

GALEN S. SWINT, PH.D.

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WORK EXPERIENCE

2006 – '09

MCKINSEY & COMPANY

Senior Associate. Atlanta, GA

Varied experience across multiple industries (chemicals, high technology, non-profit, government) and functions (sales, purchasing, business development, operations).

Technology projects

- Parallel product development projects for the Senior VP-Consumer Product Development of a major telecommunications company. Required leading an 8 person McKinsey/client team of directors, product managers, and analysts. Potential combined revenue for the products was over \$1 billion at ten years
- Recommended sales operations transformations for a Vice President at an IT services provider. Mapped processes and identified key actions to reduce time needed to quote projects from over 60 days to under 30 days
- Identified up to 30% run-rate savings in IT labor contracts for the CIO of a large federal agency which may result in over \$30 million annual savings
- Contributed to the firm knowledge on trends in open source software and the e-discovery industry

Strategy and development

- Market strategy and salesforce transformation project for the US-business-unit President of an international agrichemicals corporation to create a post-merger, go-to-market strategy for three business units addressing a \$2 billion combined market. My work included interviewing agribusiness owners and managers to understand their pain points relative to our client's strengths and then creating a customer segmentation with the project team
- "New venture" market research project and strategic visioning project behalf of the COO and the organizational unit President within a top 5 healthcare charity to support the creation of a new charity venture aspiring to fund a portfolio of high-impact projects with \$500 million – \$1 billion annually

Other experience included building a national, multi-product pricing analysis toolkit for a client and leading recruiting efforts at Georgia Tech

2000 – '06

GEORGIA INSTITUTE OF TECHNOLOGY, College of Computing, Center for Experimental Research in Computer Systems (CERCS)

Research Assistant. Atlanta, GA

Senior research assistant exploring middleware for distributed, QoS-aware computing. Responsibilities included directing others' research, presenting at conferences, and performing my own research.

- Developed a multi-tier development tool using an XML/XSLT approach enabling customizability, flexibility, and extensibility (see *Clearwater* in Addendum)
- Supported development of hardware configuration optimization engines for the Elba project using code generation techniques developed for Infopipes
- Directed and assisted research of undergraduate, Masters, and Ph.D. candidates on the Infosphere and Elba projects

- Summer '01 **TEXAS LIFE INSURANCE COMPANY**, a MetLife company
Programmer. Waco, TX
Developed web service applet that presented archived data as PDF documents.
- Summer '00 **SIEMENS AG, Medical Engineering Software Factory**
Programmer. Erlangen, Germany
Created and prototyped an XML/XSLT based interface demonstrating the flexible presentation and interface for the Object Oriented Database storage engine.
- Summer '99 **IBM CORPORATION, Software Solutions Division**
Programmer. Austin, TX
Created an XML engine for loading and storing “accessible business rules.”
- Summer '98 **ARTHUR ANDERSEN LLP, Computer Risk Management**
Staff Intern. Dallas, TX
Assisted with a Y2K review, researched the e-banking landscape, developed tools for a system acceptance test and modeled an employee scheduling system.

EDUCATION

- 2006 **PH.D. IN COMPUTER SCIENCE, GEORGIA INSTITUTE OF TECHNOLOGY**,
Atlanta, GA. GPA: 3.9/4.0.
Dissertation: *The Clearwater Approach to Code Generation*.
- 2000 **BSCS, BAYLOR UNIVERSITY**, Waco, TX
Summa cum laude (GPA: 4.0/4.0.), Outstanding Graduating Senior, May 2000.
Minors: Engineering (Electrical), Chemistry, Mathematics.

TECHNICAL EXPERIENCE

<i>Application domains</i>	Service-oriented architectures and web services, distributed computing and middleware, quality of service (QoS) sensitive applications, continuous information applications, simulation
<i>Programming languages</i>	C, C++, Python, Java, Bash
<i>Database and data manipulation</i>	XSLT/XPath, SQL
<i>Operating systems</i>	Linux, some programming experience with Windows, Solaris, AIX
<i>Development techniques</i>	Code generation, aspect oriented programming, domain specific languages (see “Computer Science Research” in ADDENDUM, following)

OTHER

Computer science research projects and publications follow as addendum
Professional Memberships: ACM, IEEE
References available on request

