

I PRO 340

Design of a Community Health Center of the Future

Midterm Report

Advisors: Daniel Ferguson and Matthew Miller

1. Revised Objectives

As the end of the first half of the semester comes to a close our team has completed its goals of researching state of the art technology and creating ideal process maps. As we move forward into the second half of the semester, we will still work towards the creation of a community health center of the future, but will now focus more on the design of the facility rather than research. Our objectives include the creation of an “architectural program” for both pediatric and geriatric care, as well as a final layout and design of a community health center. The completion of a computer-generated, three-dimensional model based upon the final design is also a desired result for the end of the semester. These new objectives obviously differ from those of the first half of the semester, because we are moving into a new phase of the design of the facility.

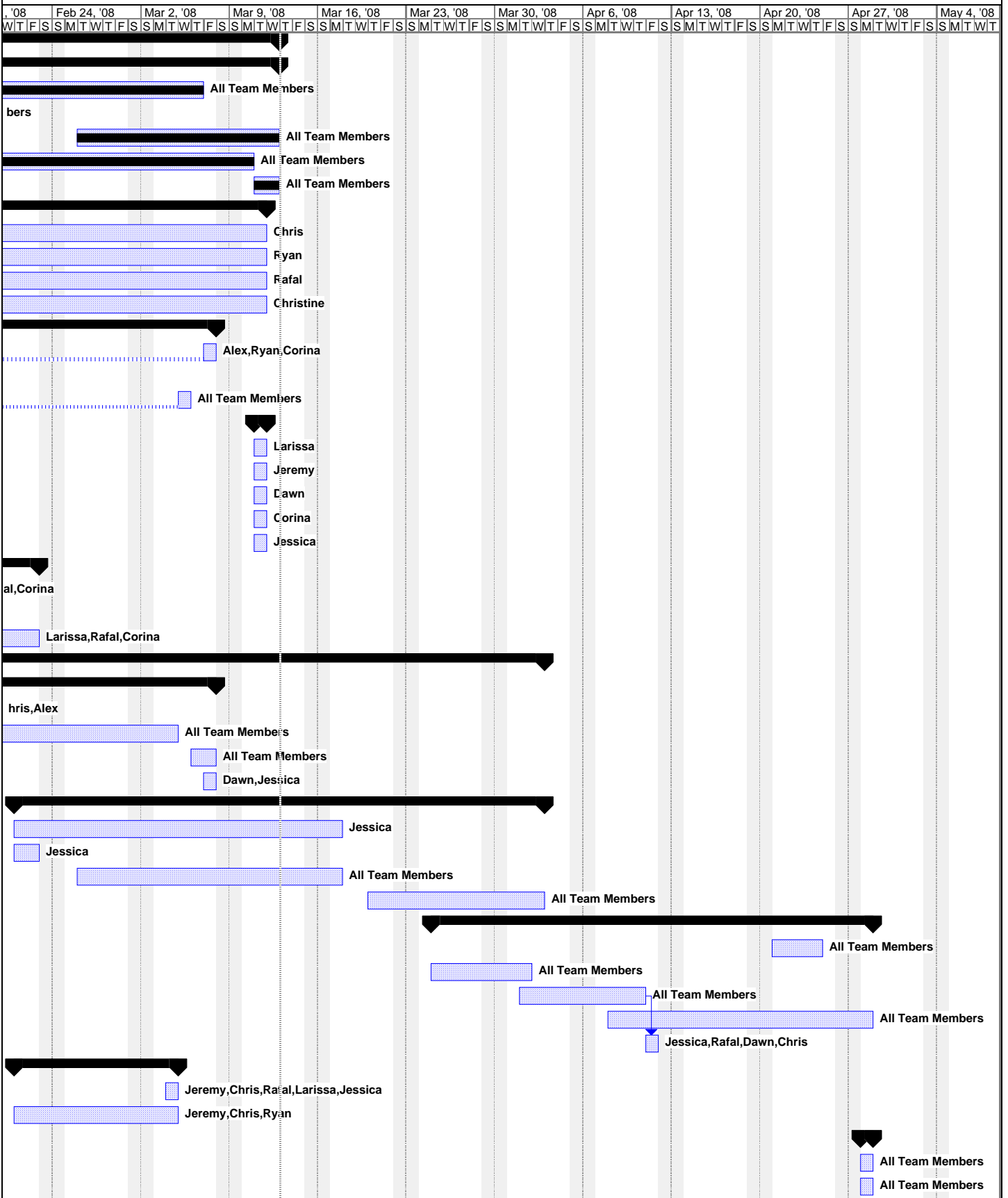
APPENDIX A: SCHEDULE OF TASKS

ID	Task Name	Duration	Start	Finish	Resource Names	'08				Feb 3, '08				Feb 10, '08				Feb 1			
						W	T	F	S	S	M	T	F	S	M	T	F	S	M	T	F
1	PHASE I: RESEARCH	30 days	Thu 1/31/08	Wed 3/12/08																	
2	PROCESS MAPPING	22 days	Tue 2/12/08	Wed 3/12/08																	
3	site visits	18 days	Tue 2/12/08	Thu 3/6/08	All Team Members																
4	observation	1 day	Tue 2/12/08	Tue 2/12/08	All Team Members																
5	interviews	12 days	Tue 2/26/08	Wed 3/12/08	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	2 days	Tue 3/11/08	Wed 3/12/08	All Team Members																
8	STATE OF THE ART	21 days	Tue 2/12/08	Tue 3/11/08																	
9	green material	21 days	Tue 2/12/08	Tue 3/11/08	Chris																
10	information technology	21 days	Tue 2/12/08	Tue 3/11/08	Ryan																
11	medical technology	21 days	Tue 2/12/08	Tue 3/11/08	Rafal																
12	infection control	21 days	Tue 2/12/08	Tue 3/11/08	Christine																
13	GROUP RESEARCH	27 days	Thu 1/31/08	Fri 3/7/08																	
14	JCAHO standards	8 days	Mon 2/4/08	Fri 3/7/08	Alex,Ryan,Corina																
15	LEAN design process	7 days	Thu 1/31/08	Fri 2/8/08	Jeremy																
16	site visits reviews	2 days	Thu 2/7/08	Wed 3/5/08	All Team Members																
17	PRESENTING INDIVIDUAL REPORTS	1 day	Tue 3/11/08	Tue 3/11/08																	
