

I PRO 324 Project Plan

Spring 2007

**Disaster Recovery:
Do-It-Yourself Home Building**

Advisor: Frank Flury

1.0 Objectives

I PRO 324, Disaster Recovery: Do-It-Yourself Home Building, is focused on designing a building manual to aid disaster victims in building new buildings. The objectives of this group are to continue the efforts made from the previous semester. This includes the creation of a manual illustrating how to build the design, design for handicap accessibility as a provision to the current design, to market this manual to a disaster relief organization that would be responsible for the distribution, to find a new client who would be interested in having this project built, and to find funding in order to build the design. Over the course of this semester, the team will be focusing on creating the manual and attempting to build the design at a site either in New Harmony, Louisiana or Gulfport, Mississippi where potential clients are. The house at a bare minimum consists of a multipurpose room, a kitchen, and a bathroom; and will cost approximately \$17,000. This is an affordable home/structure considering the cost of building a house now. The team is aware that some families are not fortunate enough to have a savings of \$20,000 when these unexpected disasters occur. For this reason, it is an objective of the team to obtain funding.

2.0 Project Background

A. Clientele: Our projected client base will be predominantly for those that are homeless due to natural disasters. We will provide them affordable structures that they can customize to fit their needs. The structures would be flexible and could be used for a variety of purposes from single-family residences to community buildings such as schools, churches etc. Our current focus is within the New Harmony artist community, located in Hancock County, Louisiana or in Gulfport, Mississippi. While the specifics of the client are unknown at this time, the gulf area where Hurricane Katrina hit left the community without homes, studio workspaces, or galleries to sell their artwork, making it a target market for affordable and simple structure homes/ studios.

B. Sponsorship: We currently are reviewing the research done from the previous semester of potential sponsors who will best fit the needs of our project and who would be willing to participate with this project. We may also find sponsorship from the new client.

C. Current project difficulty: The client originally with this IPRO was unable to continue. The IPRO must now find a new client. Funding is also an issue since it was attempted in the fall semester with small results. The business team is going to continue on working who to target and how best to target corporations, charities and other groups to obtain funding. The team will also be researching sites and regulations of disaster areas near the gulf coast to find the best match for our current building design. The design team will be working on the difficulty of creating a manual that can be understandable so that it can be assembled by a novice using cost effective materials and construction techniques.

D. Precedence: Under the direction of Professor Frank Flury, a previous team of students outside of IIT attempted to build a structure like what we intend on doing in this IPRO. In 2004, Flury and a group of students from Alabama built a structure for the victims of a natural disaster. It was a successful project and Flury proceeded to make two other structures using similar design and construction methods for other places with other students helping. One such place was Lynn Meadows Discovery Center. The volunteers of this project were IIT students who were doing this without school credit.

Other than the obvious reason of wanting to help disaster victims, there were many things that influenced Flury to create this IPRO. For starters, he wanted architect students as well as students from other disciplines to experience something more hands on than what they were generally accustomed to. He saw the excitement of the kids who previously worked on the projects and he wanted to bring that excitement to the students at IIT. After the successful completion of the

Lynn Meadows project he felt that many more successes could be done and he knew IIT students would be up to the challenge.

E. Costs to Consider: Material costs include the materials and any labor that may not be able to be completed by a novice who is attempting to build a house themselves. This includes things such as plumbing and electricity. Inspections and permits are another cost to construction. Considering societal costs we must be conscious of the time and energy that it takes to create a building. The cost of putting the manual together is a smaller cost to consider but still an important one since this will be the guide for everything.

F. Previous Accomplishments: Research has been done to find possible investors, a business plan has been made to bring to investors, and a marketing scheme has been created to achieve production of the structures designed. A design of the building has been done. The building is a 24ft x 48 ft. simple timber structure with a pitched roof and internal core which holds all of the plumbing and functions associated with that. It is an open plan that can have various accommodations added to the plan to personalize it.

3.0 Methodology

A. The primary problems:

- Finding a client who has the need and is willing to build with the IPRO
- Marketing the design for the future possibilities of construction
- The production of the manual
- Acquire donations from various groups including:
 - on site professionals
 - corporations
 - building materials

-local support

B. Solution: In order to solve these problems, the IPRO group is divided into two groups: the Design team and the Business team. The Design team will handle the continuing design of the building. This entails creating a design that includes handicap accessible dimensions, demonstrating how the structure is constructed, and a manual that illustrates and instructs how to assemble the building. The Business team will be in charge of the clientele, funding and marketing. This entails studying producing pamphlets/brochures in order to market the final product to the general public and attract possible partners and donors, maintaining a website, and finding funding for the construction of this building.

C. Implementation: Testing solutions to our problems will be straightforward yet rather difficult to accomplish because of limited resources. For example, for the design team to fully test their model, a full-scale mock-up will be built in order to demonstrate the real life feel of the design. It is also an essential part of putting the manual together since a mock-up will allow the students to fully understand the complications that may arise with the construction of the building. Once the difficulties can be understood, the design can be altered to simplify the construction. The intention is that the building can be built without being having a strong background in construction practices. As for business, testing of solutions to the finding funding consists of understanding the process of fundraising as well as finding the individuals/corporations willing to donate.

