1.0 Objectives

1.1 The primary goal of this project is to develop a template for a website to host a user-friendly online database of green technologies information for the Electrical Contractors' Association of the City of Chicago. This website will involve providing data on green electrical products with cut sheets, pricing and distributor information, return on investment projections, and LEED certification facts. The use of this website should help create a well informed transition from industry standard electrical products, to green alternative products, as well as cut down on miscommunication between architects and electrical contractors.

1.2 Changes to the plan have been minor, primarily focusing on the overall scope of the work to be completed in the semester. It is still the hope of this team that the original goal is eventually completed it is now thought that the project scope is too large to compile the necessary information in one semester. There may also be an issue in getting exact pricing for products because so much of the industry uses job specific bidding.

2.0 Results to Date

2.1 The project has completed a number of milestones up to this point. A few notable items are listed below.

- Met with representatives of our sponsors, The Electrical Contractors Association (ECA), to establish project need.
- Attended USGBC sponsored seminar designed to educate ECA members on the governments LEED standards. Members in attendance were surveyed to establish usefulness of this project.
- Formalized goals and project plan.
- Established work schedule and timetable for completion of tasks.
- Organized four research teams: Lighting, Power Distribution, Waste Management, and HVAC. These teams will study LEED requirements and any products, costs, ROI, and resources available that will affect electrical contractors in their work.
- Assigned individual tasks to team members
- Instituted a Code of Ethics to follow in completing this project.

2.2 Individual Accomplishments

Sarah Althoff

-Secretary
-Has attended and taken minutes at every meeting
-Contacted Professor Muehleisen of IPRO 335 and obtained information from their research on LEED requirements
-Contributed to the editing of project plan and code of ethics
-Searched for websites of electrical companies containing information on LEED in relation to their products and customers
-Assisted in writing the midterm report

Tasks remaining:

-Help organize researched data
-Help compile data and create a user friendly template
-Compile the team's weekly minutes
-Assist with the development of the final report

David Boonstra

-Co-Team leader.
-Developed project schedule.
-Developed power point slides for mid-term presentation.
-Contacted ECA members to establish goals for the project.
-Researching LEED requirements on power delivery.
-Helped edit code of ethics, project plan, and midterm report.
-Gave midterm presentation with Giuseppe Marrari.

Tasks remaining:

-Complete research on power distribution regarding LEED.
-Organize research into appropriate sections.
-Help keep team on schedule.
-Assist in establishing a template for the final result.
-Help write and edit final report.

Amit Kamdar

-Helped brainstorm the purpose of the IPRO
-Helped divide team into appropriate subgroups and in assigning of different tasks to each subgroup
-Became leader of the research on power distribution
-Researched on power distribution and its relation with going green and LEEDS
-Researched the Return on Investment, Price, and LEED associated points on certain power distributors such as Seimens and General Electric
-Found catalogs on different power distribution systems and looked at differences between them and analyzed pros and cons of each

Giuseppe Marrari

-Team leader.
-Attended seminar hosted by ECA on how to build green.
-Researching LEED requirements on lighting systems.
-Helped Edit Code of ethics.
-Helped Edit Project Plan.
-Helped Edit Midterm Report.
-Gave midterm presentation with David Boonstra.

Tasks remaining:

-Will complete research on lighting for LEED.
-Will give final presentation

Vrudhdhi Patel

-Attended the ethics workshop
-Helped write the code of ethics
-Researched LEED requirements
-Researched product costs

Tasks remaining:

