ILLINOIS INSTITUTE OF TECHNOLOGY

PROJECT PLAN

IPRO 340

Advisors: Prof. Ferguson & Prof. Miller

Conceptual Design and Planning for the environment of Chicago Area Health Clinics by Access Community Health Network

1.0 INTRODUCTION

IPRO 340 is focused on the Conceptual Design and planning for Chicago Area health clinics by Access Community Health Network. The quality of health care today has definitely progressed over time and is continually progressing. As technology advances drive us into the 21st century new cures and medical practices are emerging, solving issues that could not be tackled before. But the problem of utilizing these cures and practices to serve the underinsured or financially challenged families is still an evident problem. Our IPRO will prepare the design related information for building a Health Care Center for the Future. This information consists of the legal regulations posed by JCAHO (Joint Commission of Accreditations for Healthcare Organizations), site visits and audits, and a program booklet for the design of the actual Facility. This information will be reinforced in process maps and research done on state of the art technology for healthcare centers and utilized in further developing the facility program and design. Our IPRO believes the facility should be designed to maximize efficiency, effectiveness, and quality of health care.

2.0 PROJECT BACKGROUND

Access Community Health Network is the nation's largest network of community health centers, operating 50 health centers in medically underserved communities in Chicago and greater Cook and DuPage counties. Access serves over 210,000 patients a year, of which 76,000 are kids. One third of Access patients are uninsured. 50% have Medicaid, 11% Medicare, 7% have commercial insurance.

Access services include general health care (family, medicine, internal, pediatrics). Included are school, sports, and immigration physicals. Immunization, Ob/Gyn and midwifery service are also offered. Access also offers management of chronic diseases like diabetes, asthma and high blood pressure. In addition there are low cost breast and cervical cancer screenings, mental health services, substance abuse treatment programs, HIV/AIDS counseling, testing and primary care. Benefit counseling and case management.

Access's mission is to provide high quality, cost effective, safe, and comprehensive primary and preventive health care in underserved Chicago land communities.

One of the problems that Access faces includes not having adequate space for the services being provided at the facilities. This usually creates an over flux of patients at certain times of the day and waiting times become very time consuming, sometimes resulting in a trip to the clinic to take many hours.

Access is in the process of expanding their options for delivery of care with their network. They look forward to cooperating with hospitals

and providing new services such as X-Ray and providing space for new, medical procedures currently under development. The facility of the future needs to be able to address the issues stated previously. As the geriatric population in the United States grows, there in a need to provide adequate service to patients in this age group, as well as service in Pediatrics/child care. The Facility of the future needs to be able to address and solve both the issues of space and providing efficient services to the patients. Unified healthcare of the future will provide patients with buying power, and Access is committed to meeting the demands of their costumers by providing high quality services and healing environments in their facilities.

IPRO 340 builds on the foundations set by previous semesters work in which the team familiarized themselves with JCAHO (Joint Commission on Accreditation of Healthcare Organizations) standards and visited facilities in the Chicago land communities to get a better understanding of how the facilities function in compliance with the standards and with what specific problems could be addressed to improve the quality of healthcare. In addition, the previous teams started researching other state-of-art health care clinics which allowed them to consider and analyze the current issues and problems within newer facilities and what a health care facility of the future should feel and look like.

This semester's team will continue the research, as well as implement LEED standards to design a prototype of an Access Medical facility of the future.

3.0 METHODOLOGY

The problem given to us is to design a prototype of a health care clinic capable of carrying out efficient, effective, and quality health care through the Access Community Health Networks.

In order to solve this problem, for the first part of the semester our team will split into two sub teams. Each team will have appointed leaders and about five to six subteam members. One team will focus on Process Mapping while the second on the State of the Art Technology investigation. The Process mapping team will focus their efforts on investigating the processes of registration, examination, discharge, the referral process and lab processes. The State of the Art team will focus on technology, medical treatment practices, people, materials, building laws/codes and laws/standards/ethics. They will also anticipate 5 to 10 years into the future and the impact the technology will have on the facility. During the second part of the semester the focus of our problem will shift into looking at Pediatric care and Geriatric care.

The team will also become familiar with the Access facilities by scheduling meetings, interviews, and site visits with IPRO representatives from Access. Through the interviews and meetings, the team will further

clarify the specific goals for the semester. There will be site visits to currently existing Access facilities recommended by the Access representatives. The teams will be working on: Preliminary site visits and report on the sites in conjunction with research on site visits done by previous IPRO groups and apply this information to the subteam research of this semester.

