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1. Team Information

A. Team Member Roster
B. Team Member Strengths, Needs, and Expectations

Team Member	Email Address	Strengths	Skills to Develop	Project Expectations
Soren Haurberg	shaurber@iit.edu	Good problem solver, high level of technical knowledge, good at research and preparation	Delegation/sharing or responsibility amongst team, task organization	Learn about business process analysis and improve teamwork skills
Kayoung Kim	kkim8@iit.edu	Logistic, Accounting, ability to find information	To be a good speaker whatever I want to tell, to learn about logistic process thoroughly.	To do one's best. to become the best team to improve our project, to communicate between members and be in touch after project done.
Andrew Kleps	akleps@iit.edu	Appreciation of complexity while still recognizing the need for simplification, Out of the box thinking, Willingness to be wrong	Organization, Understanding of the strengths and weaknesses of team members	As a team we'll find several ways to improve distribution and reduce wasted product. At least some of them will be practical to implement.
Kiyomi Pyle	kpyle@iit.edu	Experience with the loading and delivering process. I work well with groups, good communicator.	Presentation skills, solving problems in a creative and efficient manner.	I don't have a whole lot of experience with this type of project so I might not be able to contribute a lot in that sense but I can carry out all of my tasks to the best of my ability. I am excited to be involved in a real life business project.
Rich Roslund	rroslund@iit.edu	Some leadership training, open mindedness, Programming experience, Prior Ipro Experience	How to think in a business setting, How to work as a consultant	Learn how a brewery works, Learn how to test for efficiency, Learn how to work in a business setting, Accomplish our ipro-defined goals
Basel Sarraf	bsarraf@iit.edu	Analytical skills, previous warehouse work experience, and computer software related issues (development, implementation, installation, as well as training staff).	To be a good team player in a think tank oriented team, to learn about warehousing solutions, and their software solutions.	I expect our team to contribute critical and meaningful solutions for Euclid Beverages' warehouse.
Hee Seo	hseo2@iit.edu	Mathematical Computation, Statistical Analysis and Database management.	Operation management, Public Speaking.	Always be prepared at discussion, Be a good listener, Respect the time and schedule.

Junhyung Song	jsong5@iit.edu	I can program in C++, JAVA and several Web Application Languages(HTML, JAVA SCRIPT, JSP). I know how we can conduct our project successfully, as well. I have experience that I worked in Samsung Electronics so I can suggest many things that are beneficial to work with the real business.	Communication Skill. Presentation Skill. Knowledge for huge, complicated and hierarchical information system design.	I will do my best for everything that is related to this project, especially the part that I have strength. Never delay my tasks. I will earn many experiences out of all project tasks
Kyle Stachowiak	kstacho1@iit.edu	Computers, Software, Programming, Robotics Experience	Marketing ideas	Lots of work, and that I'll get to contribute my strengths in a meaningful way.
Robert VanKley	rvankley@iit.edu	Mechanical Engineering major, business minor, good problem solving skills.	Project organization skills	The project should be interesting, a chance to see a real business operation in action and have a chance to make some positive changes to it.

C. Team Identity

Name: Operation Smooth Brews

Motto: Making Every Drop Count

2. Team Purpose and Objectives

A. Team Purpose

Operation Smooth Brew's mission is defined by working closely with Euclid Beverages to analyze its status quo warehousing processes and introduce sufficient enhancements to them.

B. Team Objectives

To guide the OSB team in realizing their mission, the team members agreed to an orderly sequence of goals and objectives to be followed as follows:

1. To understand Euclid Beverages' system, OSB would conduct a visitation to investigate all parts of the process that takes place at the warehouse.
2. The team members would split up accordingly to map the customer's process.
3. Each team member would present their findings to the collective consulting brain trust - OSB.
4. The team shall analyze and study the findings, and it would investigate the areas where Euclid Beverages may improve their process to come with efficient hypothesis as solutions to the given problems.
5. OSB would introduce the hypothesis to the management of Euclid Beverages.
    1) Upon the management's disapproval of the hypothesis OSB shall go back and perform step – 4; otherwise, this part of step – 5 could be ignored.
    2) If the management introduces new findings, then OSB should go back to step – 4 for a second analysis; otherwise, this part of step – 5 could be ignored.
6. On the floor tests would be run with operations samples to get final conclusions.
7. Third analysis would be conducted to determine the measure of success in the performed tests.
8. OSB would meet the management to get their confirmation to final conclusions.
9. Findings would be concluded in a final report, that gets built by the team members.
10. Finally, OSB would present their final report.

