Asko Makarevic
Software Engineer

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EXPERIENCE

Sapient Government Services (project with NIH)   August 2016 - November 2018

Full stack developer/**DevOps** at NIH Department of Computational Bioscience (DCB) team responsible for development and maintenance of Biomedical Research Informatics Computing System (BRICS), a research data collection and repository, with a technical focus on **Continuous integration, Java, Spring, Python, Tomcat, Maven, and Postgres**.

- Implemented **continuous integration** of the project using **Jenkins**, introduced Python for deployment automation and environment management, installed and configured Linux servers and all application stack components
- Optimized various application modules to better handle large data payloads by **multithreaded and asynchronous processing**
- Refactored modules by introducing Spring framework for dependency injection and configuration portability
- Redesigned the developer local environment to be compliant with continuous integration practices guided by the principle of convention over configuration
- Designed and developed **RESTful web services** and Python scripts to simulate application data loads for **scalability testing**

EEOC (contract)   October 2014 - October 2015

As a member of the agency's *Office of Information Technology Enterprise Application Development (OIT EAD)* group, developed new features of the ImsNXG system for litigation data collection and reporting using **JSF/PrimeFaces**, **JBoss**, **HTML/JavaScript/CSS**, **Hibernate**, **AJAX** and **Oracle** as well as actively participated in and contributed to enhancing all phases of the development life cycle.

- Designed and developed a management reporting module for employer discrimination litigation case data. Different reports served through a **single-page application** with ad hoc querying criteria and Excel export options for further client analysis. Comprising data from a multitude of transactional tables, performance was ensured by offline scheduled aggregation of processed report data in denormalized reporting tables.
- Designed and developed a data entry and reporting module for litigation appeals as a **single-page application** which uses **PrimeFaces/AJAX** to enable fluid view data shifting without page reloads. Implemented a mechanism for automatic associating of form attribute changes with litigation lifecycle stages to minimize necessary user input. Extensive use of Java enums to standardize definition of system responses to different use case scenarios.
- Managed GitHub branches and merging new features into release branches. Participated in establishing **Dev Ops** and other team interaction protocols with an emphasis on **Agile**, short and incremental sprints and continuous feedback loops between team roles (dev, QA, analyst, PM, and business user). Instituted **Jira** as the ultimate medium of project management and all associated tasking.

Boxtone/Good Technology   August 2013 - August 2014

Refactored existing and developed new server-side features for **3LM/GD MDM Android/iOS** mobility management application running as a standalone, **multithreaded Java** application on **Ubuntu** and **RHEL**, with a focus on **asynchronous I/O**.

- Redesigned data model (**Postgres**) and application tier (**Java/Hibernate**) for thread safety in accessing critical server-device synchronization watermark data in a concurrent environment. Eliminated the need for optimistic locking.
- Build automation using **Maven**. Used Maven packaging and plugins for application deployment on **Ubuntu** and **RHEL**.
- Wrote a variety of scripts in **Python and Bash** to automate daily developer tasks, perform static code analysis of legacy code, and automated data management tasks as integral part of the core product.
- Participated in developing a REST service API (**RestEasy**) to enable programatic use of the application's features.
- Used **Google Guice** to replace previously tightly coupled dependencies with **inversion of control**.
- Used **Git** for version management and **Gerrit** for code reviews.

Freddie Mac (contract)   September 2012 - March 2013

Developed and supported backend data processing applications for the Credit Risk Management group

- Develop ETL applications that migrate and process data between enterprise system for the purpose of risk assessment and management. **Perl, Ksh, SunOS, RedHat, Oracle, Sybase.**
- Design and manage job interdependence, execution contingencies and schedule. **Autosys.**

SKILLS (scale of V)

Application Technologies

Java SE/EE	IV
JSF/Primefaces	III
Hibernate	IV
Java Swing	III
Perl	IV
Python	IV
Shell scripting	IV

Database

TSQL	IV
Oracle	III
MySQL	IV
Postgres	IV
DB Design/Modeling	V

Data Exchange

SOAP/Axis2	III
REST/Jersey/RestEasy	III

Web Development

HTML/CSS	III
JavaScript	II
jQuery/AJAX	I

Web/Application Servers

Tomcat	IV
Apache	III

Infrastructure

UNIX/Linux (various distros)	IV
Autosys	III
Git	IV
Subversion	III
SDLC/Agile	IV
Ant/Maven	IV

