Tracking and monitoring using MS Project:
a case using advanced scheduling techniques

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ABSTRACT

Project success includes meeting project deadlines when managing projects and is an important goal but is often difficult to attain. One technique that can help to keep a project on track is project scheduling which lays out the timeline for completion of project tasks. The basics of creating a project schedule are often taught in project management courses, however, the instruction predominately focuses on constructing the schedule using tools like Microsoft Project (MS Project). Although the initial schedule shows the plan for completing the project, unfortunately, it is not sufficient to aid the project manager in keeping the project on track from beginning to end. This case exercise teaches advanced skills in scheduling techniques such as how to perform tracking, how to extract information from the schedule using reports and how to analyze this information to monitor and then control a project with the ultimate goal of timely completion.

The exercise allows groups of students to simulate a real project through conducting a modified Request for Proposal (RFP) as a project team. The students will work as project teams to execute an 11-week project by working week to week in real time to complete planned tasks, execute controlling activities, and report project progress to management and other stakeholders.

Keywords: project management, scheduling, tracking, monitoring and controlling, MS Project

INTRODUCTION

Project scheduling is an important project management technique and Microsoft Project (MS Project) is a popular tool used by higher education project management courses to teach the basics (Schwalbe, 2016). Although this includes work breakdown structures, timelines, and Gantt charts, it is less likely to be taught how to use the schedule throughout the project to track and monitor progress, also referred to as controlling. Exercises throughout the project life cycle are necessary to educate students how to determine if the project is proceeding as planned and if not, to implement control actions to prevent time or cost issues. Schedule information is also used within status reports needed by stakeholders, including upper management and team members. Since project delays are common due to the many associated risks, controlling is very important to success and thus a necessary pedagogical learning outcome.

The exercises detailed within this outline allows groups of students to simulate a real project through conducting a modified Request for Proposal (RFP) as a project team. The objective is to execute an 11-week project by working week to week in real time to complete planned tasks, execute controlling activities, and report project progress to management. The team will use MS Project to help them identify which tasks to execute and create reports to monitor progress. Ultimately, the project team will control their project progress based on what they discover each week from specific monitoring techniques aided by MS Project.

The reports will help pinpoint delays, requiring teams to identify issues, then decide and implement a course of action to get the project back on track. Once the problem is addressed, the reports will be used to determine if the project stays on track. It is also possible for the reports to identify tasks completed ahead of schedule to which the team can decide how to respond, such as beginning other tasks early to potentially advance the completion date. Ultimately, the collection of reports produced during the project will tell the story of how well the project progressed, facilitating valuable lessons for students.

Overall, this exercise will advance student knowledge along with developing expertise with MS Project that will be transferrable to similar scheduling tools and real-world situations. The exercise requires a basic knowledge of MS Project 2016 or 2019, or at least completion of a training exercise like the one by Schwalbe, Appendix A: Brief Guide to Microsoft Project Professional 2016 (Schwalbe, 2016).

LEARNING OBJECTIVES

1. Extend MS Project skills by learning to track and monitor a project
2. Produce MS project reports to assist with tracking:
   a. Upcoming tasks report
   b. Late tasks report
   c. Critical tasks report
   d. Project overview report
   e. Milestone report
3. Analyze reports to create project status reports
4. Practice collaborating with team members to complete a project
5. Demonstrate use of a decision matrix
6. Practice presenting project results as an executive summary
7. Prepare for a project audit by organizing documentation

OVERVIEW

Students act as new employees of "Medium Financial Corporation", a medium-sized financial services company with approximately 1,000 employees that sells financial products and services. The company is profitable, but they have several outdated applications with accompanying processes and software systems (payroll, timekeeping, purchasing, etc.). Note that herein, an application is defined as a software system run on a computer, operated by people in one or more departments who use specific processes and data. Therefore, something like Microsoft Excel or Microsoft Word are not considered applications, they are software tools.

Working in teams of about 4 people and prior to project kick-off, students meet to determine which existing application they would like to replace. It can be helpful to select an application that someone on the team is familiar with or has worked with, but this is not required. Examples of potential applications that can be selected are:

- ERP (Enterprise Resource Management) System
- CRM (Customer Relationship Management)
- HRIS (Human Resource Information System)
- Helpdesk Support System
- Accounting System
- Materials Management/Inventory System
- Software Development repository system

There are several intermediate student submissions required as outlined in Table 1; these are noted throughout the instructions below with a bracket title. For example, [Submission 1] is a one to two paragraph document requesting to work on replacement of a specific application and explaining why it was chosen. The selected application must be approved by the instructor (project sponsor) in order for the team to begin work. The project ends with a recommendation to the sponsor for a specific software package to purchase. Note that the project scope only involves developing a vendor selection using the weekly instructions detailed below; it does not include the simulated purchase or implementation of the new software. That said, ease of implementation may be considered in making the selection decision.

After the instructor approves the project, and prior to beginning the weekly work outlined below, the team will self-select a project manager. Additionally, one student will serve as the application expert, representing the needs and desires of the sponsor's department where the software will be installed (this role should be filled by a student with prior knowledge or experience with the selected application). However, during project execution, all students, including the project manager and application expert, perform a search for new software using the modified RFP process as described in Table 2 (Appendix).

