DHA SUFFA UNIVERSITY
Department of Computer Science

CS-1201L
Introduction to Information and Communication Technology
Fall 2019

LAB 07 – Introduction to MS Project

OBJECTIVE(S)

- Learn about Creating a Project
- Learn about Creating Work Breakdown Structure
- Learn about Creating Gantt Chart

What is a Project?

A project is a series of tasks that need to be completed in order to reach a specific outcome. It can also be defined as a set of inputs and outputs required to achieve a particular goal.

Projects can range from simple to complex and can be managed by one person or a hundred. These are often described and delegated by a manager or executive. They go over their expectations and goals and it's up to the team to manage logistics and execute the project in a timely manner. Sometimes deadlines or a time limitation can also be given.

For good project productivity, some teams break the project up into individual tasks so they can manage accountability and utilize team strengths.

Microsoft Project

Microsoft Project is a project management software product, developed and sold by Microsoft. It is designed to assist a project manager in developing a schedule, assigning resources to tasks, tracking progress, managing the budget, and analyzing workloads.

Project's Workspace

The general workspace is divided in two main sides, on the left you have a quick table that will contain the full list of the tasks to be done; and on the right you have the Gantt Chart, which is used to check the job spread over the timeline above, indicating one day per column.

Creating a Project

Step 1 – Start Date

- Click Project tab → Properties Group → Project Information.

A dialog box appears. In the start date box, select the starting date.

Step 2 – Set Up Calendar

- Click Project tab → Properties Group → Project Information.

Click the arrow on the Current Date dropdown box. A list appears containing three base calendars.

- **24 Hour:** A calendar with no non-working time.
- **Night Shift:** Covers 11 PM to 8 AM, night shifts covering all nights from Monday to Friday, with one hour breaks.
- **Standard:** Regular working hours, Monday to Friday between 8 AM to 5 PM, with one hour breaks.

Step 3 – Adding Exceptions to Calendar

Exceptions are used to modify a Project calendar to have a non-standard workday or a non-working day, which could be because of a holiday or office celebrations or events other than the standard office work effort. You can also assign unique working hours for a particular resource as well.

- Click Project tab → Properties Group → Change Working Time.

A Change Working Time dialog box appears. Under Exceptions Tab click on the Name Field and enter event. In the Start field enter date, and then enter the same date in the Finish field. This date is now scheduled as a non-working day for the project. You can also verify the changed color indicated in the calendar within the dialog box as below.

Creating a Work Breakdown Structure

Before we start, let us assume that we already have a Work Breakdown Structure (WBS). A WBS is a hierarchical breakdown of a project into manageable chunks. It is graphical and shows all the project parts in an organized chart. It is used at the start of a project to define the scope, estimate costs, allocate resources, manage risk and create schedules. A good WBS looks like an Organization chart or Tree diagram, with all parts connected and no redundancy.

To create a WBS you must first identify the main deliverables of your project. Once this is done, you start breaking down the deliverables into smaller chunks of work and creating branches. You continue breaking down your tasks until you reach a point where they are manageable.

Creating a Gantt Chart

To create a Gantt chart from your WBS, you will need to update the branches, so they become a task list. Add the duration (usually in days) and a start date to each task. Link tasks together so they are in a logical order. Review your dependencies; what tasks are dependent on another being completed. Finally, add resources to each task.

Enter Task

In Gantt Chart View, click a cell directly below the Task Name column. Enter the task name.

Enter Task Duration

A duration of the task is the estimated amount of time it will take to complete a task. You can enter task duration in terms of different dimensional units of time, namely minutes, hours, days, weeks, and months.

Remember, Project default values depend on your work hours. So 1 day is not equivalent to 24 hours but has 8 hours of work for the day. Of course, you can change these defaults anytime you want.

You can also define when it starts under Start, and when it should finish under Finish. Once created, the new task appears on the Gantt Chart as a colored rectangle. The length depicts the entire duration of the task. You can customize its appearance by double-clicking on it. You can extend or shorten the time duration of the task directly on the Gantt Chart as well, by clicking and dragging from its edges, or move the time period by clicking and dragging it.

On the left, under Duration, you can see the total number of working days required between the Start and the Finish date. By default, the working days are counted from Monday to Friday, with no holidays in between.

Change Default Time Dimensions

You can set up the working days and the holidays by going to the Project tab on top, and then to Change Working Time.

Click Project tab → Properties Group → Click Change Working Time → Click Options.

Below, under Exceptions, add all holidays and non-working days you need. Inside the Gantt Chart, all non-working days and holidays are indicated by dark grey columns.

Splitting Tasks

Right-click on a task bar, and go to Split Task, you can split a task in multiple parts. This will have an impact on the Start and the Finish dates, but not on the Duration time. The several bars will become independent.