3. Background

A. Information about the Customer/Sponsor
B. Problems to be Addressed

Euclid beverage is an Illinois beer distribution center, specializing in miller products. They distribute all through-out the country.

The company believes that it can be more efficient with the way it implements its many processes within the company workings. Unfortunately they have neither the manpower or time to perform this currently, thus have decided to hire out to a private consulting agency, being the Smooth Brew company. Our tasks as the consulting firm will be to observe the daily operations of the company in order to provide ways for the company to operate more smoothly.

C. Technology and Science to be Used

In order to correctly address these problems, we will need to be engaging in techniques to extract the data vital to providing solutions. We will be doing this in a variety of ways, being process analysis, employee dialogue, and data analysis. Process analysis will be essential to knowing how to oversee the daily workings of the employees, as well as how to effectively determine whether or not a specific task is being done correctly. Employee Dialogue will be our technique of engaging the workers about how they perceive the efficiency of their workplace. Understanding that the employees are the masters of their own tasks, we believe that they would provide considerable insight about areas we may not be able to observe, due to their experience.

D. Historical Successes and Failures

As we began to research Euclid beverages, we came to find that we are not the first company hired for the specific task of improving warehouse operations. As the new (current) warehouse was being developed, a separate firm was hired to help provide guidelines on how to run the warehouse more efficiently. They provided flowcharts for each step of the distributing process, which we ended up using as guidelines for how we would perform our observing-activity. The flowcharts were very thorough, but we were informed that, since being created before the warehouse became operational, they were used sparingly, and that many of the processes were different than previously recorded on the flowcharts.

E. Ethical Issues

Ethical issues are bound to arise when working in a corporate environment, so we decided to take these into consideration as we began performing our tasks. Simply put, our primary concern lied with the ability for all members of our group to work in the warehouse, the problem lying in the fact that a number of group-mates were not above

21. Also, as we do our previously defined Employee-Dialogue, it was important that we informed our sources that all information provided to use and relayed back to the higher powers would remain anonymous.

F. Business and Societal Costs

As with all businesses, a more efficient operation means more revenue. Taking this into account, its no wonder that consultant groups are sought after. In modern corporate settings, any mishap in the system-processes could lead in a huge monetary loss. Especially in a distribution warehouse like the Euclid's, where tasks are carried out incrementally, if there's one weak area, it can affect the entire operation.

G. Proposed Implementation

In order to complete our objectives, we have decided to engage in a plan that will follow this format:

2. Visit the company, learn their system
3. Split-up responsibilities in order to observe all parts equally
4. Present findings to the group
5. Analyze findings
6. Study alternatives/solutions to problems
7. Test out these new solutions at the company
8. Repeat steps 3-6 as necessary
9. Seek management conclusions
10. Build Report
11. Present findings

H. Similar Solutions

We decided that in order to provide as much information to our company as possible, we would research other consulting firms of a similar nature in order to have a complete grasp on our project. One such group is the Cave Consulting Group, a consulting group focusing on improving the efficiency of the health care delivery system. We will be using this group and a few others as a basis for how we conduct ourselves and our work.

4. Team Values Statement

A. Listed Behaviors

- Showing up on time for meeting
- Communicating enough to understand from each other
- Respecting other's opinion despite different one from me

B. How Problems Will be Addressed

- Ask advice to team/instructor
- Considering matters carefully and discuss problems with team actively
- Refer to a book related with problems

5. Work Breakdown Structure

A. Define the Problems

Identify any wasted resources, such as time, equipment, or product in the operations of a beverage distributor. Determine the sources of waste. Create practical solutions to reduce or remove waste.

