School of Information Technology and Engineering (SITE)

SEG 4105: Software Project Management, Fall 2013

Lab 01: Introduction to MS Project

Report Due: Friday October 11 5PM, by email to TA

OBJECTIVE

The objective of this lab is to learn basic techniques for managing a project using Microsoft Project Software (MPS) in terms of project schedule, resource allocation, task dependencies, estimating cost, and resource leveling.

BACKGROUND

Project planning is considered as a crucial part of quality software project management. Finding the project scope, grouping the tasks into a work breakdown structure, finding the tasks dependencies, critical path generation, calculating the slack time for a task, and last but not least estimating cost for each activity are all integral parts of project planning. Microsoft Project is one of the tools used by project managers to facilitate performing the above tasks.

In this lab, you will create a simple project. You will follow the steps mentioned below to insert tasks, resources, duration, and dependency for the given tasks in an iteration (see the Questions section).

REPORT FORMAT

In your report, answer the Questions in the last section, and also include the requested screenshots from MS Project. The report must be in MS Word format. In addition to your report, you must also submit the project file (.mpp) at various stages in the process, as requested. **Submit all *.mpp and the report file in a zip file: lab1_group_group-number.zip**

PROCEDURE

Step-01. Create a New Project (using MS Project 2010)
1.   Select **New** from the **File** menu.
2.   Choose **Blank Project**.

Step-02. Define the project

1. Select **Project Information** from **Project** menu.
       - Insert project start date, and set other behaviors according to organization rule (Figure. 1)
2. Select **project and then change working time and then by click on the options.** Follow the structure

below.
- Insert default **Standard Rate** and **Overtime Rate** in the **General** tab.
- Set the Calendar options from **Calendar** tab.
(week starts on: Monday, Default start time 9am, End time: 5pm, Hours per day: 8, Hours per week: 40, Days per month: 20)
- Go to the **Schedule** tab, and select the values as shown in Figure 2.
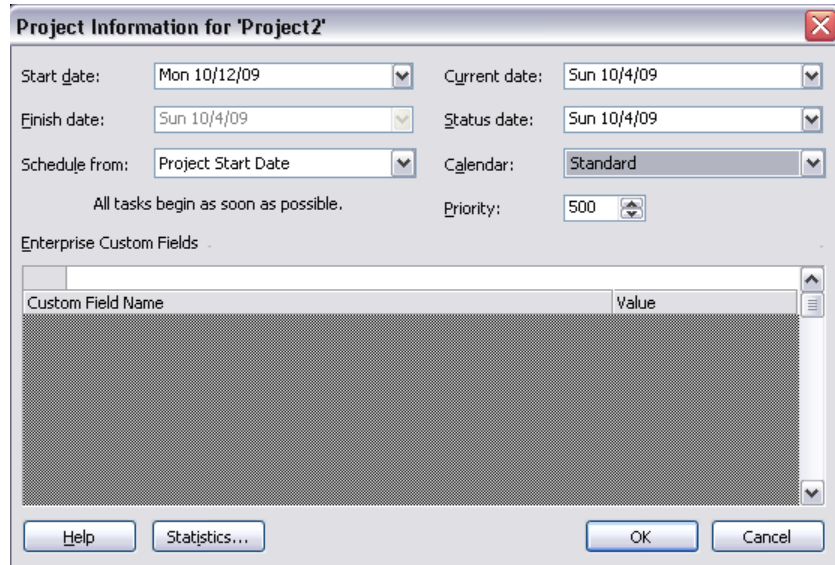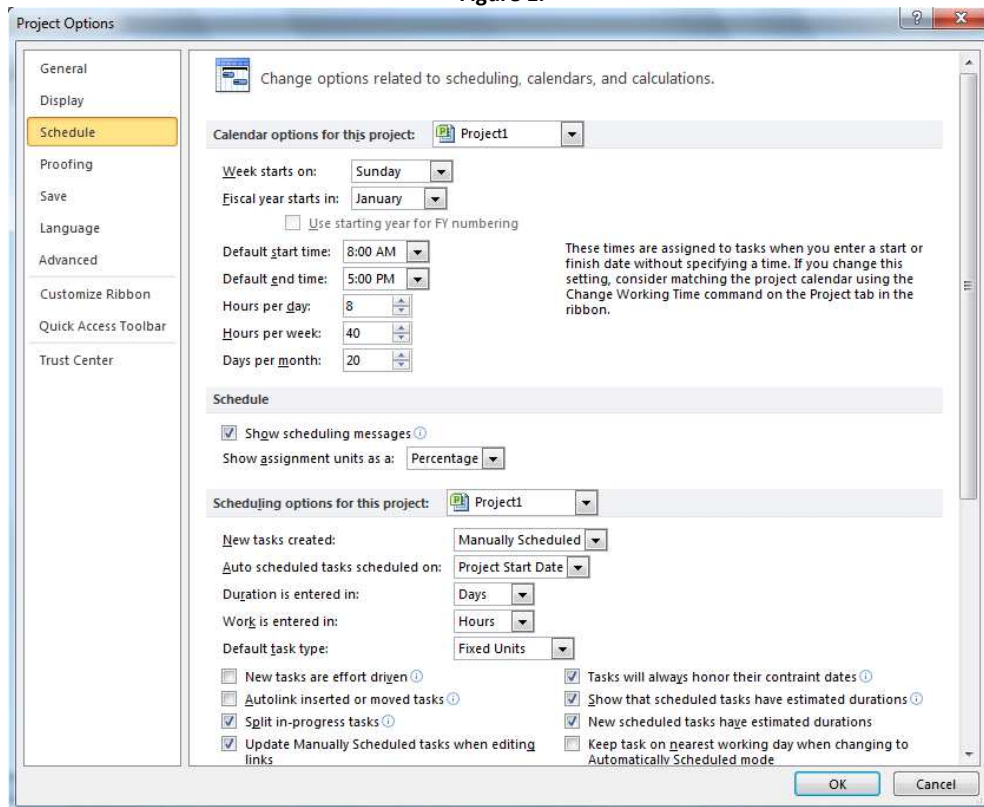3. **Save** the project from **File** menu.