Adjusting the percentage of completion of a task

If you hover on the far left side of the bar, you will be able to adjust the percentage of completion of the task, indicated by a thin dark line on the bar itself. This follows the working days only.

Timeline

Besides the tasks list and the Gantt chart, you also have a timeline at the very top. This does not list all the tasks you have, but just the ones you prefer to show off. To add tasks to the timeline, just right-click on a task and go to Add to Timeline. To remove it, right-click on it from the timeline and go to Remove from Timeline.

Notes

You can add custom comments under Notes

Deadline

You can also specify the final Deadline for each task under Advanced tab in Task information dialog box. This should be the date you must take into account, and this is indicated as a down

green arrow on the Gantt chart. If you edit your task and you go over the Deadline, Project will warn you under the information column on the left.

Creating Milestones

In Project Management, Milestones are specific points in a project timeline. They are used as major progress points to manage project success and stakeholder expectations. They are primarily used for review, inputs and budgets.

Mathematically, a milestone is a task of zero duration. And they can be put where there is a logical conclusion of a phase of work, or at deadlines imposed by the project plan.

There are two ways you can insert a milestone.

Method 1: Inserting a Milestone

1. Click name of the Task which you want to insert a Milestone
2. Click Task tab → Insert group → Click Milestone. MS Project names the new task as <New Milestone> with zero-day duration.
3. Click on <New Milestone> to change its name. You can see the milestone appear with a rhombus symbol in the Gantt Chart View on the right.

Method 2: Converting a Task to a Milestone

1. Click on any particular task or type in a new task under the Task Name Heading.
2. Under Duration heading type in “0 days”. MS Project converts it to a Milestone.

Create Summary Task

There can be a huge number of tasks in a project schedule, it is therefore a good idea to have a bunch of related tasks rolled up into a Summary Task to help you organize the plan in a better way. It helps you organize your plan into phases.

Because summary task is not a separate task entity but a phase of the project with several sub-tasks in it, the duration of the summary task is from the start of the first sub-task to the finish of the last sub-task. This will be automatically calculated by MS Project.

Method 1

1. Select the names of the Tasks you want to group.
2. Click Task Tab → group Insert → Click Summary. MS Project creates a <New Summary Task>.

Method 2

1. You can click a particular Task’s row.
2. Select “Insert Task”. A <New Task> is created.
3. Now select the names of the Tasks you want to group.
4. Click Task tab → Schedule group → Click Indent Task

Link Tasks

Once you have a list of tasks ready to accomplish your project objectives, you need to link them with their task relationships called dependencies. For example, Task 2 can start once Task 1 has finished. These dependencies or logical relationships are called Links.

In MS Project, the first task is called a predecessor because it precedes tasks that depend on it. The following task is called the successor because it succeeds, or follows tasks on which it is dependent. Any task can be a predecessor for one or more successor tasks. Likewise, any task can be a successor to one or more predecessor tasks.

Types of Task dependencies

Following are the four types of task dependencies along with suitable examples.

- **Finish to Start (FS):** Finish the first floor before starting to build the second floor. Most used.
- **Finish to Finish (FF):** Cooking all dishes for dinner to finish on time.
- **Start to Start (SS):** When doing a survey, we would seek survey responses but will also start tabulating the responses. One does not have to finish collecting survey response before starting the tabulation.
- **Start to Finish (SF):** Exam preparation will end when exam begins. Least used.

Method:

1. Select the two tasks you want to link.
2. Click Task tab → Schedule group → Link the Selected Tasks.

Scheduling Tasks

MS Project by default sets new tasks to be manually scheduled. Scheduling is controlled in two ways.

Manual Scheduling: This is done to quickly capture some details without actually scheduling the tasks. You can leave out details for some of the tasks with respect to duration, start and finish dates, if you don't know them yet.

Automatic Scheduling: This uses the Scheduling engine in MS Project. It calculates values such as task durations, start dates, and finish dates automatically. It takes into accounts all constraints, links and calendars. To convert Task to Automatic Schedule:

- Click Task → Tasks group → Auto Schedule.

LAB ASSIGNMENT

1. Create a WBS and a Gantt Chart for
   a. Launching a new Product in Market
   b. Designing a Website
   c. Building a House

SUBMISSION GUIDELINES

- Take a screenshot of each task.
- Place all the screenshots in a single word file labeled with Roll No and Lab No. e.g. **'cs191xxx_Lab01'.**
- Convert the file into PDF.
- Place all the related files along with the PDF file in a folder labeled with Roll No and Lab No. e.g. 'cs192xxx_Lab01'.
- Submit the folder at LMS
- **-100%** policies for plagiarism.