IPRO 330
Spring 2008
3/14/08
Midterm Report

**Revised Objectives**

IPRO 330 remains consistent with our original goal: to increase high school student interest in Science and Mathematics in Chicago Public Schools. Because this is a very lofty and broad goal, IPRO 330 has chosen to use the Chicago Public School Science Fair program as a vehicle to achieve this purpose.

More specifically, many objectives remain the same. However, it would be foolish to follow our original plan entirely, as not everything goes as planned. As we have been obtaining feedback from Angela Dumas, the City Science Fair Coordinator, and even as recently as yesterday a group of fifty Chicago Public School teachers involved in the Math and Science Education Department, we have prioritized the information and the feedback that they have been giving us. Chicago Public Schools are looking for great data analysis guides. They also want us to work on explaining safety sheets and the reasons behind having this as a part of the Science Fair. Being that the city wide Science Fair is coming up soon, we also need to set our priorities for that so that our resource is widely used throughout Chicago Public Schools.

We continue to update the website, create more projects and guides, and also communicate with other professionals. We have accomplished many things, however, by accomplishing many things we have realized that we have many more things to accomplish. So our future plan is to explore some of these options and contacts. We plan to go into schools and talk to students and teachers about our projects.

**Results to Date**

We have accomplished many things to date in this IPRO. The information presented will predominantly be broken into sub teams. Our accomplishments will also be listed in the sub teams. Our group was broken up into three sub teams, a communication team, an infrastructure team, and a project/guides team. These three teams have been working together in order to reach the overarching goal of increasing Chicago Public High School student interest in mathematics and science.

The communication team was set up in hopes of making valuable contacts with Chicago Public School professionals and others. This team's goal is also to maintain communication with these contacts, as well as obtaining any valuable feedback that they may have. So far the communication team has done an outstanding job of achieving these goals. We have definitely gotten feedback from many professionals throughout Chicago Public Schools. One of the most successful aspects of our communication has been creating a relationship with Angela Dumas, the city wide Science Fair coordinator. She has given us feedback as to the things that she likes about our website, the things that we can improve on, the things that we can include, and how we can help Chicago Public Schools in the future. The feedback that she gave us was to focus on the oral presentation guides before the students participate in the city wide science fair. This way, the students will be exposed to our website, and will benefit from our resources which simply do not exist within Chicago Public Schools, especially in website form. Also, there seems to be a

great need for a safety sheet explanation, as well as better data analysis guides. If our group can address some of the Chicago Public School Science Fair program's requests, then we will be more successful as an IPRO. The communication team has also completed brochures for our team to use, updated the business cards to make them more professional, and have arranged the various presentations that we have been making both in and outside of IIT. Specifically, Rocio Diaz met with Mr. Williams on February 19, 2008. He agreed to set up at least three high school visits this semester. The three High Schools he mentioned were Hubbard, Kelly, and Curie High Schools. We are waiting for the arrangements. The tentative dates are as follows: March 28, April 4, and April 11, 2008. Furthermore, Angela Pak set up a meeting with Angela Dumas to come and talk to our IPRO group on Wednesday, February 27, 2008. Angela Dumas talked to us about the needs for Science Fairs which included having safety, presentation, and analysis guides for our projects.

**Diaz, Rocio** (Sub team Leader)
Arrange contact list, sent out emails, arranging school visits, contacted Maria Santiago, set up presentation for 3/13, also worked on brochure and business card.

**Pak, Angela**
Modified business cards, logos, making more professional, contacting Alicia for feedback.

The infrastructure team has also gotten many things accomplished thus far. They have restructured the URI of the website. The infrastructure team has also fixed bugs that existed in the previous website. This included fixing broken links. Also, the infrastructure team has established coding standards for the current team and has included documentation so that future teams will be able to clearly identify with the changes that the current team has made and will be making. Finally, the infrastructure team has been implementing a sub-versioning system so that different versions of the website can be revisited as necessary, as well as adding security overall to the website in the case the site is hacked. Specifically, here is a break down of what some of the members of the infrastructure team have been doing:

**Campbell, Keith** (Sub team Leader)
Backing website, simplifying, making more maintainable, versioning, standard documentation, sub version tutorial, backbone of website.

**Steward, Shane**
Assisted Keith with website conversions.

**Parrillo, Anthony**
Organized team, work with Keith and Shane on website code, implemented tortoise SVN, looking for html editor, project plan, did lots of contacting folks, weekly meeting with profs, went to three science fairs.