Figure 1.

Figure 2.

Step-03. Creating List of Tasks

(First, break the whole project into individual tasks and organize them in a *Work Breakdown Structure (WBS)*)

1. Create a code definition from **WBS** in **Project** menu.

   - Insert a column showing WBS code for each task as shown in Figure 3 and Figure 3 .
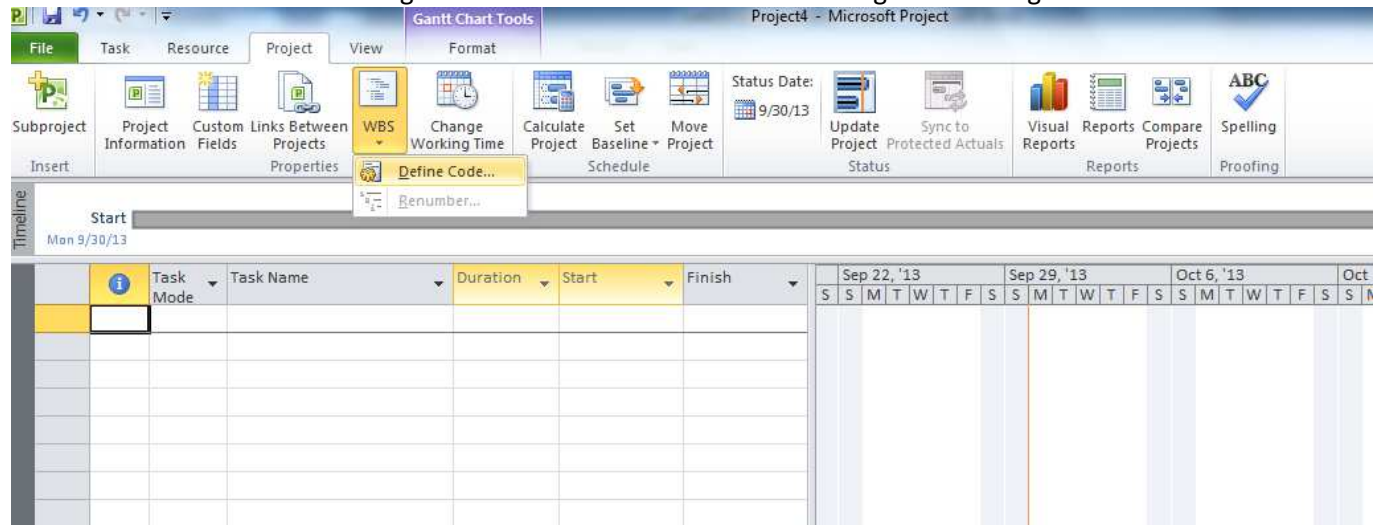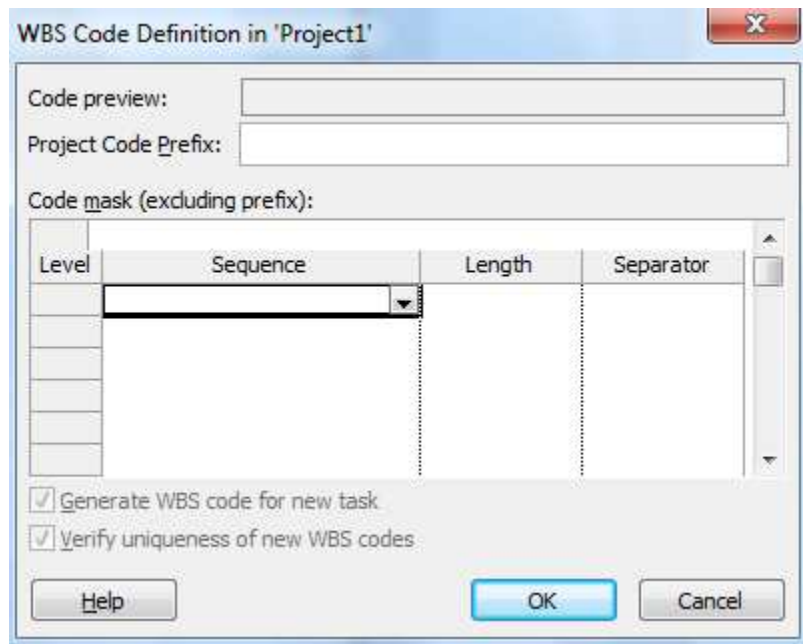