-Help with deliverables
-Continue research on LEED

Jeremy Saulog

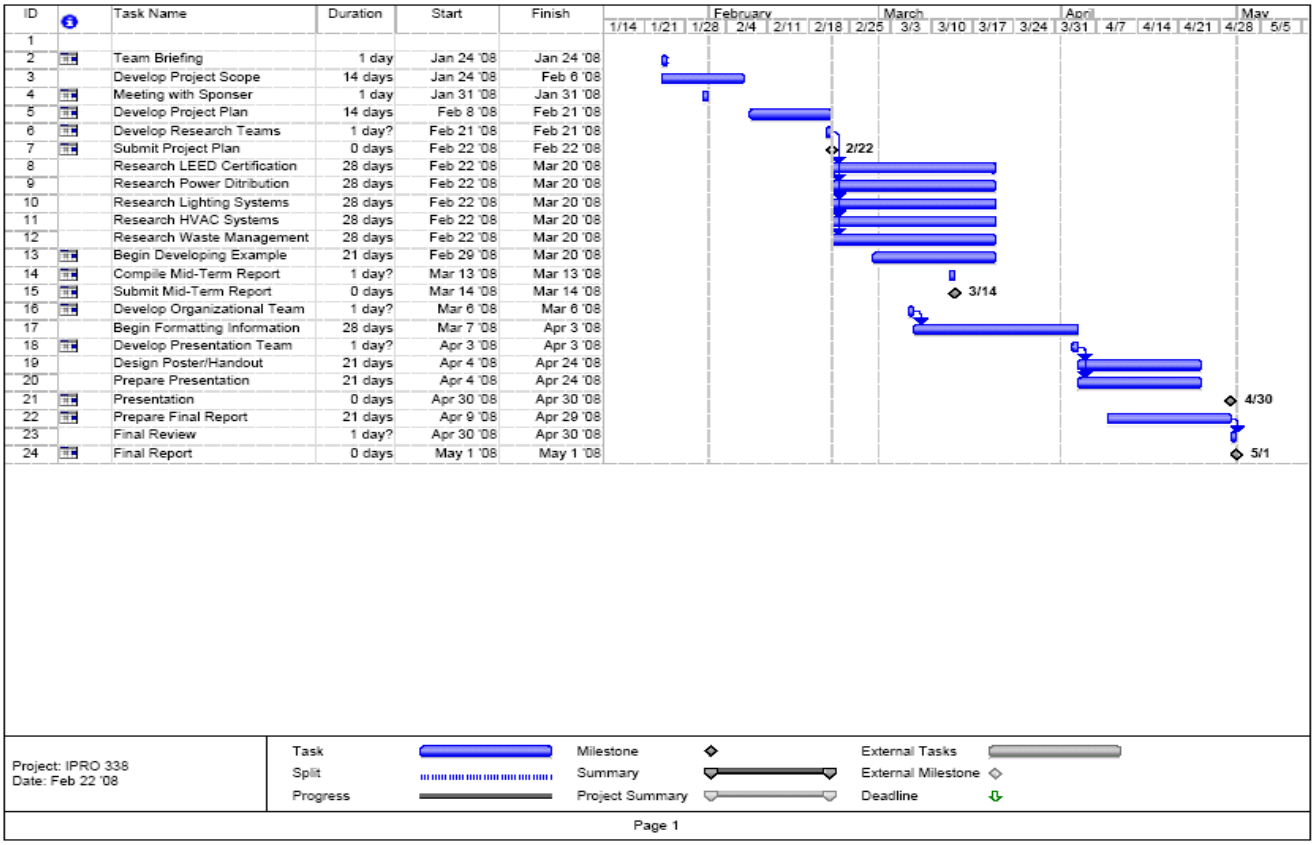
-Subteam leader HVAC
-Researched LEED requirements related to HVAC systems
-Researched "green" technology related to HVAC systems
-Helped edit Code of Ethics
-Helped edit Project Plan
-Helped edit Midterm Report
Tasks remaining:
-Will finish HVAC research
-Will help edit final report

In Seok Sin

-Attended Ethics workshop.
-Built Code of Ethics.
-Helped to edit project plan and midterm report.
-Researched LEED requirements.
-Create template for user friendly website.
Tasks remaining:
-Will attend presentation skill workshop.
-Continue to improve the Code of Ethics.
-Complete research of LEED and concept for website.
-Help to assemble all deliverables and edit final report.

3.0 Revised Task/Event Schedule

Our project tasks and our original schedule are at this time still functional. It is believed that the project will finish on time. The project Gantt chart follows.



4.0 Changes in Task Assignments and Designation of Roles and Team Organization

4.1 There have been changes in the basic structure of the team; however, the team has found stability by preserving most of the chief responsibilities held by each person. Currently, the main task of the team as a whole is research. Therefore, each of the sub teams is responsible for its own area of research. The major changes that have occurred in the organization of the team lie solely within these research groups.

4.2 The sub teams are distributed to cover five major areas applicable to electrical aspects of LEED certification, all of which are concurrently conducting research to be used in the template. The individual research teams are responsible for the following:

Lighting

- Find product and manufacturer information for lighting systems that contribute to meeting LEED standards.
- Discover how these systems contribute to meeting LEED standards.
- Investigate return on investment of systems.