To solve this problem, the team will need to familiarize themselves with the health care facilities in general, by researching state-of-art facilities around the world and within the U.S. in addition to studies on learning practices and procedures of medical offices as well as research what is ineffective and how it can be improved.

The state of the art team will begin working on researching state-of-art health clinics and other related topics such as medical equipment and green technologies while keeping in mind code and health issues in medical facilities. The team will also conduct interviews with design and medicine related personnel, such as architects and doctors. The team will think in a futurist manner. They must predict how technology and medicine will develop over the next five to ten years in order to successfully plan a true state of the art health center.

The process mapping team will be focusing on researching the five processes in a healthcare facility. The processes will them be initially mapped, analyzed in accordance to Access Healthcares processes, and finally reanalyzed into efficient and successful processes that could then be utilized in the design portion of the semester. All processes will be analyzed utilizing the LEAN process in conjunction with professionals from Access Healthcare. The subteams goal is to improves upon and incorporate the newly analyzed processes in the healthcare facility of the future to better the quality of care.

In regards to deliverables, each subteam will produce documents, reports, and presentations to be shared with the Ipro members, Access Healthcare, and design professionals. Deliverables are generated according to the subteam and class schedule. The first half of the semester will be focused on providing deliverables for state of the art technology and process mapping, while the second half will be dedicated to facility design utilizing the maps, and technology in accordance with pediatric and geriatric care.

4.0 EXPECTED RESULTS

A. IPRO 340's expected results are to create a prototypical design for a future Healthcare Facility for Access Healthcare from the research and process mapping of current Access facilities and the research of state of the art technology in the healthcare field today.

B. The expected data to be gathered through research from the state of the art team will consist of medical equipment, medical care technologies, and green technologies needed to provide the facility with the proper equipment for effective, efficient, and quality health care.

Our expected data resulting from the process mapping and site visits will consist of gathering floor plans, pictures of facilities, and notes to convey to the team a basic understanding of the needs and requirements of the facilities. This information will then assist the process mapping team in understanding the way in which Access facilities function and then aid them in incorporating that information into the prototype building design.

C. Potential ideas that could evolve from the research and mapping are new spaces that could allow to better service the patients, energy efficient building designs, as well as a master programmatic plan to be utilized by architects and builders to keep an efficient consistent system for all new and remodeled buildings.

D. Our potential outputs through executing these tasks are to gain a better understanding of our problem and to implement the information and knowledge acquired by the teams into a prototype design for future Access health centers. By working together in groups we will try to create the best possible solution and gain valuable team-working experiences.

E. The teams expected results in terms of deliverables are to have a set of design guidelines that reinforce our research and work while complying with the JCAHO standards. This will assist the team in creating a prototype model of the future health center.

F. Our expected results address the deliverables set by our IPRO Access Representatives by creating design guidelines resulting from detailing the JCAHO standards. Our results will also assist designers in understanding the problems and necessities involved with designing health care centers. Most importantly our results could help improve the facilities of Access, patient flow and the quality of health care available to the underinsured population.

5.0 BUDGET

Activities	Expenses
Materials (paper, posters etc.)	$100
Traveling Expenses	50 cents/mile $350.00
Model Supplies	$150
Gifts	$50
Seminars	$120
Magazine/ Journal Subscriptions	$40
Pizza party	$60
Speakers	$100
Misc.	$50
TOTAL	*$1020*

* Budget subject to change.

6.0 SCHEDULE OF TASKS AND MILESTONE EVENTS

Please reference Appendix A.

7.0 INDIVIDUAL TEAM MEMBER ASSIGNMENTS

A. Attached is a summary of team members and their relevant experience. (Appendix B)

B. Jessica Patera- Organized the site visits with team members at three different facilities. Provides directions and packet of information for the site visit. Provides research From IPRO Spring 2007 and fall 2007. In charge of overall group's organization.

Larissa Groszko – Leading the Process Mapping subteam.

Alex Bauer – Leading the State of the Art subteam.

C. The team was split into two groups for the first half of the semester focus on preliminary information regarding process mapping and state of the art technology. The second half of the semester will be focused on splitting the team into two groups to work on two more different topics, pediatric care, and geriatric care.