18	registration	1 day	Tue 3/11/08	Tue 3/11/08	Larissa																
19	examination	1 day	Tue 3/11/08	Tue 3/11/08	Jeremy																
20	discharge	1 day	Tue 3/11/08	Tue 3/11/08	Dawn																
21	labs	1 day	Tue 3/11/08	Tue 3/11/08	Corina																
22	referrals	1 day	Tue 3/11/08	Tue 3/11/08	Jessica																
23	PRESENT PROJECT PLAN	11 days	Fri 2/8/08	Fri 2/22/08																	
24	project plan guidelines	1.67 days	Tue 2/12/08	Wed 2/13/08	Larissa,Rafal,Corina																
25	project management workshop	1 day	Fri 2/8/08	Fri 2/8/08	Larissa,Rafal,Alex																
26	project plan	8 days	Wed 2/13/08	Fri 2/22/08	Larissa,Rafal,Corina																
27	PHASE II: DELIVERABLES and MILESTONE E	34 days	Fri 2/15/08	Wed 4/2/08																	
28	CODE OF ETHICS	16 days	Fri 2/15/08	Fri 3/7/08																	
29	ethics seminar	1 day	Fri 2/15/08	Fri 2/15/08	Dawn,Chris,Alex																
30	writing code of ethics	11 days	Tue 2/19/08	Tue 3/4/08	All Team Members																
31	review code of ethics	2 days	Thu 3/6/08	Fri 3/7/08	All Team Members																
32	mid-term written report preparation	1 day	Fri 3/7/08	Fri 3/7/08	Dawn,Jessica																
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 ACCESS 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:	25 days	Tue 3/25/08	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	6 days	Tue 3/25/08	Tue 4/1/08	All Team Members																
41	final design prototype	8 days	Tue 4/1/08	Thu 4/10/08	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,Ci																
44	Midterm presentation	9 days	Thu 2/21/08	Tue 3/4/08																	
45	power point presentation	1 day	Tue 3/4/08	Tue 3/4/08	Jeremy,Chris,Rafal,La																
46	Abstracts, posters and presentation	9 days	Thu 2/21/08	Tue 3/4/08	Jeremy,Chris,Ryan																
47	IPRO day, IKNOW upload and Final Report	1 day	Mon 4/28/08	Mon 4/28/08																	
48	Final Presentation	1 day	Mon 4/28/08	Mon 4/28/08	All Team Members																
49	Final Display	1 day	Mon 4/28/08	Mon 4/28/08	All Team Members																

Project: Project Plan-Section 6
Date: Thu 3/13/08

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

APPENDIX A: SCHEDULE OF TASKS



Project: Project Plan-Section 6
Date: Thu 3/13/08

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

4. Revised Accountability

We have not yet created new sub-teams.