HVAC

- Find product and manufacturer information for HVAC equipment and systems that contribute to meeting LEED standards.
- Discover how the products and systems contribute to meeting LEED standards.

- Investigate return on investment of products and systems.

Power Distribution

- Find methods of reducing power consumption.
- Find any products that contribute to lower power consumption in power distribution systems. Include manufacturer information.
- Discover how specific products contribute to meeting LEED standards.
- Investigate return on investment of systems and methods.

Waste Management

- Find methods of waste separation and removal that meet LEED requirements.
- Investigate variations in waste management methods of different contractors.

LEED

- Investigate the LEED system
- Determine which points are achievable by electrical systems and related areas.
- Effectively communicate the LEED principles and requirements.

4.3 Each person on the team has been given a key role in the group. These roles have generally remained the same, granting stability for forward movement.

Giuseppe Marrari is the team leader, who creates meeting agendas and promotes productivity in all team meetings. He is also the sub team leader for the Lighting Research group.

David Boonstra is the co-team leader. He assists Giuseppe with leadership responsibilities and brings a great deal of professional knowledge of the electrical field to team discussions.

Sarah Althoff is the secretary for the team, creating detailed and accurate minutes of the team meeting discussions and decisions. She is also responsible for organizing individual team members' weekly timesheets.

Andrew Dilger is the team's time keeper and project planner. He assists in monitoring the progress of meetings, as well as the overall progress of the project.

Sabeen Haque is the team's iGroups coordinator. She encourages the team to make full use of the iGroups site and keeps it organized and updated. She is also working to build communication with contacts at the USGBC.

Amit Kamdar is the sub group leader for the Power Distribution Research team. In addition to completing his own research, he compiles and organizes the research of the other team members on the research team.

Jason Mitchell is the sub group leader for the Waste Management Research team. In addition to completing his own research, he compiles and organizes the research of the other team members on the research team.

Vrudhdhi Patel is one of the team's ethics co-advisors, which is deemed an essential function because ethics plays a major role in balancing between the demands of industry and environment.

Jeremy Saulog is the sub group leader for the Heating, Ventilating, and Air Conditioning (HVAC) Research team. In addition to completing his own research, he compiles and organizes the research of the other team members on the research team.

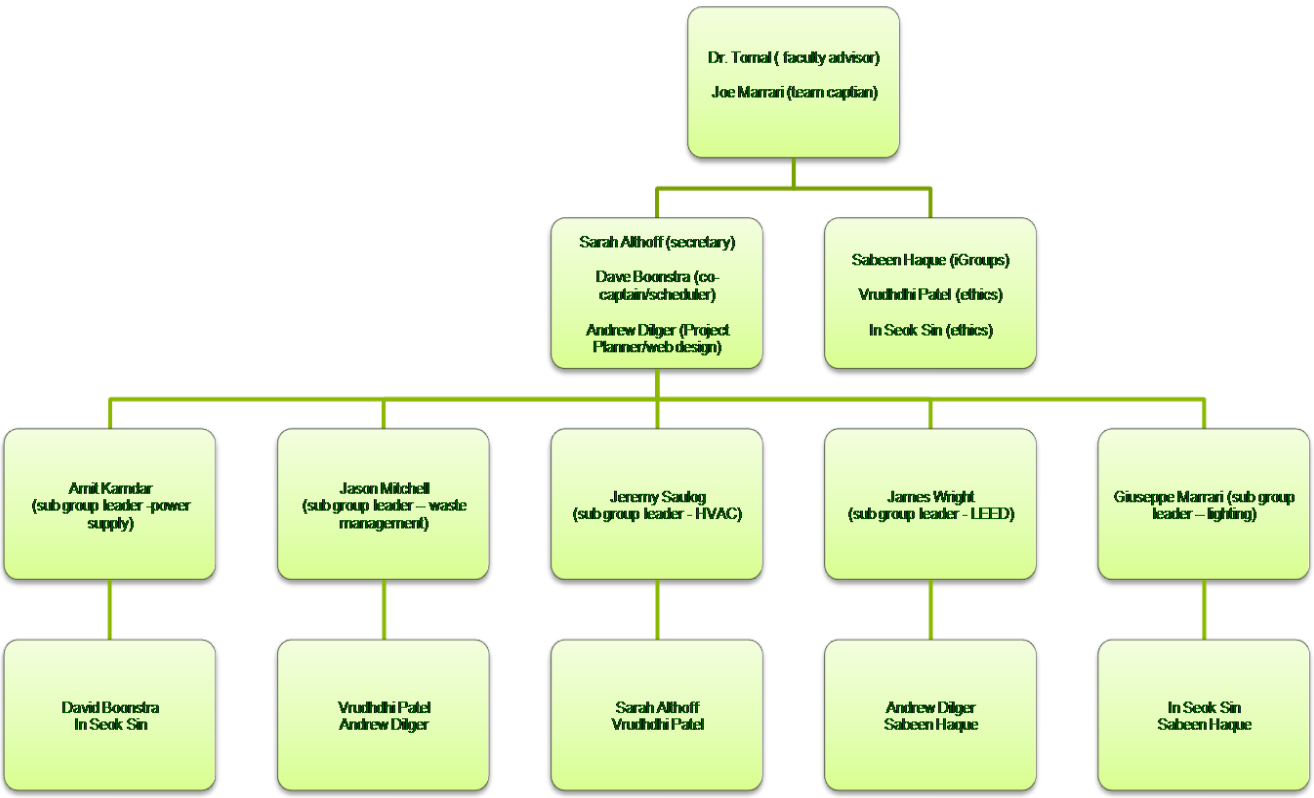
In Seok Sin is one of the team's ethics co-advisors, which is deemed an essential function because ethics plays a major role in balancing between the demands of industry and environment.