D. Subteam Leaders:
a. Alex Bauer – State of the Art Technology
b. Larissa Groszko – Process Mapping

E. Process Mapping Team is responsible for the following:

a. Research
b. Initial mapping
c. Analysis of Maps
d. Identifying current process problems
e. Reworking processes for efficiency
f. Confirmation of maps with Access Healthcare
g. Finalizing maps

State of the Art Technology Team if responsible for the following:

a. Researching State of the Art Technology
b. Meeting with professionals to discuss new ideas.
c. Analyzing which technology is applicable to a medical center as possible future use.
d. Research and discussion about how an idea affects the design.
e. Selecting which ideas are plausible and how they will be implemented.

F. State of The Art Technology Subteam –

Alex Bauer, Rafal Stawarz, Christopher Heppel, Christine Ly, and Ryan Strand.

Ryan Strand – In charge of the Engineering Notebook.

Christine Ly - Incharge of taking Minutes for the subteam.

Topics:
Rafal Stawarz – Medical Practical Technology
Christine Ly – Infection Control
Ryan Strand – Information Technology
Chris Heppel – Energy Conservation/ Green Building materials
Alex Bauer – Floater/ Assists with all research topics.

Process Mapping Subteam -

Larissa Groszko, Jessica Patera, Corina Abrudan, Dawn Tian, and Jeremy Moore.

Corina Abrudan – Incharge of the Engineering Notebook.

Dawn Tian – Incharge of taking minutes for subteam.

Topics:
Larissa Groszko – Registration
Jeremy Moore – Examination
Dawn Tian – Discharge
Corina Abrudan – Labs
Jessica Patera - Referrals

8.0 DESIGNATION OF ROLES

A. Meeting Roles:

a. Minute Taker – Christine Ly
b. Agenda Maker – Jessica Patera
c. Time Keeper – Jessica Patera

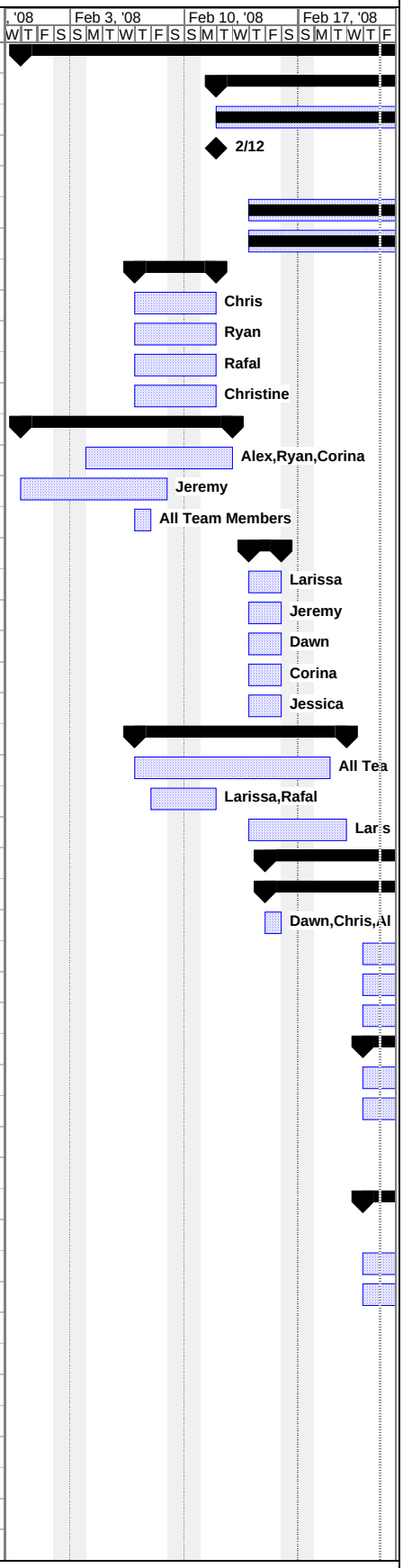
B. Status Roles:

a. Weekly Timesheet Collector/ Summarizer – Larissa Groszko
b. Master Schedule Maker – Jessica Patera
c. iGROUPS – Dawn Tian

C. All sub-team members in the design group have been researching medical equipment, and green technologies. They are currently going to be gathering all the current information from all sub-teams and compiling it into a document for the design of a health center.