During the assignment, the team must store all project-related documents in a repository of their choosing, such as Microsoft Teams or Google Docs. Also, students should use a "savable" discussion forum or a chat app for documentation as they work through questions and issues between team meetings.

The following are weekly instructions on how to complete the project and requirements for multiple submissions. The instructor will establish a specific calendar date for Monday of Week 1 because some tasks, such as status reporting, are for specific weeks.

RFP PROJECT INSTRUCTIONS BY WEEK

Week 1

1. A <u>team contract</u> is created [Submission 2] to establish student communication and engagement. It may be helpful to discuss team norms, rules and/or guidelines.
2. Teams must meet weekly, preferably on the same day and time <u>each week</u> to check on project progress and plan next steps. Meetings may be held virtually (for online classes) or a hybrid of virtual and face-to-face (on-campus) courses. Note that individual task status does not get reported here since it will be reported on the Weekly Actuals Tracking form, Figure 1 (Appendix). Guidelines are as follows:
   - On a rotating basis, one team member creates an agenda, leads the meeting, takes and publishes minutes
   - Discuss important project issues/occurrences, focusing on problem solving.
   - Discuss schedule changes, future deliverables or celebrate major accomplishments.
   - During Week 1, discuss tasks for the first couple of weeks, especially Weeks 4 and 5.

Week 2

1. A project charter of one to two pages using the example in Figure 2 (Appendix) is created [Submission 3]. It serves as an overview and verification of the project goals, objectives, general timeline, and budget as communicated in the overview. The following describes key sections:
   - "Start Date" and "Finish Date" use actual calendar dates from Week 1 to Week 11.
   - "Budget" is an educated guess of total cost; the degree of accuracy may be low due to so many unknowns at this point. Labor should not exceed $50,000. Software cost should not exceed $100,000 (this will help with researching application options).
   - "Project Objectives" are the company goals that necessitate or justify the project.
   - "Success Criteria" is a statement of tangible measures of project success at project completion. The team should think of key deliverables and include expectations for time/duration, cost, and requirements.
   - "Approach" is a high-level description of method/tasks the team will perform during the project which will subsequently be identified in more detail within the Work Breakdown Structure (WBS).
   - "Roles and Responsibilities" list the key stakeholders; create names as needed. The role refers to the stakeholders job on the project like sponsor, end-user, etc. Position is the title of the stakeholder including their department name, e.g., Accounting Manager.
2. With an RFP project, it is important to identify selection criteria before researching potential suppliers and their products. Create a <u>Weighted Decision Criteria Matrix</u> using the example in Figure 3 (Appendix). The team should develop a list of 4 to 6 decision criteria with relative weights of importance for software selection. The matrix with the weights but <u>without the scores</u> is sent to the instructor [Submission 4].

   Near the end of the project, after software presentations by the team members, each software package will be evaluated by scoring it in the matrix. The highest value helps

identify the recommended software but is not the only factor determining the recommendation. The team will turn in the fully completed matrix at the end of the project after all software evaluations.

Week 3

1. Create a detailed WBS [Submission 5]. A "starter" WBS document is provided as seen in Table 3 (Appendix); teams need to add tasks in each life cycle phase to complete. A project management textbook is a good resource to determine standard project management tasks normally performed for each project phase (Larson & Gray, 2021; Kerzner, 2017; Schwalbe, 2021). The WBS must include the following tasks outlined in these case instructions, including:
   - all assigned life cycle tasks/deliverables like the WBS, Project Charter, , MS Project Schedule, etc.
   - end-user review and participation
   - team meetings
   - updating of schedule tasks
2. Once all tasks are created, the team identifies and assigns any necessary task dependencies (predecessors).
3. The project manager leads a discussion for the team to assign a (single) responsible team member to each task. This includes summarizing the research and presenting it to the other team members, similar to a vendor software demonstration. Recall that each team member (including the manager) selects one potential software application/supplier to research using the RFP process.
4. Team members determine a time estimate (duration) for their assigned tasks.

Week 4 (tasks for this week require a lot of time to complete)

Project Schedule Creation
1. Once the WBS has been approved, create a basic schedule in Microsoft Project 2016 or 2019 using the following steps (this may take a couple of hours). See additional tips in Table 4 Exercise Tips and Techniques (Appendix):
   a. Project will run from the <u>Monday calendar date of Week 1 through no later than the Friday calendar date of Week 11</u>
   b. Enter the project name and project start date
   c. Set the Work Calendar if needed (using the default is recommended)
   a. Enter all the task descriptions in "verb-noun" format
   d. Enter duration for each task
   e. Enter task predecessors (dependencies)
   f. Enter responsible resource(s) for each task (more than one is ok when needed)
   g. Enter milestones throughout the schedule (these are zero-day tasks); identify a minimum of 4 milestones for each project phase.
   h. Enter meetings as recurring tasks
2. Create a "Critical Tasks" report, Figure 4 (Appendix) using MS Project to determine the critical path. This is important since if any of these tasks are late, they will delay the entire project, but if needed, non-critical tasks can be moved around with less impact.

