

## **Jay Hardesty**

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### **SUMMARY**

Twenty years professional experience in object-oriented analysis, design, and programming. Significant participation and leadership through the entire life-cycle on projects ranging from custom Wall Street trading floor applications to AI-based software for music analysis and composition. Experienced in setting realistic goals and timetables for projects of varying degrees of complexity. Strong design skills for building elegant software architectures, and wide experience at deploying efficient and robust implementations in demanding production environments.

**Smalltalk (VisualWorks, Squeak, VisualAge**, GemStone, Envy, ObjectStudio), **C++**, **C**, **Seaside**, Croquet, **Flash**, **Flex**, **Actionscript**, **Javascript**, AJAX, Scriptaculous, Java, **Objective-C**, **XML**, **Unix** (Mac OS X, Solaris), X (Xlib, Object Interface Toolkit), Python, Common Lisp, **SQL**, Oracle, DB2, Sybase, Java

### **EXPERIENCE**

**JPMorgan Chase** 2007-present London, UK

*Software Developer/Contractor*. Smalltalk/Seaside-based Web development and data visualization tools for the Infrastructure Group of Kapital, a VisualWorks/GemStone-based risk management system for financial derivatives.

**Misys IQ** 2003-2007 New York, New York

*Senior Programmer*. Smalltalk and C++ programming to extend and support a syndicated loan system for commercial banks. Implemented a system to create VisualAge reports that dynamically configure the display of arbitrary data sets. Wrote C++ code to generate XML files for exporting banking data, and wrote Smalltalk code to import the

data into a VisualAge GUI application using XML-based object-mapping and interface specs.

**Tomandandy** 1994-2002 New York, New York

*Lead Programmer/Analyst./Theorist* Senior member of a team implementing a major project for a leading commercial music house. The software embodies a proprietary approach to music analysis, composition, and interpolation. Instrumental at each development stage, from domain modeling and product design through the engineering and implementation process. Provided the theoretical apparatus for the application as well as an object-oriented analysis and design of the constituent subsystems. Designed and implemented genetic algorithm frameworks for solving parallel search problems. Created visualization software and custom GUI widgets for many proprietary abstractions. Centrally involved in planning various stages of the development schedule and dividing work among other members of the development team. Successive stages of an extensive code base were implemented in VisualWorks, SmalltalkAgents, Objective-C, and Squeak. This work resulted in U.S. Patent number 6.051.770.

**NYNEX Science and Technology Center** 1996 White Plains, New York

*Programming Consultant* Redesigned and implemented Smalltalk code in Digitalk VisualTalk providing a programming interface to an expert system used in configuring phone switching systems. Performed extensive refactoring of existing class libraries resulting in significant simplification of the programming interface while retaining access to the underlying functionality.

**J.P. Morgan Securities** 1992-1994 New York, New York

*Programming Consultant* Designed and implemented a development framework for interactive applications under Solaris. Developed a C++ library of classes and X GUI widgets to provide a high-level object-oriented development environment, PRIMUS, for constructing trading floor applications for mortgage-backed securities analytics. The application framework was implemented using the Object Interface Toolkit and ObjectBuilder from ParcPlace. The class hierarchy utilized dependency mechanisms and data abstractions based on the VisualWorks Model-View-Controller paradigm. The design achieved separation between the information model and user interface, and separation between the implementation and programming interfaces. Designed and implemented a library of customized GUI widgets for viewing financial data for drag-and-drop usage within ObjectBuilder. Wrote documentation and conducted training in the use of the new

PRIMUS framework.

**Lehman Brothers** 1991-1992 New York, New York  
*Senior Programmer/Analyst* Worked in Trading Systems Automation for the Central Funding Unit within the Fixed Income Division. Designed application framework for building X based GUI's in CenterLine C++ for use in trading floor applications on Sun workstations. This framework implemented dependencies, dynamic messaging, and a meta-information layer, and was based on Smalltalk-80 and the NIHCL C++ class libraries. The architecture provided a single-root hierarchy and extended late-binding beyond C++ capabilities. Also implemented an application for daily reconciliation of trading floor transactions with back office records. The reconciliation program was designed and implemented to bridge the Unix-based representations used on the Overnight Trading desk with the mainframe-based back office representations and had very stringent performance requirements. Used VisualWorks for prototyping applications and proving design concepts.

**McFarland Dewey & Company** 1989-1991 New York, New York  
*Programming Consultant* Developed application architecture and user interface in GNU C++ and X and openLook/XView for a financial securities pricing model running on Sun workstations. Proposed and facilitated the move of GUI development from SunView to X, resulting in better performance, and faster development. Worked closely with inventor of the pricing model to design an interface that provided multi-tiered access to the model's capabilities. Provided visualization routines built on Xlib for plotting numerous analyses of financial data and helped prepare presentations based on those analyses.

**Loan Pricing Corporation** 1988-1989 New York, New York  
*Senior Programmer/Analyst* Developed applications for analyzing and reporting on pricing trends in the commercial loan market. Designed and wrote a user interface and database management system in C++ for analyzing and browsing commercial loan portfolios. Persuaded management to move to C++ (Zortech) from C as the primary development platform. The program DEALSCAN was deployed and used extensively in dozens of commercial banks across the U.S.. The customized DBMS provided an order of magnitude performance over the relational database that had been used in the previous version. Helped design a pricing model based on regression analysis of loan data and conducted statistical analyses using SPSS. Travelled to client banks to consult on software features and provide training.

## **EDUCATION**

**Columbia University Graduate School of Arts and Sciences**, New York, New York

Master of Arts, Music Composition 1991

Columbia University Fellowship

**Southern Methodist University**, Dallas, Texas

Bachelor of Arts, Mathematics 1986

Bachelor of Music, Composition and Theory 1986

SMU Meadows Dean's Scholarship