APPENDIX A: SCHEDULE OF TASKS

ID	Task Name	Duration	Start	Finish	Resource Names
1	**PHASE I: RESEARCH**	**36 days**	**Thu 1/31/08**	**Thu 3/20/08**	
2	**PROCESS MAPPING**	**28 days**	**Tue 2/12/08**	**Thu 3/20/08**	
3	Site visits	18 days	Tue 2/12/08	Thu 3/6/08	All Team Members
4	observation	0 days	Tue 2/12/08	Tue 2/12/08	All Team Members
5	interviews	18 days	Tue 2/26/08	Thu 3/20/08	All Team Members
6	as is maps	18 days	Thu 2/14/08	Mon 3/10/08	All Team Members
7	map review with client	18 days	Thu 2/14/08	Mon 3/10/08	All Team Members
8	**STATE OF THE ART**	**3 days**	**Thu 2/7/08**	**Mon 2/11/08**	
9	green material	3 days	Thu 2/7/08	Mon 2/11/08	Chris
10	information technology	3 days	Thu 2/7/08	Mon 2/11/08	Ryan
11	medical technology	3 days	Thu 2/7/08	Mon 2/11/08	Rafal
12	infection control	3 days	Thu 2/7/08	Mon 2/11/08	Christine
13	**GROUP RESEARCH**	**9 days**	**Thu 1/31/08**	**Tue 2/12/08**	
14	JCAHO standards	7 days	Mon 2/4/08	Tue 2/12/08	Alex,Ryan,Corina
15	LEAN design process	7 days	Thu 1/31/08	Fri 2/8/08	Jeremy
16	site visits reviews	1 day	Thu 2/7/08	Thu 2/7/08	All Team Members
17	**PRESENTING INDIVIDUAL REPORTS**	**2 days**	**Thu 2/14/08**	**Fri 2/15/08**	
18	registration	2 days	Thu 2/14/08	Fri 2/15/08	Larissa
19	examination	2 days	Thu 2/14/08	Fri 2/15/08	Jeremy
20	discharge	2 days	Thu 2/14/08	Fri 2/15/08	Dawn
21	labs	2 days	Thu 2/14/08	Fri 2/15/08	Corina
22	referrals	2 days	Thu 2/14/08	Fri 2/15/08	Jessica
23	**PRESENT PROJECT PLAN**	**9 days**	**Thu 2/7/08**	**Tue 2/19/08**	
24	project plan guidelines	8 days	Thu 2/7/08	Mon 2/18/08	All Team Members
25	project management workshop	2 days	Fri 2/8/08	Mon 2/11/08	Larissa,Rafal
26	project plan	4 days	Thu 2/14/08	Tue 2/19/08	Larissa,Rafal,Corina
27	**PHASE II: DELIVERABLES and MILESTONE EVEI**	**34 days**	**Fri 2/15/08**	**Wed 4/2/08**	
28	**CODE OF ETHICS**	**10 days**	**Fri 2/15/08**	**Thu 2/28/08**	
29	ethics seminar	1 day	Fri 2/15/08	Fri 2/15/08	Dawn,Chris,Alex
30	writing code of ethics	5 days	Thu 2/21/08	Wed 2/27/08	Dawn,Chris,Alex
31	review code of ethics	2 days	Thu 2/21/08	Fri 2/22/08	All Team Members
32	mid-term written report preparation	6 days	Thu 2/21/08	Thu 2/28/08	All Team Members
33	**AUDIT OF ACCES HEALTH CENTER**	**30 days**	**Thu 2/21/08**	**Wed 4/2/08**	
34	schedule of site visits	18 days	Thu 2/21/08	Mon 3/17/08	Jessica
35	research previous site visits	2 days	Thu 2/21/08	Fri 2/22/08	Jessica
36	audit of ACCES network	15 days	Tue 2/26/08	Mon 3/17/08	All Team Members
37	IPRO day preparation	10 days	Thu 3/20/08	Wed 4/2/08	All Team Members
38	**PHASE III:**	**48 days**	**Thu 2/21/08**	**Mon 4/28/08**	
39	compile/edit important information	4 days	Mon 4/21/08	Thu 4/24/08	All Team Members
40	preliminary design/prototype	4 days	Thu 2/21/08	Tue 2/26/08	All Team Members
41	final design prototype	5 days	Thu 2/21/08	Wed 2/27/08	All Team Members
42	IPRO day preparation	15 days	Tue 4/8/08	Mon 4/28/08	All Team Members
43	PRES Skills workshop	1 day	Fri 4/11/08	Fri 4/11/08	Jessica,Rafal,Dawn,Cl
44	**Midterm presentation**	**1 day**	**Tue 3/4/08**	**Tue 3/4/08**	
45	power point presentation	1 day	Tue 3/4/08	Tue 3/4/08	All Team Members
46	Abstracts, posters and presentation	1 day	Tue 3/4/08	Tue 3/4/08	All Team Members
47	**IPRO day, IKNOW upload and Final Report**	**1 day**	**Fri 5/2/08**	**Fri 5/2/08**	
48	Final Presentation	1 day	Fri 5/2/08	Fri 5/2/08	All Team Members
49	Final Display	1 day	Fri 5/2/08	Fri 5/2/08	All Team Members