3. Set the baseline and add the word "baseline" to the original schedule title. Then save the completed version of the schedule as the <u>baseline schedule [Submission 6].</u>
4. During the coming weeks, the team will have software demo meetings where each team member will present their software in a manner like a vendor demo including:
   - a description of the software and how it operates while addressing each of the decision matrix criteria.
   - At the end of a presentation, team members will rate the software using the Weighted Decision Criteria Matrix.
   - When all presentations are completed, the ratings will be combined into one final Weighted Decision Criteria Matrix for the project.
   - All software scores will be reviewed by the team, and after discussion, a winner will be selected.
   - Note: individual software reports must be combined into a single research report for the final project documents.

Week 5 – Tracking

The purpose of tracking as the project proceeds from week to week is to allow the team to determine if the project is ahead or behind schedule, allowing enough time to potentially fix any delay or take advantage of any early task completions. Several MS Project reports and views are useful for this.
1. Begin working on the project on the start date by performing tasks as scheduled.
2. Each team member completes their own "Weekly Actuals Tracking Form", Figure 1 (Appendix) to report progress of their assigned tasks during the reporting period (each work week). The form is created by running an <u>Upcoming Tasks report (</u>found in Dashboard reports), Figure 5 (Appendix) and a <u>Late Tasks report</u>, Figure 6 (Appendix), in In-Progress reports. NOTE: If a report needs to be run for a prior date, first set the "Status Reporting Date" (in Project Information) before running the report. This will not be a permanent change.
3. Updating the MS Project schedule will be performed at a minimum of every two weeks by team members who should rotate these duties. The Weekly Tracking Reports will be used as input to update the schedule.
4. To perform tracking, select the "Tracking Gantt" view, Figure 7 (Appendix) and by right-clicking in the upper left corner box of the chart and selecting "Tracking." New columns will appear related to tracking, including "% complete, actual start date, actual duration."
   - Update task completion by entering the actual start date from the Weekly Tracking Form, then the percent complete.
   - If the task is in-progress, enter the start date and one of the suggested percentages defined below:
     - 0% for tasks that are started but not halfway complete
     - 50% for tasks that have been started and are at least halfway completed
5. When tracking is completed for the reporting period, create, and save an MS Project "Work Overview Report" found in Dashboard reports, Figure 8 (Appendix). This will be needed for status reporting.
6. Save the completed MS Project schedule with the word "tracking" and the reporting period date in the file name.

Week 6 - Status Reporting

Project managers and their teams should report status to their stakeholders periodically. For this project, three status reports will be produced as specified below. The MS Project reports referred to earlier can be used to inform the status reporting. Learning to create and use these reports is one of the main objectives of this exercise. Completion of the status report should rotate among team members and be developed by the following steps:

1. Create the following three MS Project reports for the current reporting. These will be added to the status report (created in Excel) by copying them into their own Excel worksheet/tab in the report.
    - Upcoming Tasks Report, Figure 5 (Appendix)
    - Late Tasks Report, Figure 6 (Appendix)
    - Work Overview report, Figure 8 (Appendix)
2. Team members will review and discuss their reports to prepare an overall summary of project status for the current reporting as well as identify major issues.
3. The first page of the status report is a dashboard style form showing a high-level overview for the reporting period. The format is shown in Figure 9 (Appendix). A description of key contents of the status report sections is as follows:
    a. "Overall Project Status" reports time as either "on target", "ahead of schedule" or "behind schedule." The table should be highlighted in the appropriate color to allow the reader to determine status at a glance: green for on target or ahead of schedule, yellow for behind schedule and red for critically behind schedule.
    b. "Brief project status description" provides a detailed description to communicate the overall status of the project gleaned from the discussion of the created reports mentioned above. Merely stating "on target" or "behind" schedule is not enough, details about why the status is good or bad is required.
    c. "Issues" lists major issues affecting the project with both a short description and a current status, e.g., in progress, completed, etc. If an issue is a major factor in the project status it is helpful to include some details about it in the project status description.
    d. "Project Milestone Status" create the Milestone report Figure 10 (Appendix). Milestone names and scheduled due dates from the report should be entered in the first version of the status report and updated in subsequent reports. Actual completion date and milestone completed (y/n) will be updated in the reporting period in which they are completed.

Week 7

1. Continue working the project and update the Tracking Gantt as per steps in Week 5 (Tracking).
2. Create Status Report 1 to cover Weeks 1 through 6.
3. Submit the status report [Submission 7.1] and updated Tracking Gantt [Submission 7.1] at the beginning of Week 8.

Week 8

1. Continue working the project and update the Tracking Gantt as per steps in Week 5.
2. Create Status Report 2, covering Weeks 7 and 8.
3. Submit the status report [Submission 7.2] and updated Tracking Gantt [Submission 7.2] at the beginning of Week 9.