- Participated in application migration from **SunOS** to **RedHat Linux** platform and made script changes to remedy incompatibilities. **Ksh, Perl.**
- Developed various both client- and server-side utility applications to automate/facilitate analytical, supporting, and administrative tasks. Examples include but are not limited to a SQL script parser/analyzer to reverse engineer and document data flow at the column level, a tool to detect version-level deltas between UNIX system binaries for environment synchronization, a text-mining shell script code analyzer used for code cleanup and refactoring, version control automation etc. **Java, Swing, Jsch Java API for SSH access, Perl, Autosys, ClearCase/cleartool.**
- Provided nightly batch support

MRIS   November 2008 - January 2011

Full stack application development at the nation's largest real estate multiple listing service.

- Designed and developed a Java backend application with a simple administrative/reporting web UI consuming external SOAP web services to verify customer trade association membership claims for promotional purposes and an a separate billing SOAP service to synchronize the data with an internal billing data. **Java, Spring, Spring MVC/JSP, Tomcat, Apache Axis2 SOAP API, MySQL, Hibernate, Ant.**
- Participated in converting the service application tier (Cornerstone) used by the company's core client applications (Keystone and Matrix) for data access from SOAP to REST. **Service-Oriented Architecture, Java EE, WebLogic, Jersey API.**
- Participated in integrating a single sign-on module validating user credentials and keystroke patterns with an external identity provider. **Java, JSP/HTML, SAML.**
- Developed custom plugins for JMeter automated functional and load testing of HTML, web services, internal and 3rd party APIs. **JMeter, Apache HttpClient, HTTP Digest Authentication, SOAP/REST.**
- Built and administered Linux Fedora and RedHat servers within AWS EC2 and CDW hosting services. Installed and configured application full stack, including AWS EC2 image management. Linux Fedora, RedHat Enterprise Linux, Apache HTTP Server, Tomcat, MySQL, Subversion VC. **AWS EC2 CLI for image/instance management, bash and Perl scripting.**
- Instituted change management and continuous integration procedures for the team. Devised a structured database change management and deployment methodology. **Perl, Ant, Subversion.**

JP Morgan Chase (contract)   October 2007 - November 2008

Development, redesign, and production support of automated fixed-income security data exchange between mutually interacting applications (Structured Product Technology division).

- Performed development, refactoring, configuration, and production support for a hierarchy of workload automation jobs migrating loan and fixed-income security trade data between different trading platforms, an intermediary data store, and accounting systems for position tracking and risk calculation. Particularly involved with modules that performed multithreaded processing of commercial mortgage loan, swap, and bond data. **Perl, C#, Java, Oracle, Control-M, Visual SourceSafe.**
- Isolated various infrastructure-level tasks (DB access, XML and plaintext data exchange protocols, MQ processing, logging) from the business logic among different projects into shared libraries for code reduction and portability. **Aspect-Oriented Programming, Refactoring, Perl, Java.**
- Deployed and administered automated job schedules. Streamlined deployment and version management by developing a tool to build environments out of abstract job definition descriptors and matrixes of environment-specific configuration items. **Perl, Control-M, XML.**

Fannie Mae (contract)   July 2005 -- April 2007

Application developlent and legacy data conversions for the Home Counselor Online web CRM application (HCO).

- Developed bulk data import processors in to load data from structured input files, store it into the system , and robustly capture any exceptions reporting them in a web-based front-end. **Java EE, Weblogic, Struts/JSP, Oracle, Toplink.**
- Designed and developed a flexible rich client ETL tool to streamline the analysis and conversion of legacy data from home counseling agencies beginning to use HCO. Designed to be able to accept any platform for both input and output through platform-specific drivers that implement common interfaces ("program to interface" paradigm). **Java Swing. SQL, metadata extraction and abstraction.**
- Performed legacy data conversions using the above tool.
- Developed a tool to seamlessly replicate and synchronize data structures and data between any two Oracle servers/schemas. **Java, Oracle, System tables, metadata.**