B. Identifying the Problems

To identify problems, the team will conduct multiple visits to the client's operations. The project will be conducted in several phases: Information Gather, Process Mapping, Identification of Inefficiencies, Creation of Solutions, Testing of Solutions, Presentation to Management.

Phase 1: Information Gathering: During visits the team will observe the client's operations. During these visits they will also question bother workers and management. During or between visits relevant documents, such as client documents or industry information will be gathered. While gathering information the team will be divided into sub-teams responsible for particular aspects of the operation.

Phase 2: Process Mapping: Using the gathered information the team will map out the entire process of the client's operations. This will be done with the entire team, though sub-teams will be supplying information and responsible for their particular areas. If any unknown areas are found in the process, additional information will be gathered until the overall process can be accurately and completely described.

Phase 3: Identification of Inefficiencies: After the process has been mapped, it will be analyzed to find inefficiencies such as wasted labor, loss of product, or equipment problems. In addition to using the process map, the previous observation and questioning will also provide information for the identification of inefficiencies. While the inefficiencies are being identified the direct causes will also be determined.

Phase 4: Creation of Solutions: The team, working together, will come up with solutions to the direct causes of inefficiency. These will then be analyzed for practicality and usefulness. The initial set of solutions will be very large, but the post-analysis will likely be much smaller.

Phase 5: Filtering of Solutions: Of the solutions which are determined by the group to be practical, these will be run by Operations at the client in order to further determine the practicality without having to actually test them. If possible, solutions which are generally deemed practical will be tested, depending on the potential value and disruption of the test. Testing will be observed and then used to generate additional solutions, effectively repeating phases 1-5.

Phase 6: Presentation to Management: Those solutions which are thought to be practical will be included in a final report to management. In addition, the presentation will include the process map and identified inefficiencies.

C. Testing Potential Solutions

Solution testing will mostly consisted of analysis by both the team and Operations for the client. If practical to test, the solutions will be actually tested on a small scale by the client. Testing criterion will include feedback from workers and Operations and reduction in product loss, in addition to other useful measures which may be found during the observation phase.

D. Documentation of Results

All results of observation and testing will be documented. Sub-teams will be responsible for their own areas of the overall problem. All needed information will be stored on iGroups in order to be accessible to the entire team.

E. Analysis of Results

The team will collectively perform an initial analysis of all results and solutions.

F. Generation of Deliverables

The team will divide up all deliverables. They will be assigned to individuals or sub-teams along with a date for completion and submission to the team. Large tasks will be broken down among several individuals with a separate team member responsible for the compilation of each part into a whole deliverable.

6. Expected Results

A. Expected Activities

The team will visit the warehouse and observe its operating process. Each student will be assigned a different part of the process and will be responsible for mapping out each step. While doing this everyone will attempt to locate sources of inefficiency in their respective process step. After everyone understands their respective part, it will be presented to the rest of the group and an overall discussion of specific areas of interest will take place. These areas of interest and possible solutions to improving their efficiency will be discussed, evaluated, and the list narrowed until the most practical ones are left to be proposed to management. At which time they will give their opinion on the developed solutions and any testing or additional data gathering will be done based on what the managers deem appropriate. These results will then be used to give a final recommendation to the sponsor.

B. Expected Data

Expected data gathered from visiting the warehouse include information on the operating process itself, employee ideas on areas that could use improvement and/or sources of existing problems. After analyzing initial findings and coming up with suggestions on how to improve the process, data will be collected from tests on the effects any suggested changes may have in the efficiency of the process.

C. Potential Products

Products resulting from the research and testing will include a map of the operation process. At first an initial map of the process currently and eventually updated maps reflecting any changes that may have been made as a result of the collected data. Along with this a method of objectively measuring the efficiency of the process will need to be developed.

D. Potential Outputs

The biggest and most important output that will be produced will be the process map.

