



*Jennifer Steel (EE, '96) stands by an office window overlooking Baltimore's Inner Harbor: True to the dot-com culture, Advertising.com's new office space sports a game room, a trendy location — even pets.*

## A Dot-Com-bination Of Software, Servers, and Savvy

**I**t was 1999—the height of the Internet startup boom. Bradley Scholar alumna, Jennifer (Hastings) Steel (EE, '96) heard the siren song of millionaires, overnight successes, and big rewards for hard work. Stock options, a company game room, and the thrill of a fast-growing business sounded good to her. So, she jumped.

Steel joined Advertising.com,

a third-party web, e-mail, and wireless advertising service, then called Teknosurf.com. “The hard work and potential success were very attractive to us young engineers,” she explained. “At this point in our lives, we do not have to worry about job stability. Joining a dot-com was a risky venture, but the potential payoff, along with the experience, was worth the risk.

In the 18 months since Steel

joined Advertising.com, the firm has tripled in size from 70 employees to more than 200. Last year, Dun & Bradstreet called it “the fastest growing new media company.”

The recent Internet downturn and some downsizing at her firm have not dimmed Steel's enthusiasm. “It has been an incredible experience,” she said. “With such a fast rate of growth in such a short period of time, we went

*Right: Typical banner ads served by Advertising.com. Far right: Jennifer Steel at her desk in a renovated soap factory.*



from a small start-up to more of an established firm.” The work pace changed, also, from more than 60 hours per week to about 45. “There is still the drive and excitement,” she said, but being more established allows a less killing pace.

Steel programs the ad server, which could be called the backbone of the company’s business. Advertising.com is building its success on proprietary optimization algorithms that target online ads to the most appropriate people. “When a user visits a web site on our network,” she explained, “their browser will call our server for an ad. Our technology decides which ad, based on many different parameters.”

The company’s technology includes AdLearn™, which dynamically “learns” about an advertiser’s campaign and continually and electronically adjusts it to meet a specific objective, such as interest or traffic. Other technologies include ACE Serve™, which operates the server, and Ad-OS™, which allows the firm to deliver ads to any Internet medium including the web, e-mail, and wireless. Most recently, the firm has introduced the first web-based coupon system that allows consumers to choose when and how to receive offers. Consumers can also print or capture coupons from an ad without being redirected to other websites.

According to Media Metrix,

Inc., an Internet measuring firm, Advertising.com’s network reaches about 34 percent of the active Internet universe. Its ad server delivers billions of ads monthly, the most common of which are the 468 x 60 banner ads, Steel explained.

In addition to integrating new technology, Steel finds her greatest challenges stem from the server’s continual operation, and the demand for speed. “The server runs 24/7,” she said. “It needs to run as fast as possible. We use all types of information in the decisions regarding which ads go to which users, but we do not want the user to wait. The ads must show up as quickly as possible, but still meet the constraints set by the advertisers or the host web sites.”

When Steel was first graduated, a programming position was not her goal. As an electrical engineering student, she enjoyed the interaction between hardware and software and co-opped with the U.S. Department of Defense (DOD).

“Co-opping was an invaluable experience,” she said. “It definitely helped me get a better education. I was able to put into immediate practice the theory and fundamentals that I was learning in class.”

Steel worked for DOD for three years after graduation, predominantly involved in hardware analysis. She calls her years at

DOD a “fun and challenging time. I thoroughly enjoyed being able to use hardware and software.” One of her favorite classes at Virginia Tech, microprocessor system design, was very useful in her DOD work. “I even used “ViewLogic” on the job,” she commented.

While at DOD, Steel took several courses in computer science, and gained experience in C, C++, and web-based programming. “DOD is very good and very proactive about training,” she said. She became more involved in programming, including some GUI development. “It’s interesting how I started out more in hardware and ended up in software.”

Her shift toward software is fairly common among electrical engineers, Steel said. “Internet applications and programming are growing more common in every industry — not just the dot-coms.” Now that computer engineering degrees have become more mainstream, many people interested in programming are gravitating in that direction. Steel believes, however, that many people will continue to pursue electrical engineering degrees, as she did, because of their broad application.

“And many of them will end up in software,” she predicted.