Freddie Mac (contract)   September 2003 - May 2005

Participated in the development of a financial accounting system used to generate closing statements and reconcile the books for mortgage-backed securities trading operations (Investment and Capital Markets division)

- Developed automated data transfer program to synchronize accounting and trading databases and perform financial computations preparing trade data for general ledger entry. **Korn Shell,**

Perl, Sybase.
- Designed and developed a utility program used for field-level Sybase data comparison capable of cross-server usage; significantly increased the level of automation in testing results of the same process run in multiple environments; utility has since become used by several other teams within the company due to its extensive applicability. **Perl, Sybase.**
- Developed scripts for streamlined version control, deployment and configuration management, primarily for the purposes of managing and reporting change sets between different releases. **Perl, ClearCase.**
- Used **Autosys** for hierarchical and interdependent job workflow automation.

Rydex Investments December 2001 - September 2003

Designed and developed distributed backend and web applications automating operations of a mutual fund company, primarily the areas of portfolio management and fund accounting.

- Designed and developed a fully automated system to collect and integrate internal and external vendor data, calculate fund performance metrics, and generate reports available in PDF and HTML formats via a web app. **Java, Perl, SQL Server, FAME (historical market data) API, ASP/HTLM**.
- Designed, developed, and maintained a database and corresponding programs for simplified replication of various corporate data resources, primarily the shareholder accounting system and an external portfolio accounting system. **Java, Perl, SQL Server, DB2**.
- Designed and developed a web-based trading system for commodity futures that participates in all spheres of commodity portfolio management within a hedge fund: interacts with brokers, receives financial models from external sources, generates orders to rebalance portfolios based on models, monitors dynamics within portfolios (primarily orders and pricing), and imports historical data for constituents for pricing and analytical functions. **ColdFusion, SQL Server**.
- Reengineered a solution used for semi-daily portfolio pricing (most funds price only once a day), which conglomerated data from different systems and platforms in the backend and provided a web-based interface for data verification. **ColdFusion, SQL Server**.
- Oversaw external development and assumed responsibilities of production support, functional upgrades, and configuration management of a system that stored and distributed equity order data generated by an external order management system. Reengineered the product for a change in the trading model, which triggered a different data model and a need for new features. Eliminated the need for a user interface and completely automated the processes. **Perl, SQL Server, ASP/HTML**.

Folio Investing April 2000 - October 2001

Participated in the development of a trading platform and associated applications at an online brokerage. All below projects involved **Java EE, Sybase, JSP/HTML, and a properietary MVC implementation using Servlet/EJB/JSP technologies.**

- Developed an investment advisor portal for client management remarkable for its use of cached data to avoid redundant database usage; engineered to handle large amounts of data with minimal performance impact.
- Reengineered the system's overall alert infrastructure to support customization of functionality based on user profiles by using a rules engine.
- Participated in the development of a data download center through which investment advisors can get data packages ready for import into external portfolio management software; Project involved use of an XML/XSL-based reporting infrastructure.
- Made fixes to and maintained a complex billing infrastructure.
- Participated in the development of an extension of the retail brokerage site to investment clubs and group accounts.
- Programmed handling of exceptional behavior in multiple-security orders, primarily due to corporate actions.
- Reengineered the functionality processing and aggregating historical stock-market data **(FAME TimeIQ API)** and feeding a chart-generating server; statistical operations performed to compute performance and statistical volatility of portfolios during user-provided data ranges (emphasis on performance to the amounts of data handled).

OAO Corporation April 1999 - April 2000

Participated in pilot e-commerce projects exploring different areas to find those worth further involvement; Responsibilities spanned all levels of technical involvement on small web-based applications. **ColdFusion, SQL Server, Windows NT Server.**

Mooring Financial Corporation October 1997-April 1999

Developed and maintained a comprehensive asset-tracking system encompassing most areas of portfolio management for a real estate tax lien investment fund: due diligence and acquisition, payment processing, performance analysis. **VB, VBA, Microsoft Access, SQL Server.**

EDUCATION

Radford University, Radford, Virginia
B.B.A. Finance; Minor: Spanish, July 1997; Graduated in three years;
GPA: 3.96 major; 3.84 overall; Magna Cum Laude;