5. Revised Role and Resource Allocation

- a) Overall IPRO organization summary
 - a. Jessica Patera has functioned as an overall leader for IPRO 340 this semester. She has brought with her a wealth of experience from her previous semester with this IPRO and this has proven invaluable. She has been the primary contact point between ACCESS and the IPRO team, scheduling site visits and coordinating with Stephen Glass and other ACCESS personnel.
 - b. Each sub-team has a team leader who is responsible for coordinating their teams activities.
 - c. Specific roles in sub-teams have changed slightly, but the organization has been constant for the first half of the semester in the form of two primary teams. The only notable change in individual sub-team assignments is in State of the Art, with Air Filtering replaced by a larger Sustainable Materials research role.
 - d. The post-midterm teams currently are IPRO boards and IPRO day. The new sub-teams that will produce the deliverables for the final report will be organized prior to the academic break
 - e. The Code of Ethics was broken down into individual assignments spread out among the class, with the team leader acting as the consultant and assembling the final code
- b) Sub teams
 - a. Process Mapping sub-team (PRIMARY)
 - i. This team was responsible for all of the process mapping activities. This includes research into process improvement techniques, specifically the LEAN methodology.
 - ii. This team is responsible for the midterm deliverables consisting of ideal process maps in the five issue areas: registration, examination, labs, discharge, and referral
 - b. State of the Art Technology sub-team (PRIMARY)
 - i. This team was responsible for researching State of the Art Medical technologies.
 - ii. There was a general research area and four specific areas: Information Technology, Sustainable Materials, Infection Control, and Medical Technology
 - iii. This team is responsible for preparing reports on their areas and how this research will be used for improving the health center
 - c. Site visit sub-team
 - i. This team was responsible for the site visits to ACCESS facilities for general research. Most site visits had a mix of Process Mapping and State of the Art technology personnel.

- ii. This team consisted of a team leader, who made all of the initial contacts and scheduled the site visits.
 - iii. The members of the sub-team were responsible for the site visit packet that had already been prepared including general questions, site visit guidelines and directions.
 - iv. Team members coordinated with the IPRO members attending their site visit regarding meeting times and places.
- d. Code of Ethics sub-team
 - i. This sub-team was responsible for preparing the updated Code of Ethics
 - ii. This team consisted of two team members coordinating with the rest of the IPRO class concerning their individual codes
 - iii. The team performed editing and rewrites for a final Code of Ethics to be submitted
- e. Midterm Presentation preparation sub-team
 - i. This sub-team was responsible for preparing the midterm presentation.
 - ii. A draft midterm presentation was prepared, and the final presentation followed by the actual presentation that was delivered to the IPRO Midterm day
 - iii. The midterm presentation preparation team was broken down into focus areas, with one member providing overall guidance and coordination
 - iv. The team leader coordinated with the members on preparation, then two team members (Jeremy Moore and Chris Heppel) put together the actual first draft presented in class)
 - v. Other team members (Larissa Groszko, Rafal Stawarz, and Ryan Strand) worked on the additional drafts and the final; Larissa Groszko and Rafal Stawarz were additions to the original team.
 - vi. All members wrote their own notes to be used during the presentation
- f. Midterm Presentation sub-team
 - i. This sub-team was responsible for performing the actual midterm presentation.
 - ii. Jessica Patera substituted for Ryan Strand on the actual day of the presentation.
 - iii. Individual team members presented the areas they had been assigned to during the preparation.
 - iv. Larissa Groszko and Rafal Stawarz joined as presenters, in addition to the original members (Ryan Strand, Jeremy Moore). Chris Heppel participated up until the actual presentation.
- g. IPRO boards sub-team
 - i. This team will be responsible for gathering the necessary information and producing the actual boards that will be displayed during IPRO Day.
- h. IPRO Day presentation sub-team

