

Arthur Smyles

Objective

To produce innovative solutions and advance the state of the art in software.

Experience

2/06-Present Gossamer, inc. New York, NY

Principal

Developing a database system that allows users to navigate and aggregate semantic networks based on a TopicMap model (see <http://www.topicmaps.org>). RDF is another approach to this technology. The goal of the system is to organize information based on a posteriori rather than a priori knowledge of a particular domain. Or more simply put, to create databases without the need to specify schemas and to aggregate databases with outside parties without prior agreement of how it's organized. The technologies that I've used to develop this system are Common Lisp and Berkeley DB. I had to develop a library to access Berkeley DB from Common Lisp which I released as open source called cl-berkeley-db (<http://common-lisp.net/project/cl-berkeley-db/>). I also developed other libraries for processing urls (<http://common-lisp.net/project/cl-uri>), accessing libcurl, libxml2, and libxslt. I also developed a library to handle typed binary objects base on MIME.

2/01/2007-2/14/2007 Prem Consulting New York, NY

Consultant

Developed a Coldfusion Event Gateway that communicated with the Evertec Btrans credit card transaction system. Specifically, the Event Gateway allows a programmer to write programs and send credit card requests to Evertec's service using Coldfusion scripts. The service itself sends and receives messages using a fixed format of records and ASCII control characters. The Event Gateway was implemented in Java.

4/05-2/06 Bank Of America New York, NY

Consultant

Developed a Risk Management System for the Securities division of Bank of America. The system has 3 components. The Feed Processing system was built by taking advantage of the XML processing capabilities of Java. The custom framework would build SAX Pipelines based on location of source files. These feeds were generated by either source systems or users (as Excel spreadsheets). These feeds would go through calculation and translation processes in the pipeline, and the results would be stored in a database. The Aggregation System was responsible for aggregating the positions collected earlier and creating various reports. Finally, a MicroStrategy solution was developed to view these aggregated results.

4/00 – 4/05 JP Morgan Chase & Co. New York, NY

Consultant

WEBMIS

Developed a website to access Panda reports (See below) on the web. The system would return these reports as either HTML dynamic reports, or Excel static reports. The website was developed using Java Server Faces and interfaced with the Panda backend developed previously using RMI.

Waterfall Website

Led the development of a website front-end that provided the capability to perform incremental VAR calculations based on real and hypothetical portfolios. The website was developed by using the Struts framework to handle client interactions, and an asynchronous SOAP based backend infrastructure to the calculation engines. Queries to the system were processed into excel files that could be retrieved from the web or delivered via email. Users had the capability to view the status of their queries. Queries and portfolios were stored in Sybase. The rich graphical interface was provided using HTML/JavaScript.

MRM Website

Led the development of a web based content management system that empowered business users and applications to publish reports, communications, presentations or other documents to the enterprise. By developing this in-house, we saved 3 months of development time and reduced Full-time website support staffing from 3 people to 1 part-time person. Using the Cocoon framework, this XML based application organizes information based on RSS channels. These channels that can be managed within the application or elsewhere on the internet, are aggregated (SAX), filtered, and styled (XSLT) to provide various views including menus, news headlines, FAQs, and sorted detailed views. Each channel's look can be determined by the administrator, while also allowing content producers to add content to the website. Website also provides a single-sign on facility to the other web applications within the division. All documents on the system are secured by a fine-grained permissions-based system to determine which users can add or view content. Content can be protected based on the RSS/Dublin Core metadata provided by producers or can be protected to the individual item level. Documents can be published manually through html forms, or automatically by other systems using an RMI service. Stored procedures and triggers were created to update modification dates based on the hierarchical relationship between the various channels. This was used to facilitate a caching mechanism that stored views of the website based on the permission set of users of the system. The technologies used to build this system include Cocoon, XML, XSP, XSLT, SAX, DSML, RSS, JSP/Servlets, Tomcat, Oracle 9i, Java, and JavaScript.

System Administrator Application

Led the development of a user administration utility that is used throughout the division's applications. All user information is stored through LDAP. System provides authentication and authorization using JAAS or RMI interfaces. All these systems use JNDI to access LDAP database. Authorization is accomplished by application-defined permissions. These permissions can then be organized into roles. Roles can inherit permissions from other roles, allowing the administrator to grant fine-grained access to application resources through a model of the business relationships that exist among the users of these resources. Besides storing a directory of users on LDAP, we also leverage the database to store RMI Services from our other applications.

