SCHEDULING OF SOFTWARE

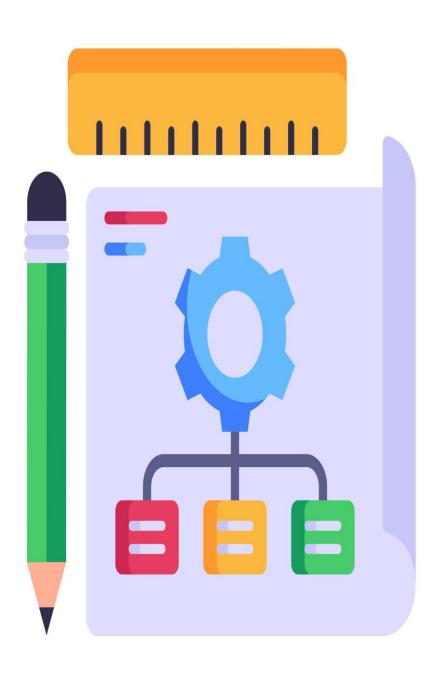
GANTT CHARTS



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Gantt chart is a "CPM" (Critical Path Method) tools to:

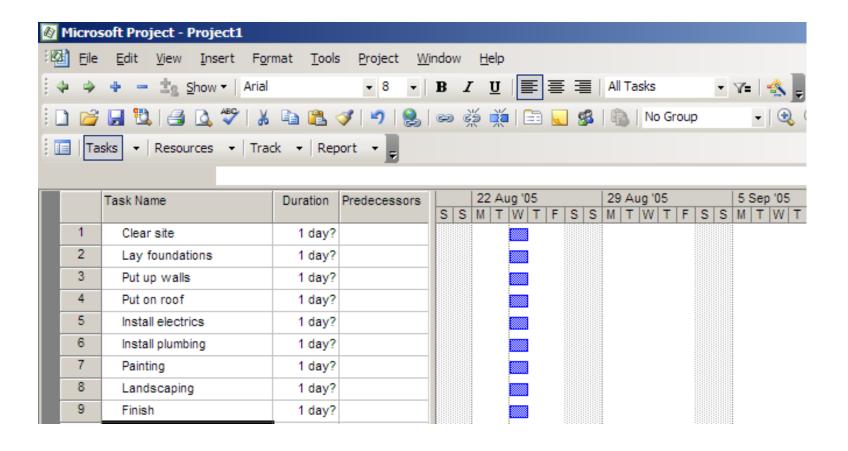
- manage the tasks involved in big and complex projects
- let project managers organise time, people, equipment and money
- ensure the right people and equipment are in the right place and the right time
- allow managers to monitor the progress of a project



HOW TO CREATE ONE?

- Gantt chart is a timeline with tasks that can be connected to each other
- duration of an activity depicts by the horizontal bar size
- Can be created using Excel or Microsoft Project

List all tasks



Add the duration for every task

	Task Name	Duration	Predecessors			22						
				S	S	М	T	W	T	F	S	S
1	Clear site	2 days										
2	Lay foundations	3 days										
3	Put up walls	1 day										
4	Put on roof	1.5 days										
5	Install electrics	2 days										
6	Install plumbing	1 day										
7	Painting	1 day										
8	Landscaping	1 day										
9	Finish	0 days					4	P 2	24/0	8		

Add dependencies for every task (if any)

	Task Name	Duration	Predecessors	22 Aug '05										29 Aug '05							5 Sep '05						
				S	S	М	T	W	T	F	S	S	M	T	W	Τ	F	S	S	М	T	W	T	F	S	S	
1	Clear site	2 days								1																	
2	Lay foundations	3 days	1												h												
3	Put up walls	1 day	2													Һ											
4	Put on roof	1.5 days	3																								
5	Install electrics	2 days	4																		2						
6	Install plumbing	1 day	4																	: 							
7	Painting	1 day	5,6																			2 1					
8	Landscaping	1 day	4																	: 		,					
9	Finish	0 days	8,7																		•	₩	7/0	9			

Add dependencies for every task (if any) In this example,

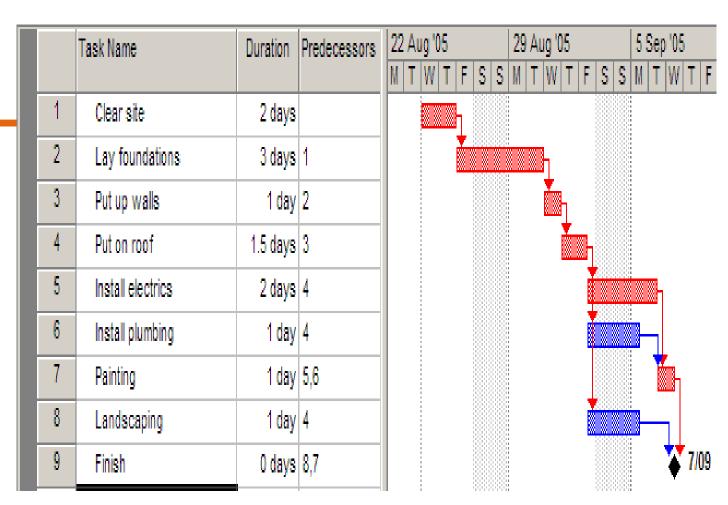
- task 2 cannot start before task 1 ends.
- Task 3 is **dependent** on task 2.
- Task 7 is dependent on two other tasks
- Electrics, plumbing and landscaping are concurrent

		Duration	Predecessors		22 Aug '05								29 Aug '05								5 Sep '05								
				S	S	M	T	W T	F	S	S	М	T	W	Т	F	S	S	M	Τ	W	Т	F	S	S				
1	Clear site	2 days							8 7																				
2	Lay foundations	3 days	1											Ь															
3	Put up walls	1 day	2												h														
4	Put on roof	1.5 days	3												Ť														
5	Install electrics	2 days	4																										
6	Install plumbing	1 day	4																	7									
7	Painting	1 day	5,6																		20 7								
8	Landscaping	1 day	4																<u></u>		1								
9	Finish	0 days	8,7																	•	•	7/0	9						

tasks and can occur simultaneously. All 3 can start after task 4 ends.

• Task 9 has zero duration, and is a **milestone**

- Identify critical path using task duration
- Shown in red in diagram
- The critical path contains a list of linked
- tasks that directly affects the project finish
- date.
- If any task on the critical path is late, the
- whole project is late



	Task Name	Duration	22 Aug '05							29	29 Aug '05								5 Sep '05					
			Duration Predecessors					F	S	S	М	Т	W	T	F	S	S	M	T	W	Т	F		
1	Clear site	2 days		Г				1														_		
2	Lay foundations	3 days	1										h											
3	Put up walls	1 day	2										Š	h										
4	Put on roof	1.5 days	3																					
5	Install electrics	2 days	4																					
6	Install plumbing	1 day	4													•			\neg					
7	Painting	1 day	5,6																	2				
8	Landscaping	1 day	4													,				,				
9	Finish	0 days	8,7																	*	7/0	9		

- MS Project can identify the critical path
- The length of the critical path is the sum of the lengths of all critical tasks
- (the red tasks 1,2,3,4,5,7) which is 2+3+1+1.5+2+1=10.5 days.
- In other words, the minimum amount of time required to get all tasks completed is 10.5 days
- The other tasks (6,8) can each run over-time before affecting the end date of the project