- i. This team will be present to answer questions from the judges during IPRO day and make the IPRO day presentation.
- c) Current team member roles
 - a. Process Mapping sub-team
 - i. Team leader: Larissa Groszko
 - ii. Team members: Jeremy Moore
Dawn Tian
Jessica Patera
Corina Abrudan
 - b. State of the Art Technology sub-team
 - i. Team leader: Alex Bauer
 - ii. Team members: Chris Heppel
Ryan Strand
Christine Ly
Rafal Stawarz
 - c. Site Visit sub-team
 - i. Team leader: Jessica Patera
 - ii. Team members: Jeremy Moore
Dawn Tian
Larissa Groszko
 - d. Code of Ethics sub-team
 - i. Team leader: Dawn Tian
 - ii. Team members: Jessica Patera
 - e. Midterm Presentation preparation sub-team
 - i. Team leader: Ryan Strand
 - ii. Team members: Jeremy Moore
Chris Heppel
Larissa Groszko
Rafal Stawarz
 - f. Midterm Presentation sub-team
 - i. Team leader: Ryan Strand
 - ii. Team members: Jessica Patera (substitute for Ryan Strand
due to illness)
Jeremy Moore
Rafal Stawarz
Larissa Groszko
 - g. IPRO Day Boards sub-team
 - i. Team leader: TBD
 - ii. Team members: Rafal Stawarz
Larissa Groszko
Alex Bauer
 - h. IPRO Day Presentation sub-team
 - i. Team leader: TBD
 - ii. Team members: Jessica Patera
Jeremy Moore
Ryan Strand

- d) Ongoing team roles
 - a. Meeting Roles:
 - i. Minute Taker – Christine Ly
 - ii. Agenda Maker – Jessica Patera
 - iii. Time Keeper – Jessica Patera
 - b. Status Roles:
 - i. Weekly Timesheet Collector/ Summarizer – Larissa Groszko
 - ii. Master Schedule Maker – Jessica Patera
 - iii. iGROUPS – Dawn Tian
 - c. Primary sub-team documentation
 - i. Process Mapping sub-team
 - 1. Engineering notebook: Corina Abrudan
 - 2. Minutes Dawn Tian
 - ii. State of the Art sub-team
 - 1. Engineering notebook Ryan Strand
 - 2. Minutes Christine Ly
- e) Updated budget:

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
<i>TOTAL</i>	<i>\$1020</i>

6. Results to Date vs. Original Plan

1. Describe current data results from research or testing involved in the project.

The Process Mapping team developed process maps of five different healthcare processes including; registration, examination, laboratory work, discharge and referrals. The Process Mapping team began the semester with researching the different processes and has completed process maps using Microsoft Visio to maintain consistency in the results produced. These maps have been developed according to the processes observed at three ACCESS healthcare facilities; Booker, Brandon, and Hawthorne.

The State of The Art team has narrowed down their research into four categories with two or three technologies that are most useful to ACCESS and our IPRO team. The categories are Sustainable Materials, Medical Technologies, Infection Control, and Information Technology. Within the Sustainable Materials section the team found that the implementation of day lighting, geothermal heating and

cooling, and active lighting were the most logical for a health center. In regards to Medical Technologies the team would like to employ the use of the Hewlett-Packard skin patch, aerosol vaccinations and breathe diagnosis. Infection Control research found that we could utilize various types of room sanitizers and touchless fixtures in bathrooms and exam rooms. In terms of Information Technology the use of RFID, and PC charting for practitioners can be useful.

2. Define current or potential products or outputs resulting from research and testing.

The Process Mapping team will develop an ideal map for the five processes mentioned above before March 14th. The State of the Art team will compile their information from research for use during the second half of the semester by March 14th as well.

3. Discuss the current results in terms of deliverables that will be produced by the project team (i.e. a working prototype).

The Process Mapping team established the objective of analyzing existing processes at three different health centers and gathering input from employees, we will to develop an ideal process for performing tasks that are efficient for ACCESS Healthcare. The team has maintained the goal of reaching this objective. The ideal process maps developed by the process mapping team will be utilized in the design phase of the semester in laying out and planning the way the facility will function. The ideal maps will be tailored to the way in which ACCESS functions currently and the way they will like to function in a few years.

The research from the state of the art team will help the design of the facility by giving input on the technologies mentioned and by explaining the way the new technology is implemented into a physical environment or healthcare facility.

4. Discuss whether or not the current results address the problem of the sponsor/customer.

ACCESS Healthcare will review the results from the two subteams and give feedback to the team in regards to usage, and process. In discussions with ACCESS we realized that there is a need for a new and up-to-date healthcare facility that can serve the needs of its patients for years to come. During the discussions we agreed that by researching new technology ACCESS can begin thinking about utilization of these technologies. The processes will aid ACCESS in continuously improving their process flows at their current and future health centers. By utilizing new and more efficient technology and improving their processes ACCESS Healthcare can provide quicker more efficient treatment to its patients throughout the Chicagoland area.