Figure 4.

Figure 5.

2. Now insert individual tasks from the **Insert** menu and then selecting **New Task**. (at this stage, we do not need to that the tasks start on the same day and last 1 day)
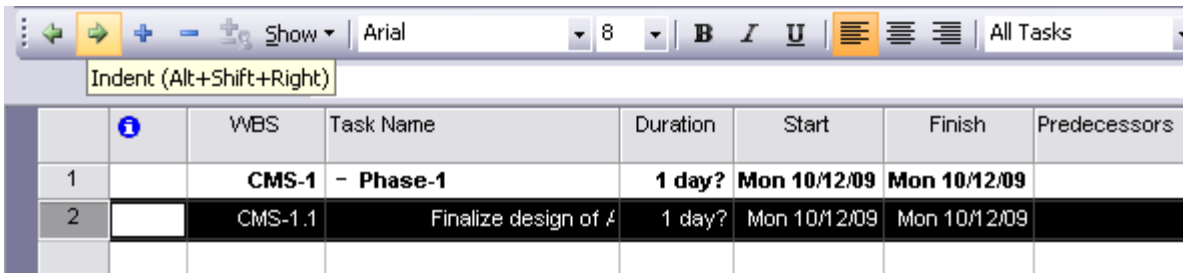
3. We will now group tasks; In MS Project, grouping is performed from the top down with final total at the very top.

   - Select task(s) then use the **Indent** button to group under the same heading (Figure 5.)