Week 9

1. Continue working the project and update the Tracking Gantt as per steps in Week 5.

Week 10

1. Continue working the project and update the Tracking Gantt as per steps in Week 5.
2. Create Status Report 3, covering Weeks 9 and 10.
3. Submit the status report [Submission 7.3] and updated Tracking Gantt [Submission 7.3] at the beginning of Week 11.
4. All tasks except the summary and presentation should be completed by the end of week 10.

Week 11 – Project Wrap-Up

1. Create a Final Project Summary report (4 to 6 pages, double spaced) [Submission 8] which will serve as an executive summary and will include the following in this order:
    a. Group number and team members with their assigned role
    b. Application: briefly describe the type of application the team selected, e.g., CRM. Describe why it was chosen and what it is used for.
    c. Embed the completed Weighted Decision Matrix with final scores for each software package into the summary. Include an explanation of how it was used to make the final decision.
    d. Include a brief summary of each software package and its capabilities from the investigation (approximately a ½ page for each), including who completed the investigation. This should not be copied and pasted from the vendor's materials; summarize it including information from the vendor.
    e. A final decision on the software selected and supporting reasons for the selection, i.e., what was the main deciding factor(s) for the decision.
2. Hold a "Lessons Learned" meeting about the process of running this project from Week 1 to 10 and identify at least 5 things that went well and 5 things that should be different next time. Create a 1-page summary of the lessons learned [Submission 8].

Week 12 – Assembling Summary documents and creating the project Presentation

The purpose for assembling all the project documents is to document the entire project in one place. Many companies require this level of documentation, and it is needed for project audits. Also, these documents can serve as a reference for team members after the course. Gather

all project submission documents and <u>name them with the submission number as listed in Table 1 [Submission 9]</u>. Zip all files together and name the file with the team's name. Only the project manager will submit the zip file. All meeting minutes should be zipped together in one folder [Submission 10]. The contents of the final project presentation are listed below.

Final Project Presentation Guidelines

Each team will present their project to the class and each team member must deliver a part of their presentation. The presentation [Submission 11] should be 10 minutes maximum and include the following:
1. Brief overview and background about the type of application selected (e.g., CRM) and why it was chosen.
2. Final Weighted Decision matrix & vendor selected with justification for selection
3. Brief description of the four vendors the team investigated
4. Top four lessons learned
5. Include the first page of the second status report using a screen shot

CONCLUSION

In the 11 weeks, the team should have learned how to create and use MS Project reports they may not have seen before to track the 11-week project. Students learn to use the reports to create status reports to inform stakeholders of the overall project status and allow team members to monitor the project and correct delays in a timely manner. They learn to use a criteria matrix to make decisions, which is applicable to many situations and, finally, how to properly document a project.
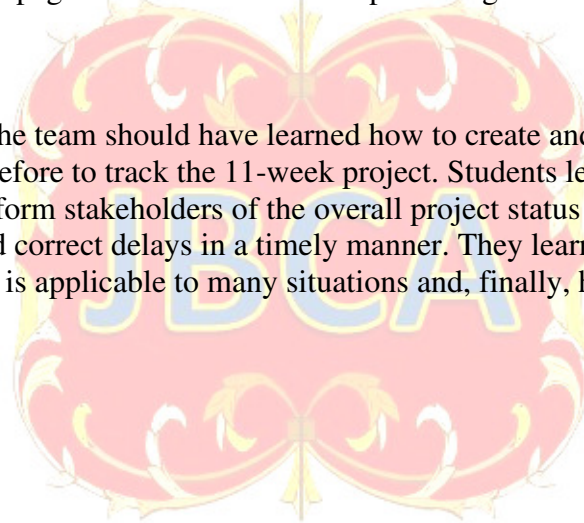
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Appendix A

Figure 1: Weekly Actuals Tracking Form (Example)

WEEKLY ACTUALS TRACKING FORM				Reporting Period: 1/9 thru 1/20			
Task Name	**Start**	**Finish**	**% Complete (0, 50 or 100)**	**Resource Names**	**Actual Finish**	**Actual Start**	**Comments**
Create Team Charter	1/3/22	1/5/22	50%	R. Smith		1/5/22	

Figure 2: Project Charter (Schwalbe, 2021)

Project Title:			
Start Date: **Finish Date:**			
Budget:			
Project Manager: Name, phone, e-mail			
Project Objectives:			
Success Criteria:			
Approach:			
Roles and Responsibilities			
Name	*Role*	*Position*	*Contact Information*
Comments: (Handwritten or typed comments from above stakeholders, if applicable)			

Figure 3: Weighted Decision Criteria Matrix Example (Schwalbe, 2021)

		Software 1	**Software 2**	**Software 3**	**Software 4**
Decision Criteria	**Weight**	**Score**	**Score**	**Score**	**Score**
Ease of Use	20 %	1	5	3	1
Criteria 2	?%				
Criteria 3	?%				
Criteria 4	?%				
Final weighted scores	100%	??			