5. Discuss how the current results will be incorporated into the proposed

solution or solution framework.

The results from the ideal process maps will be developed into the layout and design of the future health center. By using the process maps we can ensure that rooms and uses are in the correct proximity to each other to help make the flow of patients, employees and products/ supplies easier and more organized. The maps will also aid in designing a secure and safe facility that function in a manner that allows access to location by employees only or patients moving about with an employee accompaniment.

The State of the Art Technology team worked with the objective of researching and understanding new technologies and materials that will affect health care in the future. The research will be implemented into the design where possible which would include the sustainable materials mentioned and the infection control information as well. The other technologies will impact the design where possible, otherwise the technologies such as tablet PCs or HP skin patches will replace existing technology and aid in the delivering of better healthcare.

In regards to the original plan of the subgroups, the Process Mapping team read and used the guidelines in a book we read titled Process Mapping, Process Improvement and Process Management by Dan Madison. We decided not to utilize the task procedure flowchart which would need to be filled out by ACCESS employees. Since the team was having trouble getting the opportunity to sit down and speak with the team leaders at the health centers due to the busy schedules we decided to not use the chart. The team did develop maps that are useful for design implementation. The last and final step will be to have the maps approved and compiled into ideal process maps.

The State of the Art team began by planning on researching the technology of the future in order to have a better understanding of how technology was going to change and what provisions should be made in the design of the facility to incorporate these changes as they occur. Additional objectives for the team included deciding and explaining/giving a reason as to which new technologies/materials should be used in our design of a health care facility of the future to improve the quality of health care. The primary goal did not change, but was aided by the assistance of Matt Miller who is a healthcare design architect who provided possible resources for research. The team compiled a presentation and detailed various information regarding four main research topics in emerging technologies as well as looking into samples/models and giving a presentation on why and how these technologies/materials in health care facilities.

Personal Accomplishments

Corina Abrudan

1. Process Mapping group team member

2. In charge of Engineering notebook for subteam
3. Learned to use Microsoft Visio and Microsoft Project
4. Compiled presentation handouts for Brandon site visit
5. Attended IPRO workshops
6. For the end of the semester
 - a) Learn about the design of a healthcare facility
 - b) Learn about presentation skills
 - c) Assist in Final IPRO presentation exhibit

Alex Bauer

1. Sub-team leader for the State of the Art Research Team
2. Reviewed and researched JCAHO Standards
3. Visited several community health centers
4. Motivated and encouraged team members to complete tasks
5. For the end of the Semester:
 - a) Visit more health centers to gain a better understanding of ACCESS
 - b) Feel that I have made a difference in the lives of those who visit ACCESS
 - c) expand my skills and abilities in #D modeling as the project moves forward

Larissa Groszko

1. Team leader Process mapping team
2. Read Process Mapping book
3. Researched registration process in health centers
4. Participated in a site visit to Booker Health Center on the city's South Side
5. Helped assemble Booker site visit review presentation for class
6. Wrote slides for process mapping in midterm presentation
7. Helped assemble, format, and present Midterm Project presentation for process mapping
8. Supplied input in regards to various healthcare issues in class
9. Answered questions during midterm presentation
10. Always gave input on various topics due to my experiences in healthcare.
11. Arranged meeting times and locations for process mapping group
12. Aided other students in utilizing programs such as Microsoft Visio, and Microsoft Project
13. Proofread numerous documents for other classmates
14. Gave useful feedback on Code of Ethics in class
15. Discussions with Prof. Ferguson and Jessica Patera about the second half of the semester
16. Final process maps to be utilized in design process
17. Meeting with ACCESS employees about process maps
18. Wrote Overarching Standard for Code of Ethics

19. Wrote Section 2.0, Results to Date for Midterm Report
20. For the end of the semester
 1. Assist with design and construction of a model for the future health center.
 2. Assist with analyzing and giving information and input on healthcare design

Chris Heppel

1. Member of the State of the Art Technology subteam
2. Worked on putting together midterm presentation
3. Site visits to ACCESS health centers
4. Improvement of team working skills
5. Improvement of Problem solving skills
6. Researched Sustainable Materials
7. Gave presentation to class about sustainable materials
8. For the end of the semester
 1. Learn beneficial team working and problem solving skills, which will have enormous application to real-world career situations
 2. Accomplished a great deal of work in designing the health center of the future

