

**ILLINOIS INSTITUTE OF TECHNOLOGY**

**PROJECT PLAN**

**I PRO 325**

Advisors: Prof. Ferguson & Prof. Schug

**Developing affordable products for the rural poor of the world**

## **IPRO 325 Project Plan**

### **Section 1.0**

#### **OBJECTIVES**

IPRO 325's objective is to create a program at IIT which looks to make an impact in the most immediate problems dealing with the world's rural poor. We seek to do this by becoming familiar with the current trends and events throughout the world which address these poverty issues. We will also examine the Agencies and Universities which are working towards annihilating the world's grossly impoverished areas. As individuals, we will examine in depth 10 items which have been selected as those which impact the world poor the greatest. These ten items are Transportation, Energy, Shelter, Food, Water, Health, Communication, Employment, Social Structure, and Education. Through this research, we hope to learn from those who have gone before us in both creating a relevant project, as well as searching out other schools or organizations with whom we might partner in this endeavor.

### **Section 2.0**

#### **PROJECT BACKGROUND**

The concept of poverty has been around since individuals of the first societies found it hard to find enough food. The concept of trying to do something about it probably spontaneously generated itself at the same time. Human compassion seems to be ever present in areas of poverty, yet it seems as though no matter what volume of energy is packed into those areas with compassion, merely serves to allow poverty to spring up elsewhere. Jesus himself said "The poor you will always have with you", so what are we to do about this problem if the poor will always be here. Some have been saying that the reasons that charity organizations don't seem to ever make a dent in the problem is merely because their energies are ill-placed. All the compassion has prompted monies to go towards addressing the symptoms which will just keep getting worse unless we start to address the problems which are causing poverty. Realistically, just like Jesus said, we will always have the poor with us. However, with initiatives like the Millennium Development Goals initiated by the United Nations and radically affirmed and agreed upon by every country in the United Nations, bringing up the world's chronic poor to a higher level is definitely a procurable feat. At the present, there is no sponsor for this project; hence our clients are the 2 billion people worldwide who are living on less than \$3 per day. Our responsibility is to these people: to look at all of the present research that has been done on the subject and determine what we might do which would make the biggest impact on permanently changing the lives of these people.

We have identified the following as the most immediate problems affecting the world's rural poor: transportation, energy, shelter, food, water, health, communication, employment, social structure, education. These ten items are making the greatest negative impact right now and they each propose their own complicated technological problems; i.e. different areas of expertise will be needed to address each one. One difficult thing, however, is that none of these problems exist in isolation, so it would be very hard to either research or effect any one problem in isolation, but the flip side of that coin is that any effort towards any one of those items will invariably impact some of

the others depending on the project and the project location. Dealing with problems dealing so closely with the lives of people is bound to touch on moral issues. The nature of our project, however, seems to be that the only greatly morally corrupt action would be inaction. It is our goal that the business costs would be very low, so as to be easily implementable, and the societal costs be negative; i.e. raising the level of the societies we impact. This semester, implementation of the project is not our goal. However, over the next few semesters, the goal is that the program we develop this semester will be developed and implemented, actually making a difference.

### **Section 3.0**

## **METHODOLOGY**

The problem that has been given to us is to create a program for future IPROs to follow which will seriously address some aspect of the abject poverty of the world.

To solve this problem, the team will first look at precedence and examine their projects, their intentions and their successes and failures. From the research, we will then narrow our view down to the three most relevant problems which we might address and research these in greater depth. We will then be able to make a more informed decision into what we at IIT can do to address these problems.

To do this we must:

- Produce a research paper looking at the problem of poverty as a whole
- Produce a research paper looking at organizations which are presently working on the problem of global poverty
- Produce a research paper looking at universities which are presently working on the problem of global poverty
- Identify three problems which stand out above the rest in terms of both need and feasibility of intervention.
- Produce a research paper looking at each of the three chosen problems
- Produce a proposal of what IIT can do for each of these problems.

In this phase, the only way we can test potential solutions will be to judge the feasibility of our proposal against past projects performed by other organizations and universities. To do this we will establish quantitative as well as qualitative criteria to judge both the prior projects and our proposed projects so that they may be easily compared.

To do this we must:

- Establish a set group of quantitative ways which we might be able to compare proposals.
- Establish a set group of qualitative ways which we might be able to compare proposals.

Our research will be documented in archives of information in igroups. Both our research and our testing will be documented in papers and charts for easy reference to the project and deposited on

igroups. This way the members of the present group as well as those who come after us will be able to access and understand every step in our path.

To do this we must:

- Organizing our problem testing information into comparable charts
- Take the research papers and the testing papers and put them on igroups

Analysis of testing will be done in a very simple manner. The comparing criteria set up will be utilized to distill the test results down to a white paper which might be more easily understood and distributed.

