

Jessica K. Miller

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Nationality: American

For more detail, please visit my website: <http://www.cs.washington.edu/homes/jessica/>

EDUCATION

University of Washington, Master of Science in Computer Science, 2005

University of Arizona, Bachelor of Science in Computer Science (Summa Cum Laude) and Bachelor of Arts in Spanish (Summa Cum Laude), 2003

EXPERIENCE

Buy4Now Ltd., October 2007 – Present

Software Development Engineer: Buy4Now is Ireland's leading online commerce software company. For the past year I co-led a team of six developers and was the principal software designer of Shop4Now version 6, the codebase for public-facing online grocery sites. This codebase interfaces with back-office applications used for order fulfillment, retailer setup and logistics, reports, controlling customized site content, customer service, and product branding. Additionally, it interfaces with Buy4Now's public online shopping portal (www.buy4now.ie). The combination of complete code design and rewrite along with major database schema improvements arguably made this the company's largest and most important project yet. Technologies used are: Visual Studio 2008, C# 3.0, ASP.NET 3.5 with AJAX and jQuery, CSS, web services, SQL Server 2008, XML and XSLT, and dtSearch for searching. The goals of this version of Shop4Now were:

- **Flexibility.** Shop4Now must be standard enough to sell to many grocery retailers yet flexible enough to be customized for each grocery retailer to represent the grocer's image and specific business rules. To achieve this we used a 3-tier web architecture (UI, core library, and TSQL stored procedures) where the core library, controls, and database scripts are shared with grocer-specific hooks where the site is customizable.
- **Maintainability.** Code clarity and maintainability was a must. I spent a lot of time thinking about how to strike a balance between abstraction and clear code so that future Shop4Now developers can maintain, extend, and fix the site with ease.
- **Security.** Achieved through forms authentication, minimal use of cookies, improved validation and rules.
- **Speed.** Many online grocery shoppers shop online because it is faster than going to the store. We achieve performance improvements through speed through ASP.Net application cache (using SQL cache dependencies for back office application updates), web services and AJAJ (AJAX with JSON), and database schema improvements.

SuperQuinn (www.superquinn.ie/shopping) is the first retailer to go live with Shop4Now v6. Two other grocery retailers are being upgraded to v6 with much success (i.e. 12 week development to implement the public-facing site for a new grocery retailer is easily being met with this new codebase). Additional tasks while design and developing the Shop4Now v6 were: interfacing with business analysts, writing development plans and estimates, and managing releases.

For other online grocery related projects, I have been responsible for supporting and

extending all the online grocery shopping backend applications including: the Content Manager (ASP.Net 3.5 web app), the Online Fulfillment System (Windows Forms app), the handheld picking solution (Windows Mobile app), the operations manager (ASP.Net 3.5 web app), the Help Desk (ASP.Net web app), and the Campaign Manager (ASP.Net 2.0 web app and mail server).

Microsoft Research, MSR Advanced Development Team, June 2004 – January 2007

Software Development Engineer (via Volt Services Group), May 2006 – January 2007:

Redesigned and developed web front-end of research prototype for public use (<http://research.microsoft.com/nec/senseweb/>); designed and developed GUI to interface with pre-existing company system for use by internal employees

Software Development Engineer (via Volt Services Group), October 2004 – October 2005:

Championed design and development of internal groupware application that is now being used Microsoft-wide (20,000+ users company-wide)

Software Development Engineer Intern, June 2004 – August 2004: Prototyped internal groupware application (web front-end, SQL database backend, email integration) to aid MSR engineers share knowledge and code

University of Washington, March 2004 – January 2007

Graduate Research Assistant, Value Sensitive Design, August 2004 – January 2007: Led research project investigating how Value Sensitive Design can be used in face-paced industry settings (http://projects.ischool.washington.edu/vsd/projects/vsd_microsoft.html); researched how to design for and implement informed consent in webmail systems; co-authored papers and book chapters

Graduate Research Assistant, UrbanSim, March 2004 – June 2004: Researched the role of credibility of an urban simulation system used in politicized and contentious situations (<http://www.urbansim.org/>); tuned MySQL database queries

University of Washington, August 2003 – March 2004

Graduate Preceptor/TA for courses on programming languages (300-level) and databases (400-level): Delivered section and substitute lectures; designed and evaluated exams, projects, and assignments; held office hours

Google, Google Print, June 2003 – August 2003

Software Engineering Intern: Designed and developed internal website used by employees to assure quality of images on Google Book Search (<http://books.google.com/>); helped prototype metadata database

The University of Arizona, τ Zaman Project, January 2003 – May 2003

Graduate Research Assistant: Implemented algorithms to format and manipulate times and dates in multiple calendars and languages (<http://www.cs.arizona.edu/projects/tau/tauZaman/>)

COMPUTING SKILLS

Development Languages: C#, Java, C, C++, Perl, Python, OCaml, MIPS, Icon, Prolog

Libraries: .NET, jQuery, AWT, Swing, OpenGL, ADO.NET, JDBC, sockets

Data(base) Technologies: SQL Server, MySQL, SQL, XML/JSON

Web Technologies: HTML, Javascript, CSS, ASP.NET, Ajax, PHP, JSP, servlets, web services, IIS, Apache, applets

SELECTED PUBLICATIONS

Stepp, M., Miller, J., Kirst, V. 2009. Web Programming Step by Step. Independently self-

published via Lulu.com.

Miller, J., Friedman, B., Jancke, G., Gill, B. 2007. Value Tensions in Design: The Value Sensitive Design, Development, and Appropriation of a Corporation's Groupware System. In *Proceedings of the 2007 international ACM SIGGROUP Conference on Supporting Group Work* (Sanibel Island, Florida, USA, November 04 - 07, 2007). GROUP '07. ACM Press, New York, NY.

Urgun, B., Dyreson, C., Snodgrass, R., **Miller, J.**, Kline, N., Soo, M., Jensen, C. Integrating Multiple Calendars using τ Zaman. *Software – Practice and Experience*, 37, 3 (March 2007), 267-308.

Nath, S., Liu, J., **Miller, J.**, Zhao, F., and Santanche, A. 2006. SensorMap: a web site for sensors world-wide. In *Proceedings of the 4th international Conference on Embedded Networked Sensor Systems* (Boulder, Colorado, USA, October 31 - November 03, 2006). SenSys '06. ACM Press, New York, NY, 373-374.

Friedman, B., Lin, P., **Miller, J.** 2005. Informed Consent by Design. In S. Garfinkel and L. Cranor, editors, *Designing Secure Systems That People Can Use*. O'Reilly & Associates.

LANGUAGES

English (Native), Spanish (Fluent)

REFERENCES

Available upon request