

## **I PRO 339**

**Developing Team Building Games & On-Line Training Tutorials  
that Enhance the I PRO Experience**

### **FINAL REPORT** **Spring 2006**

**Faculty Advisors**

Prof. Daniel Ferguson  
Prof. Annette Towler

**Sponsor**

Mr. Tom Jacobius

**Students**

Meredith Allen  
Brian Clark  
Reginald Curtis  
Younan Fakhouri  
Thomas Glennon  
Raj Luxmi  
Silvia Mirichev  
Nicole Trevor

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## Introduction

The IPRO program has been with IIT for more than 10 years and, like all long-term programs, has changed with time. IPRO 339 has been instrumental in bringing about changes to this program by analyzing it, gaining feedback, researching other similar programs at other colleges and universities, as well as studying the four learning objectives that the IPRO program reinforces (Teamwork, Ethics, Project Management, and Communication).

## Background

IPRO 339 has been around since Fall of 2003 with the job of finding out how to improve the IPRO program. Previous accomplishments of IPRO 339 teams include implementation of the assessment process used today, creation of IPRO proposals brought to the IPRO Selections Committee, having 3 student suggested proposals accepted to become IPROs, as well as the creation of the Training Materials used to be used to study the learning objectives.

## Purpose

This IPRO's continuing purpose is to make the IPRO program better. This semester's team tackled two main problems that the program faces. These problems are: (1) There are not enough IPROs that truly inspire a student and (2) Teams spend the first half of the semester trying to form an understanding of each other and get little work done during this time. To approach these two problems, we divided ourselves into two subteams: Creation & Selection and Games.

In the sphere of **creation and selection** of the IPRO proposals, the primary goals were to facilitate the creation of new IPRO proposals, and to support the IPRO office in the selection process. To fulfill the first objective, there were a number of goals: benchmark other schools with similar programs to the IPRO program, identify barriers that discourage members of certain departments from offering more IPROs via a series of luncheons, and to create IPRO proposals from within IPRO 339. As for the selection process of our work, it was our job to hold the selection luncheon, help coordinate the selection committee, present the proposals, and tally up the final votes.

In the area of **games**, there were also two primary goals: to develop a number of team building games that would speed up the process of forming a team and understanding their roles, and also promote the teaching of learning objectives (Communication, Teamwork, Ethics and Project Management), and to design and test a day in which these games would be held for the IPRO teams.

## Methodology

At the beginning of the spring semester of 2006, IPRO 339 set out to complete two major tasks, creation and selection of IPRO program and the testing of IPRO games. In order to achieve these goals we broke up into two different groups that would handle one of the major tasks outlined. One group was responsible for the completion of in creating and selecting IPRO programs, while the other handled the task of testing IPRO games. Even though there were two different tasks, each member of IPRO 39 played a role in the creation and selection team and the testing of IPRO games.

The creation and selection team was assigned to organize and hold faculty lunches throughout the duration of the semester. Faculty lunches were held in order to inform professors about the IPRO curriculum in hopes of more IPRO's, backed by good ideas being created. Two students were assigned to

organize one faculty lunch. In total four faculty lunches were held during the spring 2006 semester. Students were also assigned to benchmark different schools that held similar programs to IIT's IPRO programs in hopes of understanding what made better IPRO's. Holding faculty lunches and benchmarking schools were both done in hopes of creating better IPRO's.

The team that was assigned to test IPRO games in hopes of finding ways that would allow IPRO teams, each semester to start sooner in completing the outline goals for their IPRO project. The students assigned to the group designed the games and the logistics of the each game. Each student in IPRO 339 helped in the initial testing of the games. After the testing was completed four teams made up of at least five students participated in the IPRO games in to test whether the games were help in initial team building.