To do this we must:

- compare both quantitative and qualitative testing results
- create a paper synthesizing our findings

Our final product will be one well organized paper which will accurately portray our findings on this subject. This will be composed of all the work done prior in the researching, focusing and analysis phases.

To do this we must:

- create introduction, conclusion and final proposition pages
- compile and organize all of the prior research into one understandable report on what IIT can do to help the problem of global poverty

## **Section 4.0**

### **EXPECTED RESULTS**

After the PowerPoint presentations on the individual problems, and on the universities and organizations involved in sustainable projects for the poor, the group will discuss the information presented, and we will make an informed and educated decision on what the main problems suffered by the poor around the world are.

A report of each of the nine main problems considered, and three reports corresponding to the three different subgroups will be available for future reference. In addition, the final report and PowerPoint presentations will be completed and available by the end of the semester. Future IPROs will be able to access and consult our reports and letters issued to professors, companies, and organizations throughout the semester.

Once we have narrowed our attention to three main problems, then we expect to be able to research about projects and activities that have been or are being done to address these problems. We expect to earn a good understanding of the solutions that other universities and organization have

developed / thought, so that we would then be able to think about the possible path that IIT could take in order to develop a particular and sustainable plan to address the problems.

Two or three speakers are expected to come to IIT's main campus in an attempt to create awareness about the problems the poor are facing in actuality; it is also expected that the speakers will contribute with valuable insight on particular and practical ways on how to address the three problems chosen.

In addition to the IIT faculty that we expect to find to join the project in future IPROs, we are also expecting to find private companies and organizations with which IIT could possibly partner in the development of the project.

Our main goal for this Fall 2006 semester is to set the foundations for future IPROs to continue building on this project. We realize that poverty is not a new problem and has been part of reality since antiquity; however, we do know that it is potentially possible that any individual, organization, government, or nation as a whole can contribute with as little or as much as possible as his/her/its own possibilities enable him/her/it. Consequently, we expect that our effort throughout this semester will be of help for future IPROs so that this initiative is seriously considered, and IIT becomes a know institution for contributing on the fight against poverty around the world.

## Section 5.0

### BUDGET

Activities	Expenses
<b>Speakers</b> (estimate \$1000 each)	\$3000.00
Posters for speakers (10 for each speaker, distributed around campus – assuming 50c each – 11 x 17 in.)	\$15.00
Formal letters to possible partners (Mail)	\$5.00
<b>IPRO day</b>	
2 Final posters	\$100.00
<b>ESTIMATED GRAND TOTAL</b>	<b>\$3120.00</b>

## Section 6.0

### SCHEDULE OF TASKS AND MILESTONE EVENTS

Task Name	Duration	Start	Finish	Resource Names *
<b>PHASE I: Research</b>	<b>41 days</b>	<b>8/24/2006</b>	<b>10/19/2006</b>	
<b>Individual Research</b>	<b>33 days</b>	<b>8/24/2006</b>	<b>10/9/2006</b>	
Transportation	6.6 wks	8/24/2006	10/9/2006	Thomas Francescanneli
Energy	6.6 wks	8/24/2006	10/9/2006	Eric Schamber
Shelter	5.2 wks	9/4/2006	10/9/2006	Sara Miller
Food	6.6 wks	8/24/2006	10/9/2006	Arturo Aguirre
Water	6.6 wks	8/24/2006	10/9/2006	Richard Sheridan
Health	6.6 wks	8/24/2006	10/9/2006	Hudi
Communication	6.6 wks	8/24/2006	10/9/2006	Justin Harris
Employment	6.6 wks	8/24/2006	10/9/2006	Alexander Kircher
Social Structure	6.6 wks	8/24/2006	10/9/2006	Crystal Richards-Jimenez
Education	6.6 wks	8/24/2006	10/9/2006	Cesar Sotelo
<b>Group Research</b>	<b>28 days</b>	<b>8/24/2006</b>	<b>10/2/2006</b>	
UN Reports	5.6 wks	8/24/2006	10/2/2006	Thomas Francescanneli,Hudi
Global Statistics	5.6 wks	8/24/2006	10/2/2006	Cesar Sotelo,Arturo Aguirre
Organizations	5.6 wks	8/24/2006	10/2/2006	Sara Miller,Crystal Richards-Jimenez
Schools/Institutions	5.6 wks	8/24/2006	10/2/2006	Alexander Kircher,Justin Harris
Engineers Without Borders	5.6 wks	8/24/2006	10/2/2006	Eric Schamber
International Development Enterprises	5.6 wks	8/24/2006	10/2/2006	Richard Sheridan
<b>Present Project Plan</b>	<b>0.5 days</b>	<b>9/19/2006</b>	<b>9/19/2006</b>	<b>Cesar Sotelo,Eric Schamber,Sara Miller</b>
<b>Learning Objective Test</b>	<b>1 day</b>	<b>9/21/2006</b>	<b>9/21/2006</b>	<b>All</b>
<b>Layout Definition</b>	<b>0.25 days</b>	<b>9/19/2006</b>	<b>9/19/2006</b>	
Define PowerPoint layout	0.25 days	9/19/2006	9/19/2006	Crystal Richards-Jimenez
Define Paper Layout	0.25 days	9/19/2006	9/19/2006	Eric Schamber
<b>Group Reports</b>	<b>16 days</b>	<b>9/14/2006</b>	<b>10/5/2006</b>	
Work in groups in class defining group plan	1 day	9/14/2006	9/14/2006	All
Work in groups in class finalizing presentation	1 day	9/28/2006	9/28/2006	All