The projects/guides team was established for many reasons. The project/guides team has worked on the projects that have been started but not completed in various semesters. They have worked to develop these projects so that we can add them to the website. The project/guides team has also put a priority in revising and reviewing the current guides that we have on the

website. This is a direct result of the meeting that we had with Angela Dumas, city wide science fair coordinator, because we thought that this needed to be a direct priority. This group has also been editing and reviewing the display guides and creating a guide for the safety sheet portion of the Science Fair project. The projects/guides team has been working well together as a team.

**Ten Eyck, Patrick** (Sub team Leader)
Oral presentation guide, checking all guides, compiled code of ethics.

**Baldwin, Leah**
Has been working on a safety guide with explanation of forms and why they can't do certain things relating to safety hazards.

**Gim, Yewon**
Took projects off IJSA website, expanded on them, wrote sections that help students personalize project and give them key words to google, also reference them to books, plans on finishing 20

**Tate, Joshua**
Has completed some projects and continues working on others, while one communication team organized list and sent out emails

**Totleben, Aimee**
Code of Ethics, midterm presentation, project template, organized project list, working on science quiz and science fair project

**Revised Task Schedule**

We have some overall revised tasks, however it did not warrant a complete restructuring of the project plan. One of the biggest revised tasks for the team as a whole is not tackling the project of creating an "Ask a Scientist" component, after we realized that Argonne National Laboratory was doing the same thing we were planning on doing. Also, our priorities have been modified as we have been talking with people and gaining feedback. We have focused on creating better oral presentations, updating our data analysis (and possibly adding a chi-square analysis as well), and putting an article on the website stressing the importance of properly doing and executing the safety sheet component of the Science Fair project. Also, just yesterday our group presented to a group of over 50 Chicago Public High School teachers, who gave us some invaluable feedback. Part of their feedback was to make a link to some other websites; one designed for high school students in Evanston, IL, and one designed to help students with the APA format (the standardized format of writing a Science Fair paper) on the written portion of their Science Fairs. The teachers also gave us their contact information and have and still are giving us quality feedback from the website through the use of the surveys.

In the future we will be needing to revise the structure of the team as a whole. I think that Anthony Parrillo, the team leader, will become more of a floater to make sure that things are getting done on all of the sub teams, as the infrastructure team seems to be ahead of schedule. (Refer to the attached Microsoft Project Plan for more details.) Also, the team will continue to focus on these priorities until they get done. The team is going to get its foot in the door very soon by creating a student-targeted brochure before the city wide Science Fair, so that students

will go to the website to improve their oral presentations (and display boards as possible). These kinds of tasks will continue to come up in the future, but it is important that the team acts on them so that we can ultimately spread the word about our website very quickly. Once a great number of students access the website, then some of them will inevitably tell their friends about our website.

We also plan on going into the schools and talking to students directly in the future. This will really help to enhance our marketability amongst students, teachers, and parents alike. This project is rapidly gaining momentum. We have to let as many people know about it as possible.

**Changes in Task Assignments and Designation of Roles and Team Organization**

IPRO 330 was divided into three sub teams: the communication team, the infrastructure team, and the project/guides team. The communication team consisted of sub team leader Rocio Diaz, Joshua Tate, and Angela Pak. The infrastructure team consisted of sub team leader Keith Campbell, Shane Steward, and Anthony Parrillo. The project/guides team consisted of sub team leader Patrick Ten Eyck, Aimee Totleben, Leah Baldwin, and Yewon Gim. Three weeks ago, after speaking with city wide Science Fair coordinator, Angela Dumas, we realized the need for more workers on the projects/guides team, so we reassigned Joshua Tate from the communication sub team to the projects/guides team. This turned out to be a strategic move, as the communication team was able to create good communication while allowing more working time to be spent on the projects and guides. We are considering a possible rearrangement of sub teams in the future as well. We may be considering moving one person from the infrastructure team (which is ahead of schedule) to the project/guides team, since that seems to be the real core of this project, and we may even consider breaking up further, where the projects/guides team would break up into purely a projects section and a guides section.

The communication team's main goal at the beginning of the semester was to maintain communication with contacts that we had from previous semesters. The members planned to increase communication by presenting our project and web-site to CPS teachers. These teachers are currently working with IIT High School Transformation Website.