James Wright is the sub group leader for the LEED Research team. This was one alteration in a key role since James began doing research on low-voltage communication systems. Due to lack of relevant information, the topic of this research group switched to LEED certification research, since

this area needed to be researched as well. In addition to completing his own research, he compiles and organizes the research of the other team members on the research team.

The above is a compilation of the chief responsibilities of each team member. These members are also divided amongst the sub teams to assist in research responsibilities. This overall structure is illustrated on the following page.

4.4 The major modification in team organization has been the distribution of research responsibilities throughout the group. The sub groups began as one team called the Research Team. It was composed of five people, each finding pertinent information in one of the five selected fields (lighting, HVAC, power distribution, waste management, and communication). However, since the bulk of the project rests in research, more help was needed in conducting research. Therefore, the research team was eventually divided into five sub groups (one researching each of the five areas), with the original members of the research group taking on the responsibility of sub group leaders, each in their respective fields. It was at this point that the rest of the team was dispersed between these sub groups to assist in the task of research.



5.0 Barriers and Obstacles

The first obstacle faced in this project was determining exactly what the goal was for the time frame. Since this is a brand new project there were no existing goals. Therefore, the team had to come up with a specific goal having to do with electrical contractors and going green. Another initial obstacle was grasping the terminology and the concept of the project. Many of the members have no background in electricity or engineering, and none of the team members had a background in LEED. In order to resolve this, research was done on LEED and on green technology. Discussions during team meetings with group sponsors and members who were more familiar with electrical contracting helped make everyone on the team clear on the purpose of the IPRO. One remaining barrier is being able to compile all the research that has been done and make a comprehensive template for a website. Another obstacle will be to balance the compilation of all of the requirements needed to present the project, while still working on the project itself. These barriers have been overcome by working together as a team. Solutions are found together during meetings, much in the same way previous obstacles were overcome. The team members will also take responsibility for completing specific tasks thoroughly and efficiently throughout the timeframe of the project.

6.0 Code of Ethics

6.1 Overarching standard

To facilitate environmental stewardship by providing a resource to help Chicagoland electrical contractors meet Leadership in Energy and Environmental Design (LEED) and United States Green Building Council (USGBC) standards.

6.2 Ethical issues faced during project

In order to help electrical contractors in the Chicago area, the team has researched LEED requirements and USGBC standards. It was found that in some cases, requirements are too complex and require extra cost. This results in pressure to rearrange the information. The team avoids ethical pitfalls by following LEED and Chicago building guidelines, and by establishing new methods and standards as appealing as or more desirable than the old standards.

Also, in the process of carrying out the project, every team member has different background and experience. Some members are not familiar with electrical systems or LEED requirements. This has lead to some pressure to understand the project and complete their tasks. Therefore some Individuals feel that they have an unjustly heavy task and are not appreciated. This problem has been overcome through strong teamwork and appropriate distribution of tasks to maximize individuals' strong point.