Jeffrey R. DeCew
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Armed with a strong intuition for quality, robustness and maintainability in software designs and the broad experience of contributing at all levels of application and service development, I am looking for an environment with high standards and expectations where I can focus on software design and development while maintaining enough creative control to be proud of my work. I have high expectations for myself, and I hope to work in a collaborative environment where self reflection is valued, where mutual respect is expected, and where teams constantly strive to improve themselves and their work.

WORK

Blue Origin – Kent, WA July 2008 – present

Software Engineer on the Integrated Tools and Computing Team

I work at Blue Origin on a small team of 6 developers who build and maintain diverse software systems which support and bolster the company's engineering and business processes, with the goal of improving the design, development, fabrication and operation of space vehicles and launch systems. My work has been focused predominantly on support for the development and fabrication areas of that continuum, but I have also invested significant effort into improving the practices and processes used within the team.

Most of my work in support of development and fabrication processes has been in the form of application development. Applications usually began as a goal or vague set of requirements handed down by a manager. This tendency toward loose project requirements gave me lots of experience working on poorly or dynamically defined projects, which in turn prompted me to find and practice techniques for gathering information and solidifying project goals. I also learned a great deal about how to keep expectations about the capabilities and schedule of my applications realistic, which was a more difficult challenge when working with aerospace engineers than I had expected.

Since most of my application development was solo, I gained experience at every level of the process, from planning to bug fixes. The most difficult part of running my own project was never the creation of a plan, but was usually following and updating the plan as the project shifts. I typically worked on the application design with a small group of engineers (often just one) who were designated spokespeople for the intended users of the system. During the early design phases, I was able to introduce new techniques like interface sketches and paper prototyping which were always critical to stabilizing any fluid requirements and getting the most valuable and relevant feedback about the operation of an interface. Once development began, I had to create a robust and maintainable application, which meant defining and imposing on myself a strong separation of responsibilities within the code. Additionally, since there was no separation between development, maintenance, or operations of applications and services developed on the team, I was also responsible for release, deployment, diagnostics, and bug fixes.

Because I had so many responsibilities outside of development, I took it upon myself to improve our build, release and deployment processes. I helped drive the adoption of Ivy, an Apache dependency management tool that integrates with Ant, which was already in place. Shortly thereafter I set up and began driving adoption of the Hudson continuous integration tool, which allowed us to automate and control the release of our software, finally enabling suitable version control of shared libraries. During this time I also developed numerous server commissioning and application deployment scripts which allowed us to bring new applications and new versions online with just a few clicks, bringing the tedium of system maintenance down to a minimum. After picking the low hanging fruit, I moved on to some more environment specific improvements. One example of these was a centralized spreadsheet which was used to generate Java properties files that held externalized values that varied between different runtime environments (development, staging, and production), allowing us to deploy the same code on different machines with the appropriate results based on the configuration of the server.

Although I had no experience with GWT when I started, I quickly became the resident expert on the topic, and eventually recommended and facilitated the adoption of the Ext-GWT within the group because of the clear benefits to our small team of a richer widget library and a more complete out of the box visual style. Once we moved to Ext-GWT, I laid the foundation that has been used for every Ext-GWT application there. This was mostly encapsulated in a shared library of many things: an object-based façade on top of the GWT history system, shared event and error reporting systems, shared services, custom widgets, and much more.

EDUCATION

Franklin W. Olin College of Engineering – Needham, MA May 2008

BS in Engineering – Self-designed concentration in Robotics GPA: 3.68/4.0

I love the world of engineering, and Olin gave me the opportunity to bring my passion for designing and writing software to a whole new domain of problems; in nearly every class, I made opportunities to analyze engineering problems utilizing my programming skills. My freshman year I built a dynamic MATLAB simulation of a bottle rocket for a physics and math class lab about fluid and gas principles and differential equations. My sophomore year I designed and built, with a partner, a 2D network multiplayer car racing game in Java as our final project for Software Design. My junior year I turned a project about gyroscopic motion for my Dynamics class into an opportunity to build a 6-DoF single rigid body simulator in MATLAB. My senior year my Olin Self Study was a project to build a highly capable (though horribly inefficient) videogame-style rendering engine in Python.