Project: Project Plan-Section 6
Date: Fri 2/22/08

Task | Split | Progress | Milestone | Summary | Project Summary | External Tasks | External Milestone | Deadline

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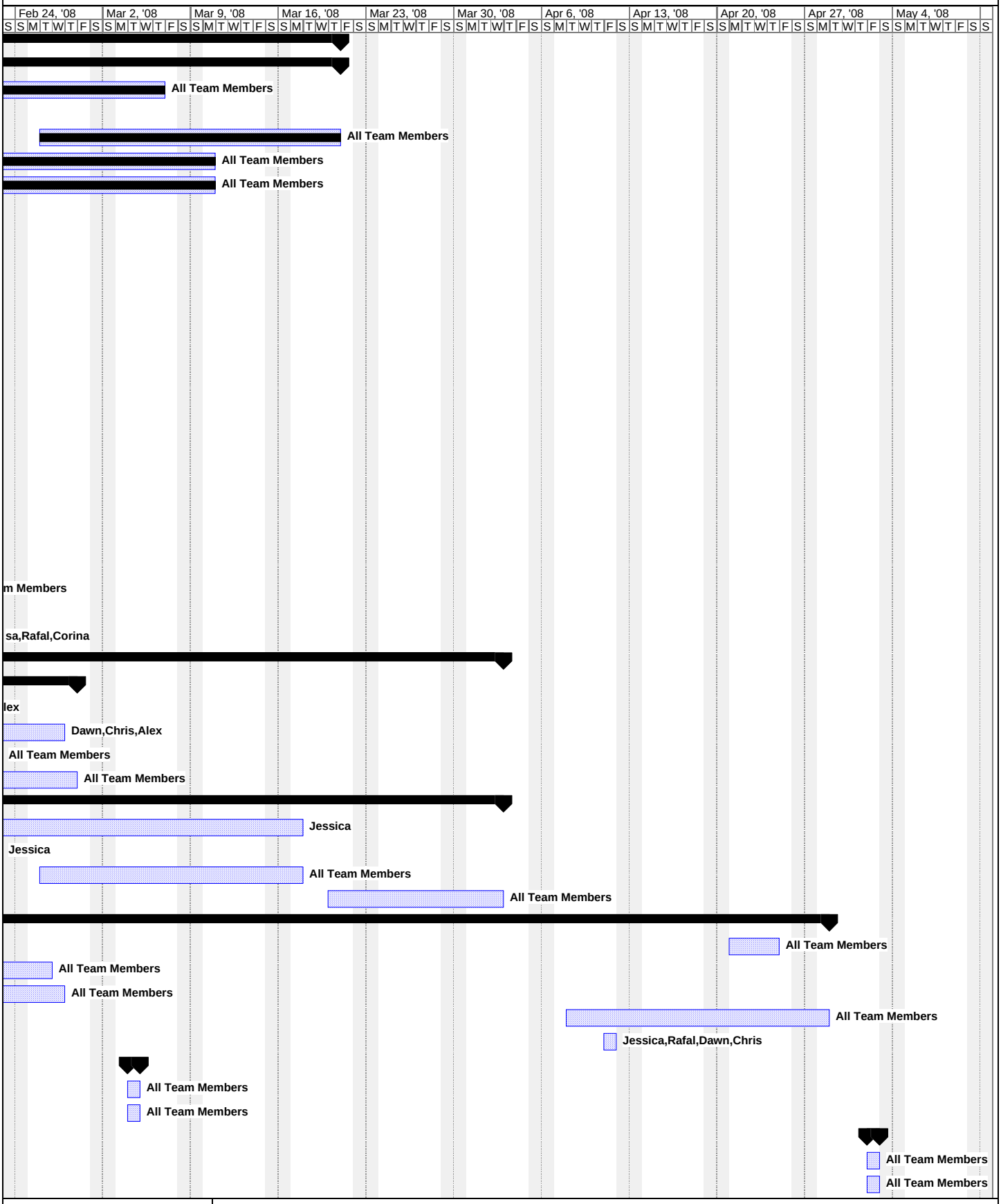

