AGENDA OF MEETING

Meeting Title	Supervisor Meeting – Algorithm & Order of Complexity
Date	26-06-2012
Start Time	1930
End Time	2100
Called By	Prof Hady
Venue	Prof Hady's Office
Attendees	Yosin, Minh, Jek Bao, Suri, Glor and Prof Hady
Objective	Working on algorithm and Order of Complexity and direction of our project

PREPARATION FOR MEETING:

Please Read:	Please Bring:
2 reading materials prepared by Prof Hady	-

ACTION ITEMS FROM PREVIOUS MEETING:

No	Action Item	PIC	Comment	Due Date	Status

AGENDA TOPIC:

No	Agenda Topic	PIC	Due Date
1	Identify the first estimation of the Order of Complexity		26-06-2012
2	Outline one or two possible basic algorithms		26-06-2012
3			
4			
5			

MINUTES OF MEETING

Meeting Title	Supervisor Meeting – Algorithm & Order of Complexity
Date	26-06-2012
Start Time	1930
End Time	2200
Venue	Prof Hady's Office
Invitee List	Yosin, Minh, Jek Bao, Suri, Glor and Prof Hady
In Attendance	Yosin, Minh, Jek Bao, Suri, Glor and Prof Hady
Absent	NA

DECISIONS:

<table>
<tr><th>No</th><th>Subject</th><th>Decision</th></tr>
<tr><td>1</td><td>Schedule Optimization</td><td>Start with schedule optimization in mind. Knowing the logic and complexity then provide what client wants.

Client's Needs – First Available, First Assign scheduling.

Our forecasting is not just computing, it is simulation. Means that you run the simulation many times to get a distribution of result.
Scheduling is for cost function and sense of priority.
Optimization means we care about the order.</td></tr>
<tr><td>2</td><td>Plan timeline</td><td>Include schedule optimization and simulation instead of just computing a forecast result.</td></tr>
<tr><td>3</td><td>Acceptance Deliverable</td><td>Try to get schedule optimization and client's need in terms of First Available First Assign Scheduling.</td></tr>
<tr><td>4</td><td>Bipartite Graph</td><td>Research more on this.
Scheduling is like a blank table.</td></tr>
<tr><td>5</td><td>Scheduling Study</td><td>Fixed Constraints → Systems Trained & Shift Hours
Variable Constraints (which we could realx) → Cost → MAC, OT, Recall
<table>
<tr><td>Fixed Constraints</td><td>Systems Trained & Shift Hours</td></tr>
<tr><td rowspan="2">Variable Constraints</td><td>Cost → MAC, OT, Recall</td></tr>
<tr><td>Shifting of break time</td></tr>
</table>
Chapter 1 - Machine environment 1 machine, 2 machine, 3 machines. Constraints are things cannot happen. What is Makespan… time taken.

Chapter 2 – Simple optimization we need to create priority list. We assign based on priority. Give the job a priority instead of assign some job to it based on available ones. Assign the available job on the highest priority.

What is our priority? For example I would think that our priority list could be…
<table>
<tr><td><u>Priorities</u></td></tr>
<tr><td>A. Shifting of break time</td></tr>
<tr><td>B. MAC</td></tr>
<tr><td>C. OT</td></tr>
</table>
</td></tr>
</table>

D. Recall
E. Randomized Shift Assigning
F. Closest to Furthest Shift Assigning
G. Furthest to Closest Shift Assigning
H. Randomized Number Systems Trained
I. Most Number of Systems Trained
J. Least Number of Systems Trained
Model is (assuming cost is the variable to minimize) 1. F, J, A, B, C, D 2. F, I, A, B, C, D 3… 4… 5…

Chapter 3 – The Greedy Approach. We start with a solution and grow it one job at a time until the optimal solution is revealed. To construct a priority list. You cannot always construct a priority at the beginning then reconstruct the priority list. You need to re-construct a priority list. You need to do a sorting again.

Chapter 4 –Bipartite matching and linear programming. Bipartite graph and problem. Again one x to one o. One time slot to exactly one flight. There are existing algorithm in the market. Library: Maximum weigh bipartite matching. Learn how to perform bipartite matching from other sources.

Chapter 5 – Not applicable. Relaxation means you drop some conditions and find those constraints that you drop. We don't need this because we have the flexibility of doing OT>

Chapter 6 – Not applicable.

ACTION ITEMS:

No	Action Item	PIC	Comment	Due Date	Status
1	Reading of the 50 page research paper. Then propose 5 ways.	Yosin, Jek		30/06/12	
2	Update GUI	Yosin	To wiki	30/06/12	
3	Bootstrap roster validation and test cases	Minh		30/06/12	
4	Read about Bipartite graph	Yosin, Minh, Jek		30/06/12	

CARRY-OVER ITEMS FOR NEXT MEETING:

No	Subject	Description

NOTES:

Prepared by, Vetted and edited

Jek Bao Suriyanti

Endorsed by supervisor,