First of all, the list of previous contacts was distributed among Angela Pak, Joshua Tate (now in the Project/Guides team), and Rocio Diaz. Each one of us was in charge of sending out emails to address specific requests from previous semesters. Some of these teachers had previously showed interest in our project. Some others never replied or were just not very interested in our project. We sent out emails that cordially invited them to participate in giving us feedback. From the people we contacted during the first three weeks of this semester only Mr. Eric Williams, Postsecondary Specialist-Area 23, and Angela Dumas City-wide Science Fair Coordinator, replied and showed interest in our project. In contacting these people, this team has given new vision and new priorities for the rest of the team, such as putting a larger focus on data analysis and the oral and display presentation guides. We also plan on trying to make more inter IIT contacts throughout the remainder of the semester.

The infrastructure team pretty much followed the plan set out from the beginning. However the "Ask a Scientist" project was removed because the Argonne National Laboratory site is already providing that service and we don't need to reinvent the wheel. This changes the focus of the team from being a one-stop resource for science fair students to supplementing existing resources with educational tools which we find most lacking in other providers. No major restructuring has occurred in our sub group, although this team has on occasion

spontaneously created groups with other sub teams on the fly to accomplish various simple to moderately complicated tasks.  The team's task was and still is to make the website more maintainable, allow the ease of editing and addition of content, and future-proof our publicly available resources.  The individual roles have not changed significantly in this subgroup.

The only change to the projects/guides sub team is the addition of Josh Tate from the communication sub team. The sub team leader is Patrick Ten Eyck. The goals of the projects/guides sub team are to add new and interesting science fair projects to the website, as well as make improvements to any existing projects from previous semesters. Additionally, the sub team is focused on adding new guides to assist students with the science fair process, and make them as user-friendly as possible. Yewon Gim, Josh Tate, and Aimee Totleben are working on the addition and editing of projects on the website. Patrick Ten Eyck and Leah Baldwin are working on the addition and editing of guides on the website.

## Barriers and Obstacles

One of the difficulties the communication team has encountered during this semester is that we have not been able to receive a lot of feedback.  One reason for this is the problem we had with our contacts.  Apparently, most of the teachers involved in the High School Website Transformation do not check their emails.  Maria Santiago, which is in charge of this program, was contacted by Professor Fasshauer and Rocio Diaz.  She suggested that a talk could be given to all the CPS teachers involved in the High School Website Transformation.  The date for this presentation was on March 13, 2008.  We were successful at obtaining contact information which we will use to let these teachers know about our up-date in our website.

Our future plans are to have enough and well presented deliverable materials such as brochures and business cards.  Previous semesters had such as materials as well.  However, we are trying to have an identification logo so that the teachers, students and parents can recognize our project by a particular design.  In future plans there are also the possibilities of creating a filter quiz that will enable a student to choose a particular science fair project.

For the infrastructure team, one of the challenges has been supporting novice computer users in project/guides team.  We have asked them to provide a very basic XHTML layout to upload web pages to the website.  We have also had to overcome the barrier which was the website, which was far from maintainable.  You can see some of the old flaws on the existing website, as we have not made live changes.  Also, some of the standards conformance process way down.  Also, there has been insufficient feedback from other subgroups about the aesthetics of the website, especially through email.  Also, the team has had trouble finding dead simple software applications for project team to use.  The team is still in search of this so that it will be easiest for the project/guides team to implement their projects.  The team has also had trouble finding automated tools to accelerate the markup conversion process.  It has also been difficult to soliciting other groups, so as a result this sub team has begun to do presentations to prompt questions and feedback at the team meetings.  We are also doing this to get a consensus on website presentation, and coding standards before passing it off to the next team.

For the projects group, a major obstacle is creating unique projects that can be used by CPS students. The goal is to come up with a project that one would not likely find on other science fair websites, also that students would enjoy. A major obstacle for the guides group is figuring out what aspects of the science fair process students are not familiar with and creating a guide that not only shows them what to do, but also to understand it. To solve both groups

problems, we meet outside of our scheduled IPRO class as a sub team and collaborate to help each other out with ideas and solutions to our individual problems. The only remaining barriers are discovering exactly what our website doesn't have that CPS students would like to see it have. Our solution is to meet with CPS students and teachers to get input and take suggestions on what can make our website better. This process has already begun, but it is an ongoing process that will continue all semester.