Project: Project Plan-Section 6
Date: Fri 2/22/08

Task		Milestone		External Tasks	
Split		Summary		External Milestone	
Progress		Project Summary		Deadline	

		Individual Resume Summary	
Name	**Major**	**Skills/Strengths**	**Experience & Academic Interests**
Alex Bauer	Civil Engineering	Working Knowledge of **AutoCAD**, **Microstation**. Proficient in **Microsoft Office Suite**, Efficient and Enthusiastic Worker.	3 years of High School Level Drafting classes using AutoCAD, Internship at **Chicago Bridge & Iron Company**.
Chris Heppel	Architecture	Proficient in **Photoshop**, **Illustrator**, **AutoCAD**, as well as 3d Modeling in **Autodesk Viz**, **3ds Max**, and **Sketchup Pro, Microsoft Office Suite.** Motivated to accomplish tasks.	Developed, designed and implemented an extensive landscaping plan for an **Eagle Scout Project** at **Northwestern Covenant Church**, Internship with the **Chicago Park District, Capital Construction Department**
Jessica Patera	Architecture	Strong typing skills, extensive leadership experience **Architectral Design Programs**	Shipping Dock Supervisor for **Enesco** in Elk Grove, **Johanson Painting and Decorating Corp./Feels Like Home** Office manager
Christine Ly	Architecture	Speaks, read, and writes French fluently, Dual-citizenship: French and American, **Sketchup**, **AutoCAD 2005-2008, Revit,** Proficient in **Microsoft Word and Excel.** Organized, attentive and responsible team member.	**Teacher Assistant** to Professor Blake Davis, Attendance, e-mail, research, students questions and coordinating meetings, **Kyoto Japanese Restaurant**, Downers Grove, IL, as a host, server, an cashier
Corina Abrudan	Civil Engineering	Fluent in English and Romanian Proficient in **Microsoft Word, Excel, MathCAD, AutoCAD.** Brings a higher level educational and work experience to the group.	**Muresan & Cordos Development**, Chicago, Illinois as a Project manager **ING Netherlander**, Cluj Napoca, Romania, Insurance Agent
Dan “Dawn” Tian	Biomedical Engineering	Proficient in **Microsoft Office Suite,** Excellent research skills	REU diabetes research experience at **Illinois Institute of Technology.** Summer research at the **Children’s Memorial Hospital**, focus of research was on epilepsy.
Jeremy Moore	Architecture	Proficient in **AutoCAD, 3ds Max, Quicken, Word, and Adobe Premiere**. Experience with **AutoLISP** programming, **Powerpoint, Excel, HTML Programming, Adobe Photoshop, Adobe Dreamweaver, and Adobe Illustrator.** Enthusiastic energy level for the group.	Volunteer Construction for **Habitat for Humanity**, Internship performing lighting and rigging for summer music festival in Pasadena, CA, Landscaping for city property, design and supervision
Larissa Grozko	Architecture	Proficient in **AutoCAD, 3ds Viz, Adobe Photoshop, SketchUp, Model Building, Microsoft Office Suite**, and Bilingual- English, Russian/Ukrainian, and limited Spanish, Enthusiastic and Passionate about proper Healthcare	**Northridge Builders, Inc.**, various General Contracting Applications in Chicagoland area. **Environmental Systems Design, Inc.**, assisted with Presentations and technical profiles design for Various Commercial projects and AutoCAD drawings.
Rafal Stawarz	Architecture	Experience in **AutoCAD, Autodesk 3ds Max, and VIZ, Adobe Photoshop, Adobe Illustrator, Adobe Premiere, Digital Project, Microsoft Office Suite**, hand drafting, and hand drawing. Efficient and Organized.	**People's Auto Parking Co, Inc.**, performed Valet Parking **Four Seasons Auto Wash**, operating the cash register, as well as handling customer service and information.

Ryan Strand	Computer Engineering	Have served in various roles in my local church, including overseeing the creation and maintenance o the church website,.Personal computing,, and reading.	**Illinois Institute of Technology**, TA (lab assistant) for a Computer Science course in data structures. **EBG Systems**, Summer web programming (in .NET 1.1) internship. **Franson Risberg Memorial Building**, Maintained building with 27 apartments