Christine Ly

1. Took minutes and posted them on time
2. Part of State of the Art Technology group
3. Research on Infection control
4. Went on site visits and interviewed people to understand the function of a healthcare center
5. Presentations on health centers
6. For the end of the semester
 1. Design a health care center that is efficient and integrate state of the art technology

Jeremy Moore

1. Part of the Process Mapping Group
2. Researched LEAN and SIX SIGMA methodologies
3. Researched and provided examples of case studies for LEAN implementation
4. Helped Jessica assemble the LEAN presentation and performed the actual presentation
5. Visited Hawthorne ACCESS site and did photo documentation
6. Arranged meeting times and locations and coordinated with Hawthorne site visit members
7. Contributed Moral values to the Code of Ethics

8. Wrote introductory slides to the midterm presentation
9. Assisted Chris with putting together first draft of midterm presentation
10. Presentation introduction and background info on team and ACCESS at midterm presentation
11. Mapped prototype examination process based on multiple medical sources
12. Mapped revised examination process based on site visit observations
13. Proofread the project plan and recommended some changes in language
14. Learned to use Microsoft Visio
15. For the end of the semester
 1. Assist with the design and 3D model
 2. Provide architectural input on design and implementation of information

Jessica Patera

1. Researching the LEAN process
2. Keeping the team organized and getting deliverables accomplished
3. Contacting and making site visits with Access
4. Mapping presentation
5. Setting up meetings with professionals
6. Agenda's and time keeping
7. Re-organizing the State of the Art Group
8. Mapping the referral process
9. Learned to use Microsoft Visio
10. For the end of the semester
 1. Arrange visits outside Access
 2. Complete Referral maps
 3. Reorganize for second half of semester
 4. Completing IPRO Day presentation
 5. Helping with IPRO Day Exposition

Rafal Stawarz

1. Part of the Stage of the Art Research group.
2. Researched State of the Art Medical Technology (HP Patch, AeroVax Vaccine, Breath Analyzer)
3. Assembled summary and presentation of the previous semester design.
4. Helped Assembling State of the Art presentations and performed parts of the presentation.
5. Attended Project Management Workshop and Ipro games.
6. Drove the team to Booker Medical Center for a site visit. Took notes and photos.
7. Worked on the summary presentation of Booker Medical Center.

8. Drove the team to Brandon Medical Center for an interview with Dr. Khankari. Asked questions and took notes.
9. Read Seven Layers of Integrity.
10. Contributed Contracts values to the Code of ethics.
11. Helped to format the Midterm Presentation
12. Talked about project obstacles, new objectives, new deliverables, refocus and project summary at the midterm presentation.
13. Wrote Project Background, Methodology and Budget, sections of the Project Plan.
14. Wrote Monitoring Project Status section of the Midterm Report
15. For the End of the Semester
 1. Assist with the design and 3D model
 2. Provide architectural input on design and implementation of information
 3. Provide information and help students understand State of the Art technology research and implementation.

Ryan Strand

1. Reviewed and presented last semester's JCAHO standards summary
2. Performed two site visits of the Brandon community health center
3. Researched and presented on emerging information technology
4. Wrote the "Law" section in the code of ethics
5. Put together the State of the Art team's engineering notebook
6. Administrated the midterm presentation
7. In charge of putting together the midterm report
8. For the End of the Semester
 1. Will administrate IPRO day presentation

Dawn Tian

1. In charge of writing the Code of Ethics and finalizing the document for submission
2. Produced Discharge process map for the process mapping subteam
3. Process mapping subteam minutes recorder
4. Visited designated health center sites for research
5. Responsible for igroups online organization and maintenance
6. Learned to utilize Microsoft Visio
7. For the end of the Semester:
 1. Take on more leadership roles
 2. Visit more health centers for research
 3. Help new subteam move forward in project goals

7. Monitoring of Project Status

During the first part of the semester a variety of problems and obstacles have developed which slowed us down on the way to achieve the goal set forth by

out team. One of these problems happened to be elusive resources. The information which was needed to further our knowledge and help us move forward was not always easy to find and required extensive research. This became very apparent when researching the state of the art technology. Our team has researched variety of upcoming medical inventions and where technology is going in the future. No one is able to tell exactly what will happen in ten to twenty years, so the resources that contain this information are very scarce.