**Assignments**

**Creation/Selection subteam** has had the following assignments:

<b>Task</b>	<b>Responsible person</b>	<b>Status</b>
Coordinating Business Luncheon	Raj	Complete
Coordinating MMAE Luncheon	Tom/Meredith	Complete
Coordinating Humanities Luncheon	Brian/Silvia	Complete
Coordinating CS Luncheon	Younan/Nicole	Complete
Benchmark other schools	Team	Complete
Coordinate selection luncheon	Silvia	Complete
Binders for luncheon	Silvia	Complete
Luncheon summary	Silvia	Complete
Research proposals	Team	Complete
Present proposals	Team	Complete

**Games subteam** has had the following assignments:

Task	Responsible person	Status
Identify limitations	Younan	Complete
Choose pool of 20 games	Brian/Tom/Younan	Complete
Select six to eight games for pilot	Brian/Tom/Younan	Complete
Create and revise judging forms	Younan	Complete
Identify learning objectives	Younan	Complete
Create rehearsal schedule	Brian	Complete
Identify and purchase materials	Brian/Nicole	Complete
Run rehearsal games	Team	Complete
Create pilot schedule	Brian	Complete
Reserve space for pilot	Brian	Complete
Reserve food for pilot	Brian	Complete
Run pilot games	Team	Complete

## Obstacles

### Creation / Selection Obstacles

One of the biggest issues with the creation process was finding a faculty member willing to commit to a proposal and to agree to sponsor it. In some cases, it wasn't even possible to peak a professor's interest in a project. The reason for these difficulties is that professors tend to be busy and unavailable to sponsor IPROs on account of their busy schedules.

Research for the selection process was complicated by the fact that some professors were unreachable to answer questions about their IPROs, or were unavailable to answer questions about it.

Selection meeting presentations were limited to only a few minutes (understandably), but such a short amount of time may not have been adequate to fully present an IPRO or to answer all questions about it.

### Project Management Obstacles

One of the biggest problems to team management was the fact that almost all members on the IPRO team were commuter students and were unable to meet in person outside of class on a regular basis. One way this was overcome was by

using online virtual meetings with the help of internet chat software and through continuous emails containing status updates and other correspondence. Another obstacle that made life more harder was the difficulty in properly appropriating and delegating tasks equitably across the team, but that problem eventually fixed itself when team members began to step up and ask for assignments so that they can increase their level of contribution.

### **Games Obstacles**

Identifying the appropriate criteria for game selection was confusing at first; the qualities in game design seemed difficult to substantiate adequately to make sure the games reflected the qualities of teamwork we were trying to get across to the players. We did however find valuable resources online and with the domain experts Annette Towler and Michael Terrian, as well as Bruce Fisher (see acknowledgements section).

Determining what games would prove most effective and beneficial rested solely on our predictive capabilities. It was not until the dress rehearsal that we started to get a sense of what works and what doesn't.

Another obstacle that is likely to be addressed in future semesters is the fact that atleast two sets of games are needed to guarantee that teams that participate in IPRO games more than once play a new set of games the second time.

## **Results**

The **games sub-team** was able to design and approve a series of games for a pilot run through. They were also able to organize a rehearsal day, in which the games were tested by the team members. During the rehearsal, a game was found not to work, and was replaced by another. The following week, the sub-team scheduled and ran a pilot of the eventual IPRO games day, with 4 ad-hoc teams. The games were judged and run by the IPRO 339 team. It was found that several of the games would have to be modified, and that scheduling should be more closely examined, but that the games as a whole were successful in promoting the learning objectives.

All of the completed tasks of creation/selection/marketing subteam are outlined above in the assignments table.

## Conclusions and Recommendations

The **creation** luncheons proved to be a huge success. I strongly suggest that next semester's creation and selection team have at least three more luncheons, departments that haven't had lunches yet.

In addition, the continuation of 339 students creating IPRO proposals is something that should be continued, as more proposals were accepted from this team than any other in the history of the program.

It was also concluded that better IPRO's (those with more inspiring problems to solve) tend to be accepted more often than other IPRO's

The **games** proved to be very successful. Although some minor modifications need to be made to some of the games, and scheduling and other logistics need modification as well, the IPRO 339 team will be running an IPRO games day for 16 of the IPRO teams in the fall of '06. Those not playing the games will be a control group of sorts, to check whether or not the teams that played the games work together faster as a team, and also whether they score better on the Learning Objective tests.

## References

## Acknowledgements

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