Present Group Final Reports	3 days	10/3/2006	10/5/2006	
Universities	0.5 days	10/3/2006	10/3/2006	Alexander Kircher,Justin Harris
Organizations	0.5 days	10/3/2006	10/3/2006	Sara,Crystal,Richard, Eric
Problems	1 day	10/5/2006	10/5/2006	Arturo,Cesar,Thomas,Hudi
<b>Individual Reports</b>	<b>0.5 days</b>	<b>10/10/2006</b>	<b>10/10/2006</b>	
Criteria for Comparing all problems	0.5 days	10/10/2006	10/10/2006	Arturo Aguirre
<b>Present Individual Problem Reports</b>	<b>8 days</b>	<b>10/10/2006</b>	<b>10/19/2006</b>	
Energy	1 day	10/10/2006	10/10/2006	Eric Schamber
Shelter	1 day	10/10/2006	10/10/2006	Sara Miller
Nourishment	1 day	10/10/2006	10/10/2006	Arturo Aguirre
Water	1 day	10/12/2006	10/12/2006	Richard Sheridan
Health	1 day	10/12/2006	10/12/2006	Hudi
Education	1 day	10/12/2006	10/12/2006	Alexander Kircher
Transportation	1 day	10/17/2006	10/17/2006	Thomas Francescaneli
Communication	1 day	10/17/2006	10/17/2006	Justin Harris
Income	1 day	10/17/2006	10/17/2006	Cesar Sotelo
Social Structure	1 day	10/19/2006	10/19/2006	Crystal Richards-Jimenez
<b>Discuss Problems</b>	<b>1 day</b>	<b>10/19/2006</b>	<b>10/19/2006</b>	<b>All</b>
<b>PHASE II</b>	<b>28 days</b>	<b>10/24/2006</b>	<b>11/30/2006</b>	
<b>Define 2-3 Problems to Follow Through</b>	<b>18 days</b>	<b>10/24/2006</b>	<b>11/16/2006</b>	
Problem Group 1	13 days	10/24/2006	11/9/2006	
Problem Group 2	16 days	10/24/2006	11/14/2006	
Problem Group 3	18 days	10/24/2006	11/16/2006	
<b>Looking at existing solutions to problems</b>	<b>18 days</b>	<b>10/24/2006</b>	<b>11/16/2006</b>	
Problem Group 1	13 days	10/24/2006	11/9/2006	
Problem Group 2	16 days	10/24/2006	11/14/2006	
Problem Group 3	18 days	10/24/2006	11/16/2006	
<b>Find potential partners</b>	<b>18 days</b>	<b>10/24/2006</b>	<b>11/16/2006</b>	
Problem Group 1	13 days	10/24/2006	11/9/2006	
Problem Group 2	16 days	10/24/2006	11/14/2006	
Problem Group 3	18 days	10/24/2006	11/16/2006	
<b>Group Presentations and Class Discussion</b>	<b>6 days</b>	<b>11/9/2006</b>	<b>11/16/2006</b>	
Problem Group 1	1 day	11/9/2006	11/9/2006	

Problem Group 2	1 day	11/14/2006	11/14/2006	
Problem Group 3	1 day	11/16/2006	11/16/2006	
<b>Create awareness</b>	<b>28 days</b>	<b>10/24/2006</b>	<b>11/30/2006</b>	
Bring in speakers	28 days	10/24/2006	11/30/2006	
<b>Publicity</b>	<b>28 days</b>	<b>10/24/2006</b>	<b>11/30/2006</b>	
Speaker Publicity	28 days	10/24/2006	11/30/2006	
"Problem" Publicity	28 days	10/24/2006	11/30/2006	
<b>PHASE III</b>	<b>29 days</b>	<b>11/7/2006</b>	<b>12/15/2006</b>	
<b>What can IIT do?</b>	<b>13 days</b>	<b>11/7/2006</b>	<b>11/23/2006</b>	
Problem Group 1	13 days	11/7/2006	11/23/2006	
Problem Group 2	13 days	11/7/2006	11/23/2006	
Problem Group 3	13 days	11/7/2006	11/23/2006	
<b>Present Group Reports</b>	<b>1 day</b>	<b>11/23/2006</b>	<b>11/23/2006</b>	
Problem Group 1	1 day	11/23/2006	11/23/2006	
Problem Group 2	1 day	11/23/2006	11/23/2006	
Problem Group 3	1 day	11/23/2006	11/23/2006	
<b>I PRO Day</b>	<b>1 day</b>	<b>12/1/2006</b>	<b>12/1/2006</b>	
<b>I PRO Team Debriefings</b>	<b>1 day</b>	<b>12/15/2006</b>	<b>12/15/2006</b>	