F. Challenges, Risks, and Assumptions

There are several challenges that will be faced in obtaining results. One is that the company and its process are very large and dynamic. This will make it challenging to discoverer actual causes of problems and make suggestions that will improve one aspect of the process and not decrease the efficiency in another. Also it may be difficult to test what effects the developed suggestions might have on the process. Some suggestions may not be practical to tests, others may disrupt the process too much, and some management might not agree to. Another possible problem will involve the people being collaborated with in the research. Different points of view will need to be investigated and information gathered will need to remain anonymous. Otherwise employees may not be as honest with their information. A final challenge will be balancing the fact that the company still has a job to do with our attempts to improve their process. It will be difficult to maintain

a sort of passive observer stance, and at the same time attempt to actively increase the efficiency in an already well developed process.

G. Incorporation of Expected Results

The results gathered in the initial stages of the project will contribute to the development of possible solutions and suggestions that will be proposed. After the solutions are tested or simply discussed with management, the information gathered in those stages will be used to make final recommendations on possible ways for the company to increase its distribution process.

7. Project Budget

A. Itemized List of Expenditures

Transportation for customer visits
Nine students need to take the train

- $48.05 per 10 ride ticket
- 96.10 per visit (10 ride each way)
- 4 customer visits planned

Sub-Total: 4 visits x $96.10 per visit = $384.40 estimate for train rides

Two students helping with transport from train station to warehouse

- 22 miles to station plus 6.8 miles from station to warehouse makes 28.8 miles
- 28.8 miles at $.55 a mile equals $15.84 one way. Round trip total is $31.68.
- 4 customer visits planned

Sub-Total: 4 visits x 31.68 = $126.72

Estimated Transportation Total: $511.12

Group T-shirts (12 shirts total, choose one type)

- T-shirt - just text $15.00 each
- T-shirt – text and picture $20.00 each
- Polo shirt with embroidery $30.00 each

Estimated T-shirt Total: $180.00 – $360.00

Miscellaneous costs

- Client lunch if they decide to visit us $100.00
- End of the project celebration $150.00