Our team overcame the problem of elusive resourced by talking it over with each other during the meetings and with the support of our professors, advisor, and experts in the field. We discussed possible places to look for information and sent each other info when we came across information which was relevant to other team members. We have talked with Matt Miller, an Architect specializing in Medical building, and Steven Glass, a Chief information officer of ACCESS healthcare, who provided us with information as well as ideas about where to look for information (types of magazines, websites and journals, and people to talk to) and what kind of information to look at.

Another obstacle that stood in our way was site visit delays. During the semester we went on a variety of site visits to Chicago-land medical centers in order to further our understanding of the processes that take place in the medical center. Unfortunately, we had couple of site visit delays due to the high number of patients that the medical centers received during some of our scheduled visits.

We solved the problem of site visits by working with medical center personnel and rescheduling for more convenient date. Since we were guests of the medical center they could sometimes only accommodate us during their lunch hour. On few occasions they called us ahead and let us know that the visit was canceled. We than called our contact at the facility and promptly rescheduled for another convenient date. This happened couple of times, but we were eventually able to attend all the planned site visits.

Team miscommunication was also an obstacle which we had to overcome. Our team experienced a variety of miscommunication issues, such as not replying promptly to email messages. Team members sometimes did not know what to do; they did not understand what task belonged to them and what their responsibility was. They were also afraid to ask questions if they did not understand their task, resulting in doing irrelevant or no work at all. There were also delays caused by some members being done on time while other did not adhere to the schedule and did not get their tasks done on time. This caused lot of stress and tension since the rest expected the task to get done according to schedule in order to move forward.

In order to solve communication issues, during the class time we discussed the issues that have come upon. We made sure that everybody knew what their role was and encouraged everyone to ask questions. Our team has also scheduled additional sub team meetings outside of class. This encouraged the members to ask any more questions than they might have in class and allowed us to focus on the tasks that needed to be done. We discussed new tasks and set a firm, realistic schedule. This way members knew exactly what they had to accomplish and by what time. Sub team meetings also fostered more direct communication, which is

more reliable than email communication

An additional issue that came up was the lack of information coming from ACCESS. ACCESS was the main contact through which we scheduled site visits and meetings with medical experts. Our team wanted to set up site visits as soon as possible in order to start our research; ACCESS, however, did not reply promptly to our calls. This caused delays in the schedule since we were unable to schedule a site visit. When we finally got the contact from ACCESS and set up appointments to meet with the medical experts, sometimes the experts were busy with their own work and were unable to talk to us.

When communicating with ACCESS we were persistent but courteous at the same time when asking for information, stressing the importance of our project. If someone told us that they would call us on a certain day but then they did not, we should call them the next day to make sure that they did not forget about their promise, asking about the delay and information. Our experts were very elusive resources; trying to meet with them required much rescheduling. In order to encourage their participation, we were flexible with our schedules and offered to buy them lunch. After many rescheduled meetings we finally were able to talk to field professionals.

Judging by what has happened during the first part of the semester we predict that in the future some team communication problems might occur again, such as not replying to the email in a timely manner and members not being clear on what are their tasks.

The best way to solve this problem will be to meet face to face in our group to make sure that everybody is clear on their task and the schedule. Meeting outside of class is another great resource to discuss the questions that team members might still have.

Since for the second part of the semester our objectives have changed, new problems might arise as a result. We will be focusing on pediatric and geriatric care and making an architectural program for use in the final design. In order to gain more understanding and insight we will require more expert help from the medical personnel and architects. A problem that might arise are meeting delays; our experts might once again not be easily accessible.

In order to deal with this we will have to adjust to their schedule, and when they cannot meet for an appointment we will promptly call to reschedule for another, more convenient time and date, providing lunch if necessary.

Another problem that might arise is regarding the architectural program and what it is. Most people are not familiar with it and its components. A large part of the architectural program consists of calculating spaces and their sizes; we will be using Microsoft Excel in order to keep track of all of the math.

In order to solve this issue and get familiar with what the program is, architects on our team will need to explain it to the rest of the team, showing how it is done and what it consists of. The team will have to meet and discuss these issues and answer any questions that might come up. Since we will be using Microsoft Excel, members that know the program will explain and show how it works by meeting the people that need help in a computer lab or wherever the program is accessible. This will be done outside of class at the time when both

parties can meet.