Figure 4: Critical Tasks report
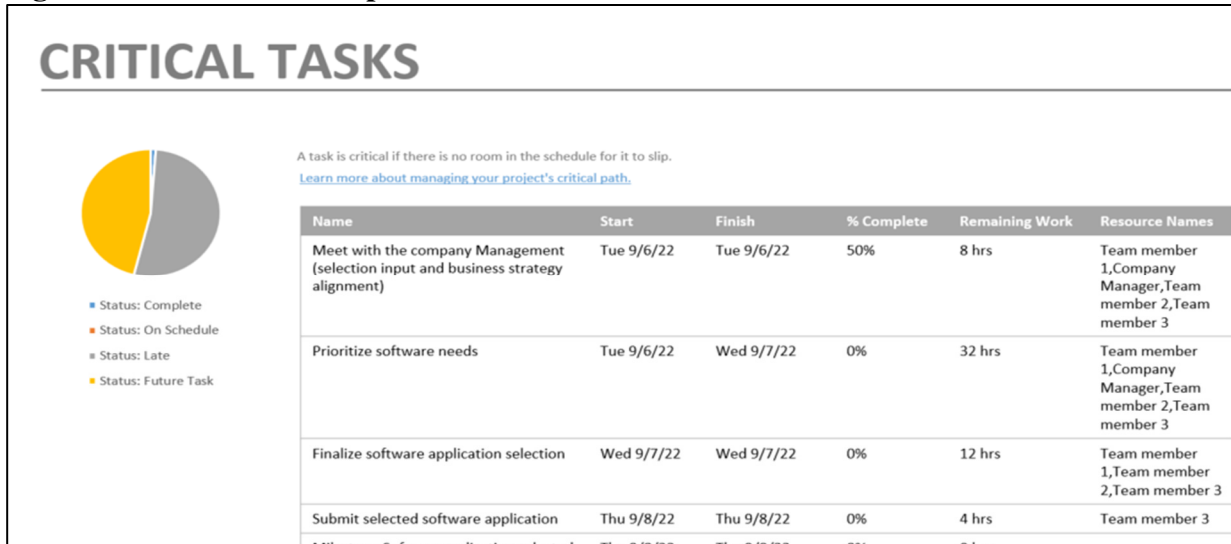
Figure 5: Upcoming Tasks Report
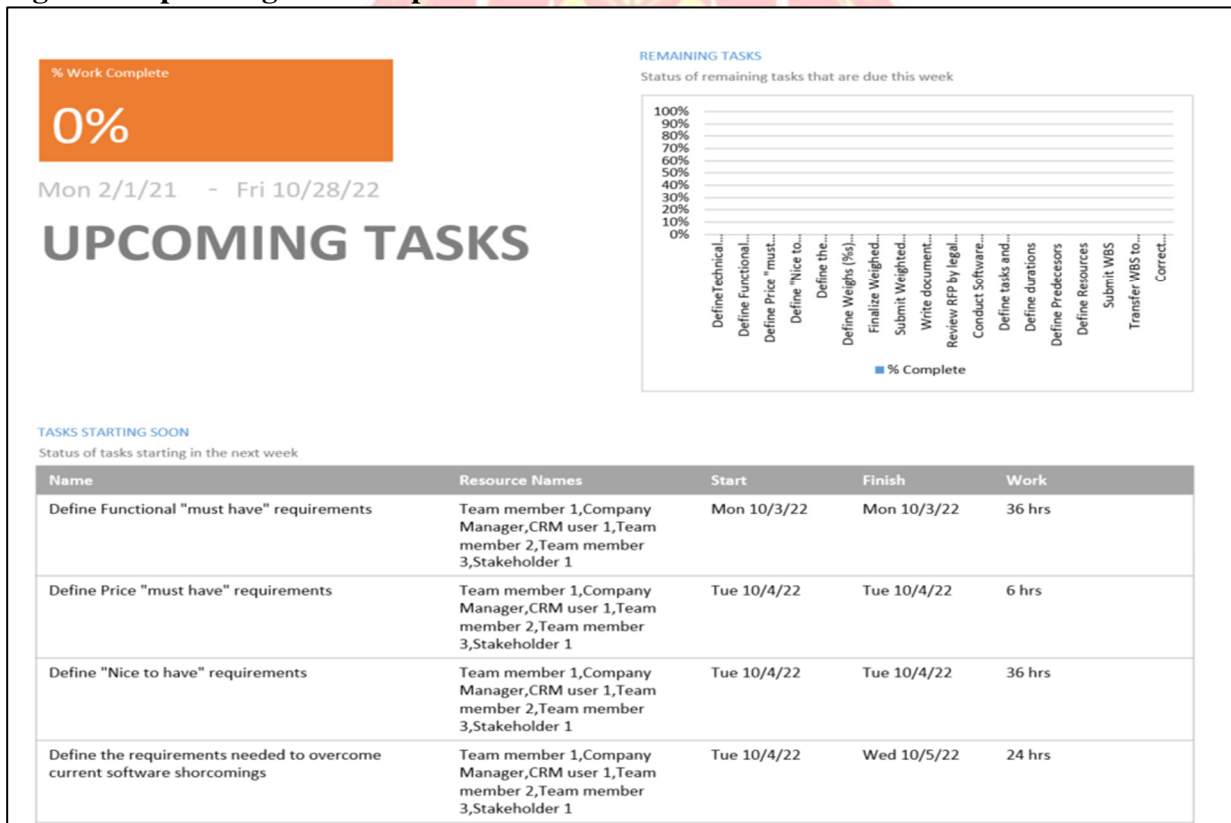
Figure 6: Late Tasks Report

LATE TASKS

Tasks that are late as compared to the status date. A task is late if its finish date has passed or it is not progressing as planned.