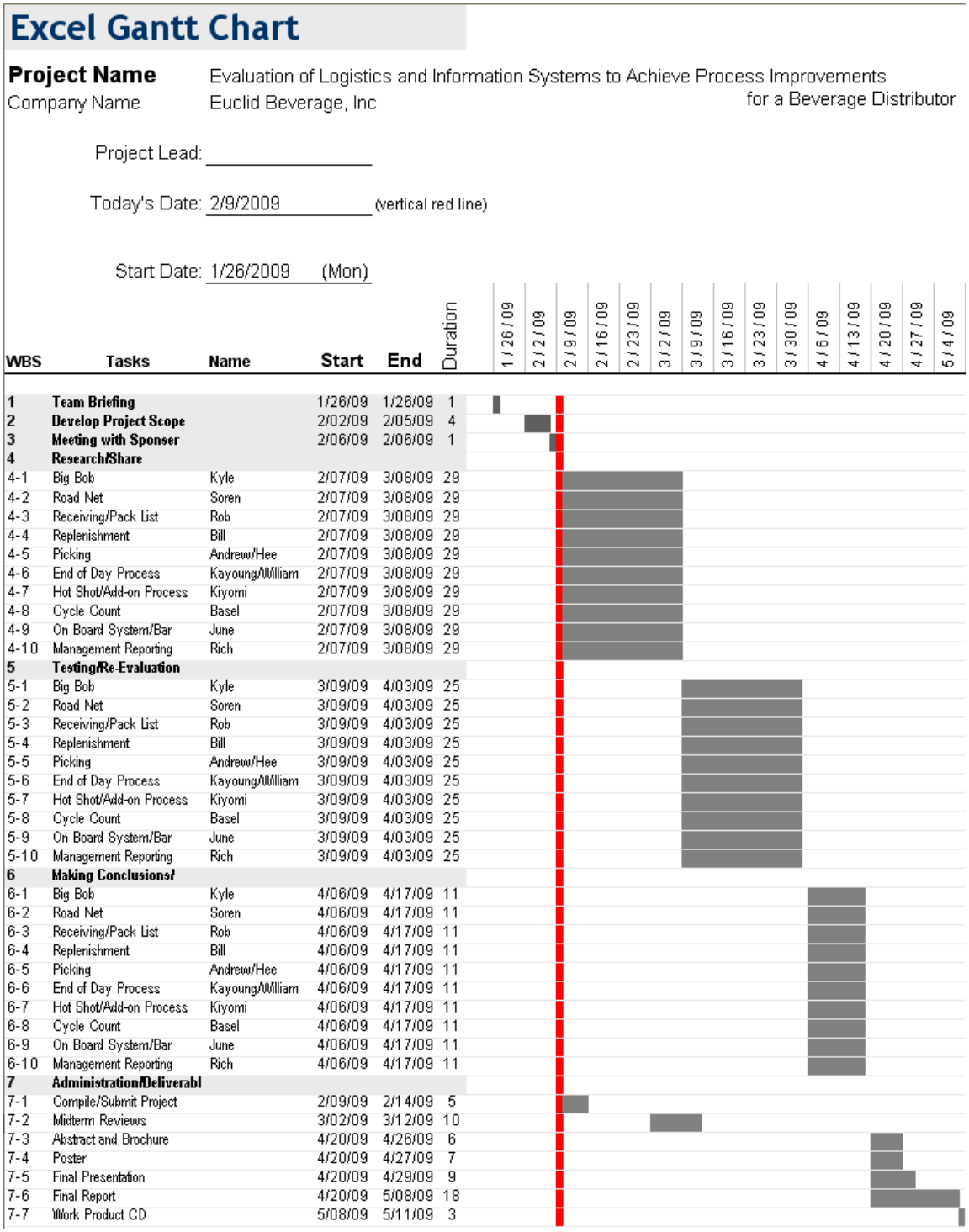
ESTIMATED MISC. TOTAL: $250.00

ESTIMATED GRAND TOTAL: $1000 - $1200

8. Schedule of Tasks and Milestone Events

A. Significant Tasks
B. IPRO Deliverable Tasks

C. Breakdown of Tasks
D. Estimate of Hours Needed
E. Include "Slack Time"



Excel Gantt Chart

Project Name Evaluation of Logistics and Information Systems to Achieve Process Improvements
Company Name Euclid Beverage, Inc for a Beverage Distributor

Project Lead: _____

Today's Date: 2/9/2009 (vertical red line)

Start Date: 1/26/2009 (Mon)

WBS	Tasks	Name	Start	End	Duration
1	**Team Briefing**		1/26/09	1/26/09	1
2	**Develop Project Scope**		2/02/09	2/05/09	4
3	**Meeting with Sponser**		2/06/09	2/06/09	1
4	**Research/Share**				
4-1	Big Bob	Kyle	2/07/09	3/08/09	29
4-2	Road Net	Soren	2/07/09	3/08/09	29
4-3	Receiving/Pack List	Rob	2/07/09	3/08/09	29
4-4	Replenishment	Bill	2/07/09	3/08/09	29
4-5	Picking	Andrew/Hee	2/07/09	3/08/09	29
4-6	End of Day Process	Kayoung/William	2/07/09	3/08/09	29
4-7	Hot Shot/Add-on Process	Kiyomi	2/07/09	3/08/09	29
4-8	Cycle Count	Basel	2/07/09	3/08/09	29
4-9	On Board System/Bar	June	2/07/09	3/08/09	29
4-10	Management Reporting	Rich	2/07/09	3/08/09	29
5	**Testing/Re-Evaluation**				
5-1	Big Bob	Kyle	3/09/09	4/03/09	25
5-2	Road Net	Soren	3/09/09	4/03/09	25
5-3	Receiving/Pack List	Rob	3/09/09	4/03/09	25
5-4	Replenishment	Bill	3/09/09	4/03/09	25
5-5	Picking	Andrew/Hee	3/09/09	4/03/09	25
5-6	End of Day Process	Kayoung/William	3/09/09	4/03/09	25
5-7	Hot Shot/Add-on Process	Kiyomi	3/09/09	4/03/09	25
5-8	Cycle Count	Basel	3/09/09	4/03/09	25
5-9	On Board System/Bar	June	3/09/09	4/03/09	25
5-10	Management Reporting	Rich	3/09/09	4/03/09	25
6	**Making Conclusions/**				
6-1	Big Bob	Kyle	4/06/09	4/17/09	11
6-2	Road Net	Soren	4/06/09	4/17/09	11
6-3	Receiving/Pack List	Rob	4/06/09	4/17/09	11
6-4	Replenishment	Bill	4/06/09	4/17/09	11
6-5	Picking	Andrew/Hee	4/06/09	4/17/09	11
6-6	End of Day Process	Kayoung/William	4/06/09	4/17/09	11
6-7	Hot Shot/Add-on Process	Kiyomi	4/06/09	4/17/09	11
6-8	Cycle Count	Basel	4/06/09	4/17/09	11
6-9	On Board System/Bar	June	4/06/09	4/17/09	11
6-10	Management Reporting	Rich	4/06/09	4/17/09	11
7	**Administration/Deliverabl**				
7-1	Compile/Submit Project		2/09/09	2/14/09	5
7-2	Midterm Reviews		3/02/09	3/12/09	10
7-3	Abstract and Brochure		4/20/09	4/26/09	6
7-4	Poster		4/20/09	4/27/09	7
7-5	Final Presentation		4/20/09	4/29/09	9
7-6	Final Report		4/20/09	5/08/09	18
7-7	Work Product CD		5/08/09	5/11/09	3

