Milestone 3: Fifteen Months of Fudge in Review

Overview

The idea for Fudge originated in the spring of 2007. The practice squad of the ACM was having regular meetings to practice for local and regional programming competitions. Earlier that school year, we had begun to consistently use the TJU online judging system. Such system, which is common to many Chinese universities, is hosted by Tianjin University, China. The interface is simple, and extremely easy to use, and the problem archive is impressive. After struggling with the “official” UVA online judging system, using TJU was bliss.

TJU offers everything an online judging is supposed to: a selection of mainstream languages; a good selection of problems; and quick response times. But there was room for improvement. On the one hand, we considered what key features TJU lacked: the forum system was in place, but scarcely used, and many users spoke Chinese; the amount of users on the site is great, but there is no community or social aspect that connects them, or exploits such mass. On the other hand, we were confident that a technical institution such as Florida Tech, which has hosted the Southeastern Regional contest multiple times, and has sent teams to World Finals, ought to have a judging site of its own.

Fundamental Concepts

Development for Fudge started as ideas were flowing. We set up a team consisting of regular practice squad members, got our hands on a couple of machines (including some SPARC{s}), and began coding an Apache based solution. The end of the semester came shortly after that, and Fudge was put on hold. Over the summer, while considering senior design projects, Fudge was a candidate, but never quite top of the list. When school started, however, things changed. Ideas for a new online judging system were flowing in, and a two person team was created to work on Fudge as a senior design project.

A set of fundamental ideas were put into place for Fudge, and design of the system would revolve around those. The internet is full of online judges: there is a necessity to provide
users with an innovative killer idea that would make them prefer one site over the other. For one thing, the system had to be extremely easy to use, as easy as TJU. It was also very important that, while the online judging would be a prominent feature of the system, everything revolved around user interaction, socialization, community, and communication aspects. Fudge was supposed to be a meeting place, where users would be able to share ideas and help each other, communicating about aspects related to programming or computer science in general. Finally, we tied users to their school or university, by requiring an academic email for registration. This was going to help use keep things under control, as well as establishing a certain organization to the site.

Development

The new project scrapped the previous Apache based architecture. We were going to implement a Windows solution, including some advanced technologies, such as LINQ in C# to access database information, Team Foundation Server for version control, as well as AJAX for website features. We obtained three machines from the department, which we dedicated as Web server, Data server, and Framework server. Coding was done exclusively in C#, which provided for fast iterations and easy deployment on Windows. Implement the core technology of the system, that is, the remote compilation and execution of source code was challenging, but we finally had the technology in place (alongside a functional site) towards the end of the fall semester.

Growth

Early in 2008, Fudge went live. The burst in user registration was exceptional, far from what we had expected. While excited about the interest that people had for the project, we were sometimes overwhelmed by user requests, such as complaints, bug submissions, and questions. However, the most arduous task was maintaining a large and constantly updated problem archive. By the time we presented Fudge at the Engineering Showcase, we had over three hundred users, and an average usage rate of thirty-five submissions per day. Furthermore, we had somewhat successfully hosted several online contests, including a local ACM contest at Florida Tech.
As the site grew and we added features, which now include a contest system, fully functional forums, a team interface, as well as typical Web 2.0 features such as friends, problem sharing, ratings, etc., more and more idea were being suggested and considered. The site has the potential to attract computer science students, as well as employers, in one place. Because of this potential, Fudge was awarded the Most Innovative Design award at the Engineering Showcase. Before the semester ended, we had obtained from the Department new hardware on which the system is going to be migrated.

New Team and Setbacks

As the Fall semester started, and Fudge celebrated its one year (developing time) anniversary, a new team of about seven people was formed which was going to help develop some of the many new features that were proposed. However, only I was actually a part of the senior design course. Team and process guidelines were set into place, and looked promising. However, development times have always been longer than what had been planned. Getting access to the new hardware and setting up the architecture (again, Windows based) was more challenging than imagined, and took about three weeks. Over the course of this team, many people on the team grew uninterested to the project. It has proven extremely hard to be in charge of both design and development, and at the same time be in charge of a team where most of the people have no stakes in the project.

Soon, it was clear the in the allotted time for this semester we are going to be able to develop the system on the new architecture, but none of the other much coveted features, which will have to wait. The team now consists again of a mere three people, entirely dedicated to development, but which proves much easier to coordinate than the original seven. Nevertheless, distance still plays a negative impact. Most of the systems that are core to Fudge have been redeveloped, although there are is some development to be done on connecting them. Furthermore, a deployment solution is still to be put in place.
Final Thoughts

Over the course of these fifteen months, Fudge has had bursts of feature releases as well as colder, hiatus moments. Nevertheless, it has proven to be a successful project, demonstrated by the interest it has generated well beyond the Florida Tech campus. Several mistakes have been made over the last months, especially concerning team and time management. Understanding which people are truly interested in the project, and separating them from those that might drop out at any time has been arduous. Fudge has all the key aspects of what a project born in industry has, but also all of its needs: dedicated team managers, proper design and requirements documentation, realistic time management planning. While Fudge will live beyond the end of the current semester, there is hope on our part that a dedicated group of current Florida Tech students will join the project and make it their senior design.

Sponsor Evaluation (Fudge – The Social Programming Network)

- Sponsor: detach and return this page to Dr. Chan (EC 242)
- Scores: circle a score (or circle two adjacent scores for .5 or write down a real/float number between 0 and 10) for each member:

<table>
<thead>
<tr>
<th>Eugenio Panero</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
</table>

- Signature: _______________________________ Date: __________