## Section 7.0

### INDIVIDUAL TEAM MEMBER ASSIGNMENTS

#### A. Team Members

Arturo Aguirre: *Architecture*  
Hu Di: *Electrical Engineering*  
Thomas Francescanneli: *Architecture*  
Justin Harris: *Architecture*  
Alex Kircher: *Architecture*  
Sara Miller: *Architecture*  
Crystal Richards-Jimenez: *Architecture*  
Eric Schamber: *Physics / Electrical Engineering*  
Richard Sheridan: *Chemical Engineering*  
Cesar Sotelo: *Architecture*

#### B. Team Leaders

Sara Miller  
Eric Schamber

#### C. Sub-Teams

##### 1. Criteria and definition of problems:

Arturo Aguirre  
Hu Di  
Thomas Francescanneli  
Cesar Sotelo

##### 2. Research on organizations:

Sara Miller  
Crystal Richards-Jimenez  
Eric Schamber  
Richard Sheridan

##### 3. Research on universities:

Alex Kircher  
Justin Harris

#### D. Sub-Teams' Leaders

Arturo Aguirre - Problems

Alex Kircher - Universities  
Sara Miller - Organizations

## **E. Sub-Teams' Responsibilities**

### **Sub-Team 1: Define**

- Introduction
- Dimensions of Problem
- Overall-ranking/ precedence of problems
- Organizations

### **Sub-Team 2: Evaluate Organizations**

Considering there are hundreds of organizations currently working on solutions for the poor, we have decided to focus on 11 Organizations, and research their past and present activities. Our criteria for choosing them was the following: affordability, feasibility, scope, and the method utilized in the development of their projects.

### **Sub-Team 3: Research Topics**

- Universities with a specific directive towards issues of world poverty
- Directives specifically looking at issues dealt with by rural poor
- Directives based in classes and/or projects dealing with poverty
- Directives which are Action or Production Oriented
- Directives managed, at least in part, by undergraduates

## **F. Sub-Teams Individual Responsibilities**

### **Sub-Team 1:**

Arturo Aguirre- Introduction, Problem Details

Hu Di- Dimension of problems, Overall-ranking/ presidency of problems

Thomas Francescaneli- Dimension of problems, Overall-ranking/  
presidency of problems

Cesar Sotelo- Appendix, Maps, Stats

### **Sub-Team 2:**

Sara Miller - AFH and Red Cross

Crystal Richards-Jimenez - Habitat for Humanity, Food for the Hungry, and UNICEF

Eric Schamber - Engineers without Borders, Doctors without Borders, and

Heart to Heart  
Richard Sheridan - IDE, The Hunger Project, and WHO

**Sub-Team 3:**

Alex Kircher - UC-Berkeley, Columbia University, Cornell University  
Justin Harris - Rural Studio, EWB schools

**Section 8.0**

**DESIGNATION OF ROLES**

**A. Assign Meeting Roles**

- **Minute Maker:** Thomas Francescanneli
- **Agenda Maker:** Sara Miller & Eric Schamber
- **Time Keeper:** Sara Miller

**B. Assign Status Roles**

- **Weekly Timesheet Collector/Summarizer:** Justin Harris
- **Master Schedule Maker:** Alex Kircher

**C. Research Roles: Problems Affecting the Poor**

- **Nourishment:** Arturo Aguirre
- **Health:** Hu Di
- **Transportation:** Thomas Francescanneli
- **Communication:** Justin Harris
- **Income:** Alex Kircher
- **Shelter:** Sara Miller
- **Social Structure:** Crystal Richards-Jimenez
- **Energy:** Eric Schamber
- **Water:** Richard Sheridan
- **Education:** Cesar Sotelo

**D. Other Roles**

**Contact Guest Speakers:** Hu Di & Crystal Richards-Jimenez  
**Define Paper Layout:** Eric Schamber  
**Define PowerPoint Layout:** Crystal Richards-Jimenez  
**Presentation Boards:** Thomas Francescanneli & Cesar Sotelo