These are just some of the stories of my projects in college, but I also had an exciting curriculum of technical classes: Software Design, Computer Architecture, Human Factors in Interface Design, User-Oriented Collaborative Design, Design Nature (bio-inspired mechanical systems design), Robotics, Controls, and Dynamics. In addition, as a member of the Honor

Board my junior year and then as Chair my senior year, I received confidentiality training, and worked with students to write an amendment that drastically restructured the Honor Board to make it more effective and useful to the student body.

Newton North High School – Newton, MA June 2004

OTHER EXPERIENCE

Biomimetic Robotics Laboratory – Olin College

Researcher working with guidance from Professor Gill Pratt September 2005 – May 2008

The most fun project in this lab was one in which I improved the fidelity of the model of force controlled actuators in our simulation of a humanoid bipedal robot, the completion of which finally revealed why our control system was not working on the hardware like it had in the original simulation. I also pursued many other self-directed robotics projects and learned about numerous different simulation techniques and some advanced high-level control algorithms. As a senior I helped with a redesign of the lab to make it more accessible and valuable to younger students.

Forward Thought – Cambridge, MA

Software Engineer with Mark Abramson Summer 2007

Working for Mark, I designed and developed a social networking web application for USAC Collegiate Cycling from data layer to presentation layer, using appropriate abstractions. I also redesigned and improved the homepage and administrative interface for pedros.com to make it more usable and to provide them better capabilities to manage their own content.

Engineering Course Teaching Assistant – Olin College

Controls (a 300 level course) Fall 2007

I served as an in-class aide during lab to provide help and answer questions, and I also served as a grader.

Modeling and Control: Engineering of Distributed Systems (a 100 level course) Spring 2007

I ran weekly tutorial sessions for 10 freshmen, teaching on the topics of thermal diffusion, magnetism, and waves.

Environmental Science Program – Newton, MA

Director November 2004 - September 2006

As Director of my beloved EnviSci, where I had been a student and leader for six years, I did what I could not only to provide a great summer, but also to improve the program in ways that would carry forward after I left. My favorite contribution was a piece of software that facilitated one of the Director's most tedious and controversial tasks: grouping the students, every day, into different trips based on their preferences and past fairness. I also coordinated the development of a staff new curriculum including new methods of training the leaders more effectively. With this I was able to focus more on planning and organizing the backpacking, bus, and walking trips for the month-long outdoor summer program.

Adolescence – Newton, MA

Computer Nerd 1996 – 2004

Ever since my elementary school friend taught me how to write a Hello World program in QBasic on our afterschool program's computer, I've been obsessed with using computers in ever more exciting ways to solve serious real world problems. In elementary school I answered the question "how do I keep track of my to-do list?" In middle school I answered "where do I fit an animated gif of a worker into a website that is no longer under construction?" In high school, I stepped it up, solving two major problems of boys my age, "how can I play Stratego on my graphing calculator during math class?" and "how will my friends and I play Diplomacy once we're all off at different colleges?" I'm still proud my efforts to make the world a better place in the best ways I could imagine, but I've learned a lot of more important things since then than just some new software skills.

SKILLS

Programming

Professional expertise in *Java,* using *Tomcat* and other the Java servlet containers, using *Spring Core* and Web packages, and using *GWT* and Ext-GWT; Strong skills developing maintainable *Python* code; Extensive use of *jQuery* and *Velocity*; Deep knowledge and experience with plugin development for *Jira*; Experience developing and growing services with *Thrift*; Experience developing *REST* interfaces and services; Experience integrating *Lucene* to add search functionality to small applications; Strong expertise with *MySQL* and *relational database* architecture and design; Extensive use of *Spring JDBC* templates; Extensive use of *MATLAB* for modeling and dynamic simulations; Expert using *LaTeX* to create professional documents; Experience building applications in *C# and ASP.NET* with *SQLServer*; Experience building and maintaining *NHibernate and Hibernate* data access layers; Extensive use of *PHP and JavaScript* in creating web applications; Familiarity with *C, C++, and Visual Basic 6*; Understanding of *3D rendering* algorithms; Experience using *genetic algorithms*.

Professional Software

Familiar with and comfortable working in *SolidWorks;* Professional training with *Pro/ENGINEER*; Experience with *Visual Nastran 3D* Simulator and its *VB6 API*; Experience with the Java-based *Yobotics* Simulation Construction Set for modeling compliant robots; Built a fully functional single-cycle processor using *Verilog HDL.*