D. Documentation: The results of testing these solutions will be documented differently for each team. The business team will document its results via text documents. In terms of questioning other sources, if advice, aid or answers from outside sources are received, the notes taken from the conversation, the emailed response and any other hard or soft copies of responses received

from the source will be documented and stored for future reference. The design team will work individually as well as together to produce drawings and models that will be used and revised at IPRO meetings. These drawings and images will be kept as part of the process of the development of the manual.

F. Tasking: The tasks involved in generating IPRO deliverables are the division of work amongst specialists in the group (e.g. assigning the design of the website to someone specializing in computers rather than by random) and dividing the remaining work evenly amongst the entire group. A set period of time in advance of the deadline, members will present their initial product to the group for peer editing, allowing everyone to have the opportunity to review mistakes and or critique the members work. Scheduling of tasks will be handled by each team's leaders, and will be reviewed and updated at each IPRO meeting.

4.0 Expected Results

IPRO 324 intends to create plans and a construction manual for a multi-purpose structure intended to help victims of natural disasters. The structure is simple yet fully functional, utilizing common construction techniques in an innovative and cost effective manor. This structure will consist of a multipurpose room, a kitchen, and a bathroom, with a final cost of no more than \$20,000. The construction manual will be simple and concise, allowing for a construction novice to understand it. This manual will be the majority of the efforts if a client can not be found.

5.0 Budget

The following budget is based on initial cost estimates only. At this time it is difficult to arrive at precise values for printing and prototype materials, because those will heavily depend on the finished design of our product.

IRPO 324 PROJECTED COST SUMMARY

ITEM	Quantity	Unit Cost	Total Cost
Design Team			
Document Printing	LOT	\$300.00	\$300.00
Materials for Prototype	LOT	\$2,000.00	\$2,000.00
Business Team			
Investor Contact Letter Printing	25	\$0.10	\$2.50
Client Contact Letter Printing	25	\$0.10	\$2.50
General			
Posters	3	\$50.00	\$150.00
Contingency		\$445.00	\$445.00
ESTIMATED TOAL PROJECT COSTS:			\$2900.00

6.0 Project Deliverables and Milestones

TASK	START	FINISH
BUSINESS GROUP TASKS		
Establish Mission Statement	1/29/07	1/31/07
Project Plan	1/29/07	2/16/07
Develop Template	1/29/07	1/31/07
Define Objectives	2/5/07	2/5/07
Write Project Background	2/1/07	2/2/07
Write Project Methodology	2/1/07	2/2/07
Write Expected Results	2/1/07	2/2/07
Update Schedule of Tasks with Milestones	2/1/07	2/2/07
Record Assigned Responsibilities	2/12/07	2/13/07
Research Clients	2/13/07	2/18/07
Compile Information	2/19/07	2/25/07
DESIGN GROUP TASKS		
Additional ADA req. design	2/13/07	2/18/07
Structural Consult	2/15/07	2/15/07
Manual Organization	2/13/07	3/14/07
Materials of Construction	2/20/07	2/25/07
Sections, Dtls, etc	2/20/07	3/22/07
Graphic Organization and Writing	3/1/07	3/10/07
Establish Method of Transport	10/18/2006	10/19/2006
Develop Method of Construction	10/17/2006	10/19/2006
Establish Schedule of Construction	10/24/2006	10/26/2006
Finalize Construction Documents	10/24/2006	10/26/2006
GENERAL TASKS		
IPRO day presentation	3/26/07	4/25/07

	Design Brochure	4/14/07	4/20/07
	Design Booklet	4/14/07	4/20/07
Mid-Term Report		3/19/07	3/23/07

7.0 Individual Team Member Assignments

LAST	FIRST	MAJOR	TEAM	TASKS
Chacko,	Serena	BioMed Eng.	Design	Manual-Graphics and Writing
Dakowisz,	Dukasz	Architecture	Design	Manual- CD's
Diaz De Leon Orraca,	Federico	Architecture	Design	Structural Considerations
Dilger,	Andrew	Architecture	Design	Manual- CD's
Dolejs,	Martina	Architecture	Business	Deliverables
Grosse,	Christopher	Architecture	Business	Research
Kim,	Jung-Jae	Computer Sci.	Design	Manual- CD's, website
Kirsch,	Joseph	Architecture	Design	Manual- CD's
Navarro,	Jonathan	Architecture	Design	Manual- CD's
Peck,	Edward	Architecture	Design	ADA design, Manual- CD's
Ray,	Monmayuri	Architecture	Design	Manual- CD's
Rios,	Homero	Architecture	Business	Research
Rogers,	Eric	Civil Eng.	Design	Structural Considerations
Rotella,	James	Architecture	Design	Structural Considerations
Thompson	Sean T.	Architecture	Design	Manual- CD's

8.0 Designation of Roles

Minute Taker: This person is in charge of taking minutes each week.

The person taking the minutes varies each week.

January 22, 2007	IPRO first class in HUB Ballroom
January 29, 2007	We all watched an intro slide show.
February 5, 2007	Decided on Goals and Objectives
February 12, 2007	Assigned Tasks

Master Schedule Maker: This member is responsible for collecting schedules from all the team members and developing a master schedule, which tells the team when members are available and how to contact them.

Minute Organizer: This member is responsible for collecting and putting the weekly minutes into a set template.