Panda Application

Developed a data warehouse application to allow businesses to view risk and revenue data. Using Excel to define reports, it features the capability of associating multiple dimensions onto the book, sheet, table, and row/column level. The front-end is a Java Swing application using Formula One for report display. The client communicated with the business layer using RMI Services running on Solaris to retrieve reports, release reports, and communicate changes back to the server.

Designed and developed the database schema and queries which allowed developers to view and query the database as an OLAP cube. Developed a mechanism that allows updates to occur without locking the database. The queries to the system are capable of creating cubes that could include or exclude tags as well as specify which dimensions the resulting facts must or must not have. The system is capable of creating cubes with up to 32 dimensions. The system is updated with tens of thousands of records daily and contains over 300 million records that span over 3 years of history.

Risk Identification For Large Exposures Website

Developed a risk management system that allows traders to enter risks which are normally not quantifiable such as political changes, liquidity crisis etc. Users can enter risk scenarios; analyze them based on their attributes, viewing them using a variety of reports and charts. Charts feature drilldown capability to allow users to investigate the underlying risks that the calculations were based on. The web interface was developed using Java Server Pages, image maps were created using Espresso Charts charting software which ran on WinNT Server and accessed via RMI to the web server. The middle tier uses JDBC to persist the risks to Sybase, a RMI Server to administer the system, and LDAP for user authentication, authorization, and other directory functions.

10/99 – 4/00

Credit Suisse First Boston

New York, NY

Consultant

Designed and developed mortgage-backed securities calculator. User can create portfolios of these bonds and apply scenarios on them to measure the affects of these scenarios on their prices. The application uses a custom Message Oriented Middleware subsystem when utilizing resources on the intranet. The backend consists of the calculation server and backing store (XML Files). The middle-tier consists of an archival facility that automatically persists objects in the system (Portfolios, Scenarios, etc.) to disk as they are changed. The front-end is composed of JSP and HTML/JavaScript pages.

3/99-10/99 National Security Clearing Corp. New York, NY

Consultant

Developed risk management system that provides the risk division the capability of tracking investment firm's positions, checking firms using a variety of statistics, to determine the proper amounts that these client firms should deposit. My contribution to the project included the following:

Developed Object-Relational mapping between database tables and business logic components. Implemented business logic components using CORBA with Visibroker 3.4. Developed pieces of front-end application using JFC 1.1. Developed User Administration Tool used to restrict access for users in certain sections of the application. Implemented charting component to chart various statistics over time; In front-end with JClass Chart, charts are specified in middle tier using XML and backed by Sybase.

8/98-3/99 Chase Manhattan Bank New York, NY

Consultant

Developed three-tier Client\Server solution that allows officers of the Money Market division to view their clients' accounts online, providing a variety of reports, including the ability to print customer statements.

The front-end consists of a Java Applet running on a Java-Plug-in. The applet design is based on a Model-View-Controller architecture using Swing UI components.

The middle-tier consists of a Java Servlet, which initializes itself with all the available reports. The servlet uses JDBC and also features a connection pool, client-side logging, viewing status. Printing is accomplished by prepared reports distributed by Oracle Report Server. The back-end was implemented using stored procedures in an Oracle 7 database.

5/98-8/98 Standard Chartered Bank New York, NY

Consultant

Developed client\server application that allows for customers to have limited access to their account information such as their current balance and their transaction history. The application was developed in VB5 with Rumba Active X controls.

10/97-5/98 Information Resources, Inc. Fairfield, NJ

Programmer\Analyst

- Developed Java-SNAPI interface for Oracle Express multi-dimensional (OLAP) Language.
- Developed setup program for Oracle Analyzer in Java.
- Database administration on n-dimensional databases using Express.

Papers \ Presentations

06/01 2001 Java One Conference Using JAAS Now

Skills

Languages: Java, JavaScript, Lisp, Bash, Visual Basic, C/C++,
XML: HTML/XHTML, XSLT/XPATH, RSS, RDF, DSML, DOM, SAX, Dublin Core
OS: Unix, Solaris, Linux, Windows XP
DB: Oracle 9i, Sybase 12, Oracle Express, SQL, PL/SQL, OLAP
Application Servers: Tomcat, Bea Weblogic, Adobe Coldfusion
Infrastructure: Apache, IIS, IPlanet, IPlanet Directory Server, LDAP, Clearcase, CVS, Darcs
Java: Xerces, Xalan, Saxon, Cocoon, Struts, CORBA, RMI, JDBC, JNDI, JSP/Servlets, Swing, Applets, JavaMail, JSF 1.1, 8.0, Formula One (e.Spreadsheet)

Education

1996 Sun Certified Java Programmer
1991-1995 Lafayette College Easton, PA
 B.S. Computer Science,
 B.A. Economics