements of common functionality are consolidated into a foundation class library that can be applied to other projects. This leverages the client's investment efficiently, re-using an optimum amount of code.

The result is a strong platform of objects kits, that form a basis for describing the needs of the client's business. Often, these kits are so general, that they provide building blocks whose usefulness extends beyond the scope of the original consulting project. In such cases, we may offer incentives to our clients to allow us to retain the ownership of these kits, so that our future clients can benefit from the code.

At first glance, some clients have been nervous about this approach. However, once they understand it, everyone has been extremely satisfied with it. The promotion of generic tools, which do not incorporate proprietary information or methodologies, can help all users of similar technologies. By allowing Objective Technologies to market these products, each client enjoys the peace of mind which results from knowing that they are using code that is being supported on the open market, tested and re-tested by multiple clients, and is being maintained and updated to keep the product current, useful, and competitive in its own right.

As a result of these policies, Objective Technologies offers the following Object Kits to help leverage your projects:

- **OTAppKit**™ provides a quick path for developing applications that incorporate the NeXTSTEP paradigm by implementing many of the details necessary to create a commercial strength NeXTSTEP application.

- **OTDBKit**™ is designed to help developers write applications that work with the Sybase™ relational database. It is a foundation class library of objects that simplify Sybase interactions.

- **OTStringKit**™ encapsulates string functionality in an object and will help you use strings more easily and effectively. The String Kit includes objects which manage regular expressions, file system paths, data and string parsing.

- **ObjectPersistenceParadigm**™ is an object kit, a suite of applications, and a design paradigm for supporting persistence for Objective-C objects within the NeXTSTEP environment. The OPP supports persistence by extending the life of a standard object instance beyond the life of the application within which it was created or manipulated.

In addition, Objective Technologies is currently shipping shrink-wrap developer tools which assist custom application development. Objective Technologies developer tools include a range of object palettes which address common software development issues and tasks:

- **SmartFieldPalette**™ is a text formatting package with extensive functionality.   With it, you can quickly and easily incorporate reliable editing, formatting, data entry and data validation into applications.

- **GraphPalette**™ provides tools for graphing data in custom applications. It allows you to separate the data in your application from the implementation of graphical representations.

- **ChooserPalette**™ is a selection list manager.   It provides a simple way to display lists and allow users to make selections from them. Each entry in the list is displayed in a multiple field cell similar to the NeXTSTEP Mail application.

- **MathPalette**™ allows users to access models, render graphs, and use the functionality provided by *Mathematica* within custom applications.

Finally, Objective Technologies markets shrink-wrapped, database-tool applications which are useful for the developer and end-user alike:

- **OTProvide**® extracts information from a Sybase™ relational database and integrates the data into a Lotus Improv™ spreadsheet.

- **SqlBuddy**™ is a graphical interface to Sybase. Designed to increase the productivity of both novice and expert Sybase users, it is powerful, intuitive and easy to use.

and Objective Technologies' soon-to-be-released product,

- **Impress**™, a layout-oriented report generation tool. It will produce custom reports driven by data retrieved from any NeXTSTEP DBKit supported data server.

Each of these tools is not only useful as a stand-alone application, but incorporates an *open* design, so that they can be used as system integration tools within a cohesive environment. Each tool may come with either an application programming interface (API), loadable bundles, services, or some other method of communication which facilitates integration into the client's design.

Arrangements

Objective Technologies is located in the heart of the New York City financial district, across the street from the World Trade Center. In a world of instant communication, wide area networks, and electronic mail, Objective Technologies has found that the most efficient way to help clients from a cost perspective is to do as much work as possible in our own offices. Sometimes, entire projects are completed there, and the only client visits needed are for design and installation.

On-site consultation fees are inherently more expensive. Objective Technologies frequently provides on-site development services, but typically recommends such services only to support a client's production environments.

Cost

Objective Technologies' consulting fees are competitive with other firms in the top tier of object oriented consulting and are commensurate with the experience and skills of Objective Technologies' staff.

Finally...

Objective Technologies Inc. has an excellent reputation based upon the quality of our work, time to delivery and, most important, client satisfaction. References from previous clients can be provided upon request.

We look forward to working with you. We can be contacted at:

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