Name	Start	Finish	% Complete	Remaining Work	Resource Names
Evaluate possible software applications options	Mon 9/5/22	Mon 9/5/22	0%	32 hrs	Team member 1,Company Manager,Team member 2,Team member 3
Meet with the company Management (selection input and business strategy alignment)	Tue 9/6/22	Tue 9/6/22	0%	16 hrs	Team member 1,Company Manager,Team member 2,Team member 3
Prioritize software needs	Tue 9/6/22	Wed 9/7/22	0%	32 hrs	Team member 1,Company Manager,Team member 2,Team member 3
Finalize software application selection	Wed 9/7/22	Wed 9/7/22	0%	12 hrs	Team member 1,Team member 2,Team member 3
Submit selected software application	Thu 9/8/22	Thu 9/8/22	0%	4 hrs	Team member 3
Milestone Sofware application selected	Thu 9/8/22	Thu 9/8/22	0%	0 hrs	

Status: On Schedule ■ Status: Late
■ Status: Future Task

Figure 7: Tracking Gantt View

	Task Name	Act. Start	Act. Finish	% Comp.	Phys. % Comp.	Act. Dur.	Rem. Dur.	Act. Cost	Act. Work
0	CRM Selection upgrade RFP project	Mon 2/1/	NA	1%	0%	1.63 days	50.06 days	$4,000.00	40 hrs
1	INITIATING	Mon 9/5/22	NA	10%	0%	1.12 days	9.75 days	$4,000.00	40 hrs
2	Create RFP Project Selection team	Mon 9/5/22	NA	17%	0%	1.25 days	6.25 days	$4,000.00	40 hrs
3	Determine application to be replaced	Mon 9/5/22	NA	36%	0%	1.25 days	2.25 days	$4,000.00	40 hrs
4	Evaluate possible software applications opti	Mon 9/5/22	Mon 9/5/22	100%	0%	1 day	0 days	$3,200.00	32 hrs
5	Meet with the company Management (selec	Tue 9/6/22	NA	50%	0%	2 hrs	2 hrs	$800.00	8 hrs
6	Prioritize software needs	NA	NA	0%	0%	0 days	1 day	$0.00	0 hrs
7	Finalize software application selection	NA	NA	0%	0%	0 days	0.5 days	$0.00	0 hrs
8	Submit selected software application	NA	NA	0%	0%	0 days	0.5 days	$0.00	0 hrs
9	Milestone Sofware application selected	NA	NA	0%	0%	0 days	0 days	$0.00	0 hrs
10	Define Project Team roles	NA	NA	0%	0%	0 days	4 days	$0.00	0 hrs
11	Select software selection Commitee membe	NA	NA	0%	0%	0 days	1 day	$0.00	0 hrs
12	Find a consultant knowledgeable in the sele	NA	NA	0%	0%	0 days	2 days	$0.00	0 hrs
13	Define liason between vendors and compan	NA	NA	0%	0%	0 days	0.5 days	$0.00	0 hrs
14	Define and sign team contract	NA	NA	0%	0%	0 days	0.5 days	$0.00	0 hrs
15	Identify Stakeholders	NA	NA	0%	0%	0 days	1.88 days	$0.00	0 hrs
16	Identify CRM software stakeholders	NA	NA	0%	0%	0 days	1 day	$0.00	0 hrs
17	Stakeholder Register	NA	NA	0%	0%	0 hrs	1 hr	$0.00	0 hrs
18	Stakeholder Management Strategy	NA	NA	0%	0%	0 days	0.5 days	$0.00	0 hrs
19	Stakeholder Meeting	NA	NA	0%	0%	0 hrs	2 hrs	$0.00	0 hrs
20	Develop Scope Statement	NA	NA	0%	0%	0 days	0.5 days	$0.00	0 hrs

TRACKING GANTT

Figure 8: Work Overview report

Figure 9: Project Status Report

PROJECT STATUS REPORT			Reporting Period Weeks:	9/5/2022 thru 9/16/2022
Project Name:	RFP MS Project Exercise			
Project Team:	*Team 4*			
OVERALL PROJECT STATUS				
	Current Week Status		**Previous Week Status**	
Project Schedule:	*On target*		*On Target*	

Brief project status description: (give an overall summary of how the project is going)

This status covers the initial weeks of the project and everything is going well despite some issues. The application selected was Customer Relationship Management (CRM) and initial search for potential software has begun. A major issue occurred with non-performance and lack of communication with one of the team members. The rules of the team charter were reviewed and after a failed attempt to resolve the issue the team member was removed from the team.