4. Define the duration of all the tasks by selecting individual tasks, and then entering the value in **Duration** field.
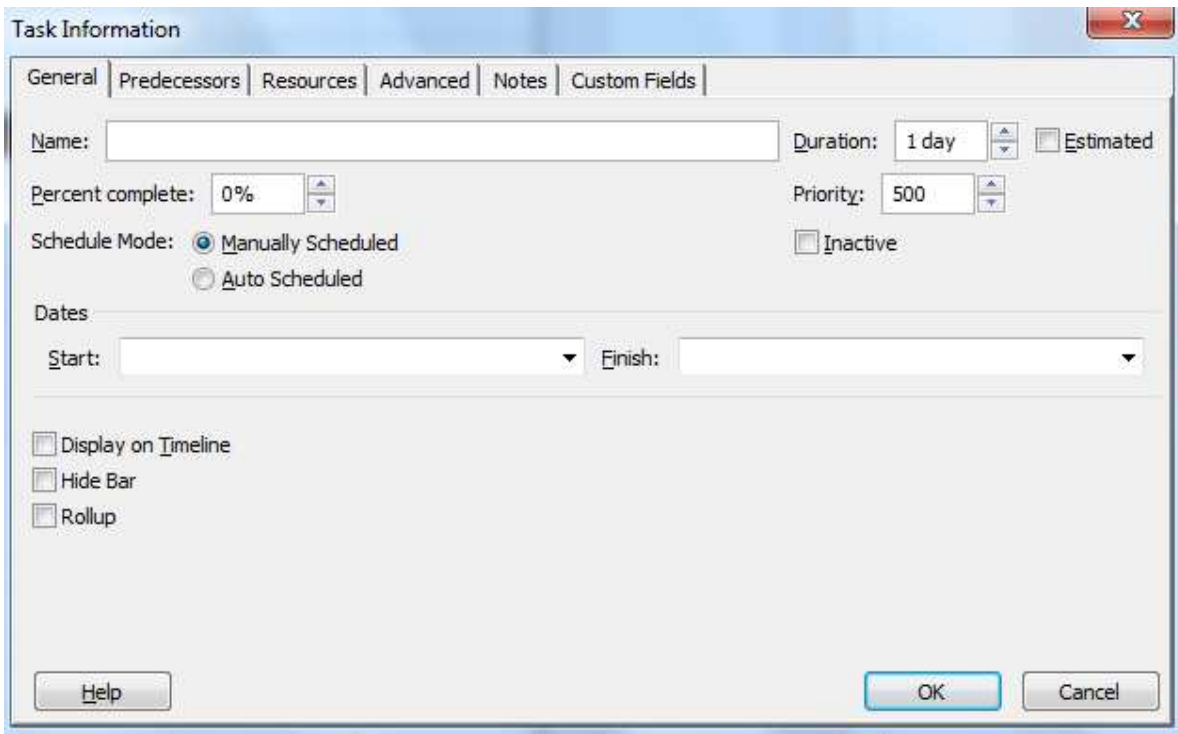
Step-04. Inserting task dependencies

1. Double click each task to get the **Task Information** dialogue box. Select the **Predecessors** tab, and select/insert the **ID** of those tasks on which this task is dependent. An example is shown in Figure 6. (Note: Precedence relationship will usually be *finish-to-start*, but lag or lead times can be added to offset or overlap dependencies.)

Figure 6.

Figure 7.

Tips-01: To view the Critical Path, select **Tracking Gantt** from **View** menu.

Step-05. Adding resources

1. Select **Gantt chart> Resource Sheet**. Add all resources by inserting name in the **Resource Name**

column (Figure 7). (Note: A resource is usually a person, <u>but</u> it can also be machines, rooms, equipment etc.)

- By double-clicking each Resource Name, you can view the **Resource Information** dialogue box. From this dialogue box, you can change the **Resource Availability** and **Costs**.

2. Select **Gantt chart< Tracking Gantt**. Select a Task. Then, select **Assign Resources**.

- In the dialogue box, select the name of the resource, and press **Enter**. Click **Close**.