1/26/09 2/2/09 2/9/09 2/16/09 2/23/09 3/2/09 3/9/09 3/16/09 3/23/09 3/30/09 4/6/09 4/13/09 4/20/09 4/27/09 5/4/09

9. n
dividual Team Member Assignments

A. Identify Team Leaders
B. Create Sub-teams
D. Breakdown of Responsibilities

Sub-Teams	Responsibility
Beer Order Entry Process	Understand how the order can be made, Achieve fast and accurate ordering method.
Road-Net System	Understand the routing algorithm, Improve algorithm and system efficiency
Receiving/Pack List Process	Notice receiving and put away process, Make goal to receive items fast and making pack list accurately
Replenishment Process	Know how the company replenish items, Improve efficiency for fast picking.
Standard/Transport/ Keg Picking Process	Understand the all picking methods and processes, Reduce mistakes on picking and develop more efficient algorithms.
End of Day/Next Day Process	Notice which things are happened in the end of a day and the beginning of a day. Make better process for next day or next tasks.
Hot Shots/Add-on Process	Figure out how orders can be made fast, Make the process to be made faster
Cycle Counting Process	Understand the counting method and process, Develop more convenient, reliable, correct counting process.
On Board System	Notice each on board equipments and their usage in a warehouse, Evaluate their advantages and improve efficiency
Management Reporting	Know how workers report progress to their manager, Figure out which things are useless or dropped out and modulate those.

Basic Responsibility: Understand the process flow and improve the efficiency.

C. Identify Sub-team Leaders
E. List Members and Responsibilities

Name	Role
Stachowiak, Kyle	Beer Order Entry Process
Haurberg, Soren	Road-Net System
Vankley, Robert	Receiving/Pack List Process
Ward, William	Replenishment Process
Kleps, Andrew **Seo, Hee**	Standard/Transport/Keg Picking Process
Kim, Kayoung	End of Day/Next Day Process
Pyle, Kiyomi	Hot Shots/Add-on Process
Sarraf, Basel	Cycle Counting Process
Song, Junhyung	On Board System
Roslund, Richard	Management Reporting

Team Leader: We do not have a team leader. We divide our tasks into individual topics. Each member is required to proceed and manage one's own part and has responsibility on that. If there is something to integrate each other's results, we will choose our temporary leader and he/she will manage and supervise that task.

10. Designation of Roles

A. Assign Meeting Roles
B. Assign Status Roles

All roles are either spread evenly among the team, or are deemed unnecessary.