ISSUES *(LIST MAJOR ISSUES AFFECTING THE PROJECT HERE WITH THEIR STATUS)*

	Issue Description	Status
1	Removal of non-performing Team Member	Completed
2		

PROJECT MILESTONE STATUS

	Milestone Name	Scheduled Due Date	Actual Completion Date	Milestone Completed? (Y/N)	Comments
Initiating					
	Team Charter Completed	9/7/2022	9/7/2022	Y	
	Application Selected & approved	9/7/2022	9/7/2022	Y	Group decision for application
	Project Charter Completed	9/16/2022	9/16/2022	Y	
Planning					
Executing					
Closing					

◄ ► **Overall Status** Upcoming Tasks Late Tasks Work Overview Report ⊕

Figure 10: Milestone report

MILESTONE REPORT

LATE MILESTONES		MILESTONES UP NEXT		COMPLETED MILESTONES	
Milestones that are past due.		Milestones due in this month.		Milestones that are 100% complete.	
Name	**Finish**	**Name**	**Finish**	**Name**	**Finish**
Milestone first status report completed	Wed 3/10/21	Milestone Sofware application selected	Thu 9/8/22		
Milestone 2nd status report completed	Wed 3/24/21	Milestone Project charter completed	Mon 9/19/22		
Milestone first status report completed	Wed 4/7/21	Milestone CRM needs defined	Fri 9/30/22		
Projected completed	Fri 4/16/21	Milestone RFP ready	Tue 10/11/22		
		Milestone Schedule created	Wed 10/12/22		
		Milestone Sofware research completed	Mon 10/17/22		
		Milestone RFP pre selection	Mon 10/24/22		
		Final Software Vendor Selected	Fri 10/28/22		
		Milestone first status report completed	Wed 3/10/21		
		Milestone 2nd status report completed	Wed 3/24/21		
		Milestone first status report completed	Wed 4/7/21		

Table 1: Exercise Submission Chart

Wk	Submit Number	Submission Name	Activity
0	1	Application request	assignment review, team creation and roles, application selection
1	2	Team Contract	team contract, meeting schedules
2	3	Charter	create project charter
	4	Decision Matrix	develop decision matrix with decision criteria
3	5	WBS (Excel)	develop tasks and establish WBS work packages
4	6	Baseline Schedule	create MS Project file/schedule
5	None		prepare Tracking Gantt
6	None		prepare reports for status reporting
7	7.1	Status Report 1 and Tracking Gantt 1	summarize project status for Weeks 1 – 6
8	7.2	Status Report 2 and Tracking Gantt 2	summarize project status for Weeks 7 – 8
9	None		continue tracking
10	7.3	Status Report 3 and Tracking Gantt 3	summarize project status for Weeks 9 – 10
11	8	Final Summary report and Lessons Learned	create Final Summary report and Lessons Learned summary for inclusion in final summary documents
12	9, 10 & 11	Final Summary documents, Meeting Minutes, Presentation	assemble final summary documents; assemble and zip all meeting minutes into one folder; create presentation

Table 2: Modified Request for Proposal (RFP) Process

An RFP is a formal process commonly used in organizations to conduct purchasing of software/application. The modified RFP process eliminates all communication with external vendors. Instead, team members take on the role of the vendor and obtain information by doing research on the internet and on the vendors website. The main steps are as follows:	
1	Determine the type of application to be replaced, e.g. Payroll System
2	Create a set of selection criteria for choosing the software. This would be things important to the end-user, e.g. software cost, ease of use, etc. Create the decision matrix with these criteria.
2	Use the internet to do a wide search of vendor software for the selected application
3	Narrow down the vendors to one per team member
4	Each team member performs more in-depth investigation for their assigned software and prepares a presentation similar to a vendor demonstration for the other team members to familiarize them with their software

5	Each team member should evaluate the software after its' presentation by using the decision matrix
6	All evaluations are collated to determine the highest score
7	Team members will discuss the results and come to a joint conclusion of the winner

Table 3: Work Breakdown Structure (WBS) Template and starter tasks for RFP Project

	Task Name/Description
1.0	**INITIATING**
1.1	Create RFP Project Selection team
1.1.1	Determine application to be replaced
1.2	Identify Stakeholders
2.0	**PLANNING**
2.1	Meet with customer to discuss existing software & processes
2.2	Identify evaluation criteria for applications
2.3	Identify potential applications/software
2.4	Create project WBS
2.5	Create project schedule in MS Project
3.0	**EXECUTING**
3.1	Research potential application/software #1
3.2	Conduct RFP process with Application/Software Vendors
3.3	Presentation for application/software #1
4.0	**MONITORING & CONTROLLING**
4.1	Weekly team meetings
4.2	Weekly submission of actuals from team members
4.3	Track project actuals against schedule
4.4	Create Project Status Report #1
5.0	**CLOSING**
5.10	Conduct Lessons Learned meeting
5.20	Create final RFP Case Project Book