Comment: Step-03 to Step-05 should be iterated until there is a realistic plan. Once there is a realistic plan, save the schedule as performance measurement baseline.
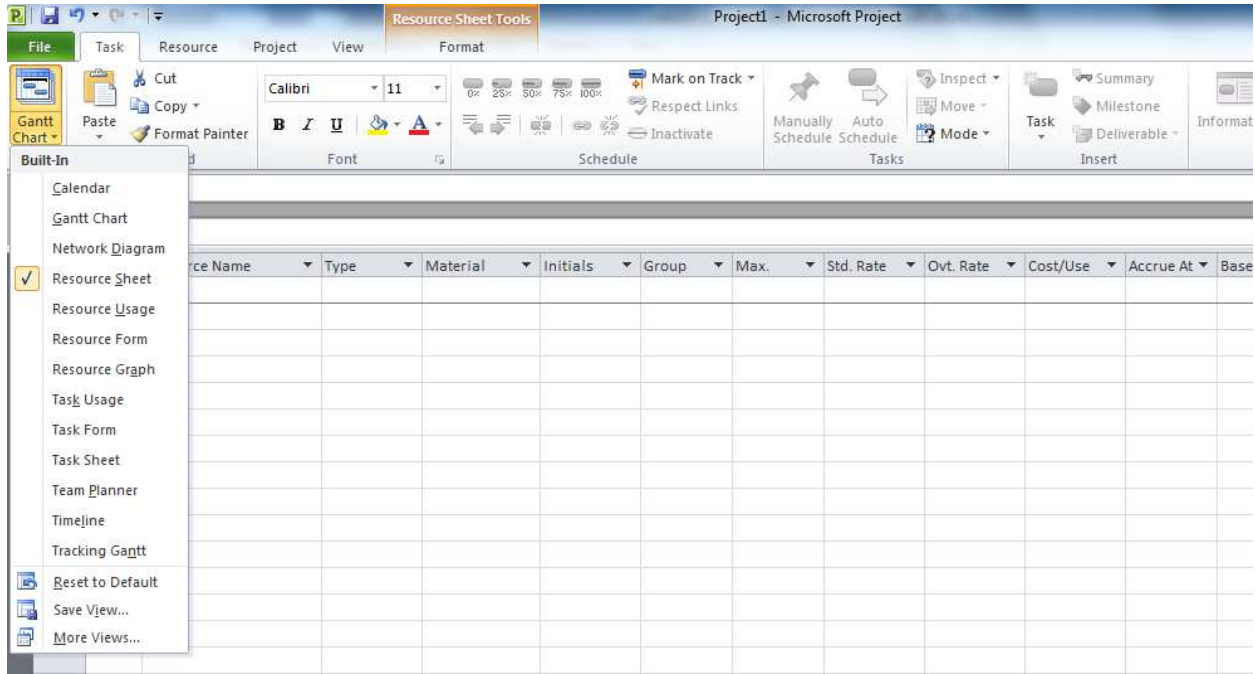

Figure 8.

Step-06. Resource over allocations

Scenario: If you assign Harry to work 6-hours on Task-1 and 6-hours on Task-2 on the same day, yet Harry only works 8-hours/day, then this is an over allocation.

1. Go to **Gantt chart> Resource Usage** to see the resource over allocations (usually highlighted in RED).

Step-07. Resource leveling

1. To invoke MS Project's built-in leveling process, select **Resource > Level Resources**

QUESTIONS

Consider the following task information -

Task	Developer	Estimate	Dependency
1. Finalize design of the AI engine	Mike	3 man-days	none

2. Implement AI component 1	Chen	7 man-days	1
3. Implement AI component 2	John	6 man-days	1
4. Implement frontend UI	Liu	5 man-days	none
5. Implement backend UI	Mustafa	10 man-days	none
6. Test AI	Nancy	3 man-days	2, 3
7. Test UI	Pierre	3 man-days	4, 5

Nancy and Chen will be on vacation in the first week of the iteration, and Liu is a part-time employee working 15 hours a week. For a full-time employee, the standard rate is $20/hr, and the overtime rate is $25/hr. For a part-time employee, the standard rate is $20/hr, and overtime rate is $25/hr. The computing center cost is $100/day and cost per use is $10.

A) Use Microsoft Project to schedule the iteration, coming up with the earliest finishing time. Submit the *.mpp file as: lab1_a.mpp

B) Take a snapshot of the tasks and Gantt chart (Including Critical Path). Submit the snapshot (Figure B) in your report. (Hint: see Report>Copy Picture)

C) Calculate the total estimated cost for this iteration.

Pierre is also assigned to Task "Test AI" (in addition to Pierre's original assignment).

D) Use Microsoft Project to schedule the iteration, coming up with the earliest finishing time. Submit the *.mpp file as: lab1_d.mpp

E) Take a snapshot of the tasks and Gantt chart (Including Critical Path). Submit the snapshot (Figure E) in your report.

F) Is there any resource allocation problem? If Yes –

   F.1) What is the problem?

   F.2) How can you solve this problem?

   F.3) Apply your solution in lab1_d.mpp (and save as lab1_f.mpp)

   F.4) Take a snapshot of the new tasks and Gantt chart. Submit the snapshot (Figure E) in your report.

   F.5) Compare Figure E and Figure F, and explain your observation.

G) If iteration lengths are 3 calendar-weeks each, what can you deliver, in this iteration?

Submit all *.mpp and the report file in a zip file: lab1_group_*group-number*.zip