Another obstacle that might come up is the designs. Design takes time and a lot of thinking. Since we all will be working on this together each one of us will have a different idea about what is the perfect design. Some disagreements might occur between our team members, which will slow us down.

To solve this problem we will talk to architect Matt Miller who has designed many medical facilities and listen to his advice. We will look at case studies and compromise on the final layout.

The final stage of our project requires us to make a three dimensional computer model. This task will take a lot of time to complete because of the time required to both draw it up and render the model.

In order to get this done we will have to leave enough time for renderings and the final animations. Since the software is hard to learn, most likely a group of students with the working knowledge of the software will be in charge. To speed up the process, a rendering farm can be set up at one of the IIT computer labs. If any issues regarding the modeling software come up, we will contact Professors who are fluent in the program.

8. Code of Ethics

Law

Pressure: High volume of patients and short amount of time to sufficiently handle each patient's needs or concerns.

Risk: Leaving medical charts of patients in exam rooms or speaking too loudly so as someone else finds out another patient's personal information.

Risk: Speaking to another provider about a patient in front of another patient.

Measure: Patient complains and files a lawsuit because Health Insurance Portability and Accountability Act (HIPPA) law was violated.

Canon: We will be aware and abide by all laws pertaining to health care and the health facility.

Contracts

Pressure: The health center is understaffed compared to the high volume of patients accepted and is unable to perform the necessary medical procedures for each patient.

Risk: Providers violate their professional contract by cutting corners in their services and not providing adequate care to patients.

Risk: Contracts are falsified and procedures are being billed, but not performed at the health center.

Measure: The health center receives complaints from patients who are not receiving satisfactory care and lawsuits are filed because of the falsification of contracts.

Canon: We will adhere to the terms of a contract or agreement regarding clients, patients, employees, and honor commitments made on behalf of the company.

Professional Codes

Pressure: Providers are overworked and overwhelmed by the health center being understaffed and are unable to keep up with the updates and new system changes to the facility.

Risk: Provider is not familiar with the new patient process and patient's medical charts get mixed up or misplaced.

Risk: Provider does not know the new rules and regulations, and erroneously administer treatments or improperly utilizes medical equipment.

Measure: a) Another staff member notices the erroneous actions of a provider and files a complaint.

b) Patient complains about the poor quality of care and service at the health center.

Canon: We will consistently update our facility regulations and educate employees to create efficient and effective health care.

Industry Standards

Pressure: Little resources in money or time to maintain and update the health center according to industry standards, such as the Joint Commission on the Accreditation of Healthcare Organizations (JCAHO) standards.

Risk: Unsafe and inadequate treatment of patients in the outdated health center.

Risk: Falsification of the conditions of the facilities by staff members.

Measure: Fail an audit evaluation conducted under JCAHO standards.

Canon: We will abide by all industry standards for both our facilities and the

environment of care.

Community

Pressure: Providing a community education class for all ages on sexual education to help raise awareness and promote education within the community.

Risk: Giving false or misleading information during a community education class.

Risk: Giving out contraceptives to minors where families do not agree or approve of pre-marital sexual relations.

Measure: a) Instructor of class is informed of providing wrong information to the public and receives complaints from the community.

b) Minor shows or informs guardian of the free contraceptives received from the sexual education class and guardian complains to the health center.

Canon: We will respect the values and beliefs of the people of the communities we serve.

Personal Relations

Pressure: Provider is friends with the patient, and wants to maintain the friendship and help his/her friend out of a difficult situation.

Risk: The time and quality of care between patients may vary, and providers prioritize personal friends before other patients.

Risk: The provider overlooks the medical history of the patient because he/she personally knows the patient and provides the patient with inaccurate medical information.

Measure: Patients and facility staff complain about the unjust favoritism observed in the health center.

Canon: Regardless of personal relations with a patient or within the health center, honest and equal quality of health care will be provided.

Moral Values

Pressure: Provider struggles in making a medical decision regarding treatment due to the religious, cultural, or moral beliefs of the patient.

Risk: Provider insists patient abandon beliefs and comments negatively on those beliefs to persuade the patient.

Risk: Provider disregards the beliefs of the patient and administers treatment or medication.

Measure: Patient becomes offended and files an official complaint.

Canon: We will respect the moral values of patients and only advise treatment based on medical grounds and the patient's health as the first priority.

Overarching Standard

We will provide high-quality, community-based healthcare for ambulatory patients that is efficient and effective to the present and future communities that we serve.