**ADDENDUM TO RESUME
FOR GALEN S. SWINT, PH.D.**

COMPUTER SCIENCE RESEARCH

- 2004 – '06 ***The Clearwater Approach to Code Generation.***
with Dr. Calton Pu.
Domain specific languages offer promising solutions to many problems encountered in distributed systems research. However, they suffer from a lack of flexibility and have difficulty evolving as external forces change their target environments. The Clearwater approach leverages XML and XSLT to enable code generators that show promise for being extensible, flexible, and modular. We developed two examples of Clearwater generators: Infopipes Stub Generator (ISG) and the Automated Composable Code Translator (ACCT).
- 2003 – '06 ***The AXpect Weaver for the Infopipe Stub Generator.***
with Dr. Calton Pu.
Quality of Service (QoS) can be viewed as an aspect of a distributed application; The AXpect weaves the necessary additional QoS code and other aspects into ISG-generated stubs.
- 2000 – '06 ***The Infopipes Stub Generator and Infopipes Specification Language.***
with Dr. Calton Pu.
Distributed systems with information flow requirements, such as media streaming, e-commerce transaction processing, and sensor networks, have introduced new challenges to the distributed computing community. The Infopipe Stub Generator and a corresponding language, Spi, address the communication needs of these applications. The stub generator translates the specification into C, C++, or Java. I directed design, selected implementation technology, and managed other students who also contributed to this project. Our team then tested these technologies in the context of the DARPA Multi-UAV scenario.

PUBLICATIONS

- Conference Papers** Jung, Gueyoung, Galen Swint, Jason Parekh, Calton Pu, and Akhil Sahai. "Detecting Bottleneck in n-Tier IT Applications through Analysis." IFIP/IEEE Distributed Systems: Operations and Management (DSOM), Dublin, October 23-25, 2006.
- Wu, Qinyi, Calton Pu, Akhil Sahai, Roger Barga, Gueyoung Jung, Jason Parekh, and Galen Swint. "DSCWeaver: Synchronization-Constraint Aspect Extension to Procedural Process Specification Languages." IEEE International Conference on Web Services (ICWS), Chicago, September 18-22, 2006.
- Jason Parekh, Gueyoung Jung, Galen Swint, Calton Pu, and Akhil Sahai. "Comparison of Performance Analysis Approaches for Bottleneck Detection in Multi-Tier Enterprise Applications." IEEE International Workshop on Quality of Service, New Haven, CT, June 19-21, 2006.
- Swint, Galen, Gueyoung Jung, Calton Pu, and Akhil Sahai. "Automated Staging for Built-to-Order Application Systems." IEEE/IFIP Network Operations & Management Symposium (NOMS), Vancouver, April 2006.
- Swint, Galen, Calton Pu, Charles Consel, Gueyoung Jung, Akhil Sahai, Wenchang Yan, Younggyun Koh, and Qinyi Wu. "Clearwater - Extensible, Flexible, Modular Code Generation." Proceedings of the 20th IEEE/ACM International Conference on Automated Software Engineering (ASE). Long Beach, CA. November 7-11, 2005.

- Sahai, Akhil, Calton Pu, Gueyoung Jung, Qinyi Wu, Wenchang Yan, and Galen Swint. “Towards Automated Deployment of Built-to-Order Systems.” 16th IFIP/IEEE Distributed Systems: Operation and Management (DSOM). Barcelona. October 24-26, 2005.
- Swint, Galen, Gueyoung Jung, and Calton Pu. “Event-based QoS for a Distributed Continual Query System.” 2005 IEEE International Conference on Information Reuse and Integration Special Session on “Event-based Systems for Software Reuse and Integration” (ESSRI). Las Vegas. August 15-17, 2005.
- Pu, Calton, and Galen Swint. “DSL Weaving for Distributed Information Flow Systems” (Invited keynote). 2005 Asia Pacific Web Conference (APWeb). Shanghai. March 29 - April 1, 2005.
- Best Student Paper** Swint, Galen, and Calton Pu. “Code Generation for WSLAs using AXpect.” 2004 IEEE International Conference on Web Services (ICWS). San Diego. July 6-9, 2004.
- Workshops/ Short Papers** Swint, Galen S., Calton Pu, Younggyun Koh, Ling Liu, Wenchang Yan, Charles Consel, Koichi Moriyama, and Jonathan Walpole. “Infopipes: The ISL/ISG Implementation Evaluation.” Proceedings of the 3rd IEEE Network Computing and Application Symposium (IEEE NCA04). Cambridge, MA. August 30 - September 2, 2004.
- Swint, Galen S., Calton Pu, and Koichi Moriyama. “Infopipes: Concepts and ISG Implementation.” Proceedings of 2nd IEEE Workshop on Software Technologies for Future Embedded and Ubiquitous Systems (WSTFEUS). Vienna, Austria. May 11 - 12, 2004.
- Unrefereed Papers** Pu, Calton, Galen Swint, Charles Consel, Younggyun Koh, Ling Liu, Koichi Moriyama, Jonathan Walpole, Wenchang Yan. “Implementing Infopipes: The SIP/XIP Experiment.” Technical Report GT-CC-02-31, College of Computing, Georgia Institute of Technology, May 2002.