Table 4: Exercise Tips and Techniques

Week	Topic	Tips and Techniques
1	Team Contract	There are many team charter/contract templates available online if you choose to use one, but keep it simple or create your own with guidelines for the following areas: • Rules of conduct such as how quickly emails are answered or how far in advance members must notify others if they are not available to attend a scheduled meeting. • Participation guidelines • Communication guidelines • Problem solving guidelines
2	Project Charter	• Often a charter is created early in the project, and it may take some time to finalize cost and timing. Management would likely be looking for a ballpark budget number to decide if the project is viable. • Budget includes direct costs like labor, do not include overhead. To estimate labor, approximate total work hours times a rate of $100/hour. Since this is an exploration project, there would not be hardware or software costs because the application would not be purchased as a part of this project, only recommended. • This is normally an official document would require stakeholder signatures representing permission for the team to begin work and proceed to the next step of the project. Signatures will not be needed in this exercise, just approval from the instructor.
2	Decision Matrix	• Consider the end-user/customer and their needs as well as their shortcomings when identifying selection criteria, e.g., ease of use would be important for a low-tech user • If cost is a deal breaker it can be one of the selection criteria • Weight each decision criteria based on its importance to the stakeholders. The sum of all decision weights must total 100%. • The final weighted score for each software is calculated by multiplying the weight times the score for each criterion. The sum of criteria scores for a software package will create a final weighted score for that software.
3	WBS	• Mind-mapping is a popular process for identifying tasks for a project in a more free-form non-linear fashion (needs citation source??). • The mind-map can then be organized into the WBS format. • Remember, this is a modified RFP, and the team will stop at selection of the vendor and software thus purchase and/or implementation are out-of-scope. • Note that tasks may have more than one person assigned to do work, but only one can be responsible for completion.
4	MSP Schedule	• It is helpful to include outline numbers in the task list. • Work Calendar: When setting the Work Calendar, you can use the default standard calendar of 8-hour days Monday through Friday. You

Week	Topic	Tips and Techniques
		may also use a calendar which includes weekends if desired. Regardless, enter standard US national holidays as non-working time. • Tasks: Each task should be estimated in days or hours using the duration field. • Duration = work effort + lag time. For instance, when researching a vendor and their software, it may take a whole week where little is done each day, but it won't take 40 hours. Therefore, the estimate should be 1 day plus a 4-day lag. Some items will only need a portion of a day (e.g., 0.5 days). There will also be a few items that only need estimates in hours like team meetings or updating status (e.g., 1.5 hours, 1 hour or 0.5 hours). • Tasks can be scheduled using auto-schedule. A combination is more common by starting with auto-schedule and changing individual tasks to manual when a specific date is needed and should not change if the schedule is adjusted. • Recurring tasks – repeating tasks (weekly team meetings and status updates) should be set up as recurring tasks since they occur for about the same duration each week and maybe at the same time. • Dependencies: Task dependencies are created using the predecessor field. • Create task relationships/dependencies by thinking about the order tasks will occur and what must be accomplished prior to that task. It is possible for a task to be a predecessor to more than one task. For instance, research on a vendor's software must precede the recommendation for the software and prior to a demo by the vendor representative. • Milestones: The schedule must include milestones to help with gauging progress at a high level. Milestones are check-points throughout the project like road signs on a highway that periodically tell you the number of miles to a key destination city. For instance, have a milestone to indicate a group of important tasks are finished, e.g., "Vendor research completed." • Resources: Set up resources by entering them in the resource sheet of MS Project first, this will become the resource pool and makes it easier to create tasks. • Each team member is a resource and should be added to the schedule and assigned tasks. • Each resource will have a rate of $100/hour for the standard rate and $125/hour for the overtime rate. This will allow for some budget tracking using MS Project • A task may have one or more resources assigned to it. For example, scoring on decision criteria for a software will require all team members. • Resource overallocations: When the schedule is completed, it should be reviewed for resource overallocations. This can be done using the Resource Usage and Resource Graph view in MS Project.

Week	Topic	Tips and Techniques
		• A few over-allocations are acceptable; however, fix those that are extremely overallocated (200% or more). Resources that are overallocated are likely not to finish their tasks by the due date because they don't have enough time. (Tip: create a new copy of the schedule before working on overallocations since undo will not necessarily reverse what you just did.) • Fixing overallocations can sometimes be accomplished by adding resources to a task that is not over-allocated during that time, or by increasing the duration of a task. Verify the method chosen was effective. (Tip: Do not use auto leveling/allocation fixing options in MS Project.) • To create a Critical Tasks report, go to the Reports tab then In Progress Reports where it will be listed.
5	Tracking Gantt	• If the task is completed, adding the actual finish date in addition to start date will automatically fill in the "% complete" column with 100. • A comment about the task may be included if needed, e.g., delayed predecessor caused a delay in this task. • While viewing each of these reports, it can be saved in a different format by selecting the "Design" tab, then "Copy Report." This will allow the report to be pasted into a Word, Excel, or PowerPoint file. Some of the formatting will need to be fixed after pasting. Save each of these files each week to be used for status reporting.