CREATE YOUR PHYS523 PROJECT

DR. RICCARDO LONGO

08/24/2023

PHYS 523 - FALL 2023

LECTURE II

UNIVERSITY OF
ILLINOIS
URBANA-CHAMPAIGN

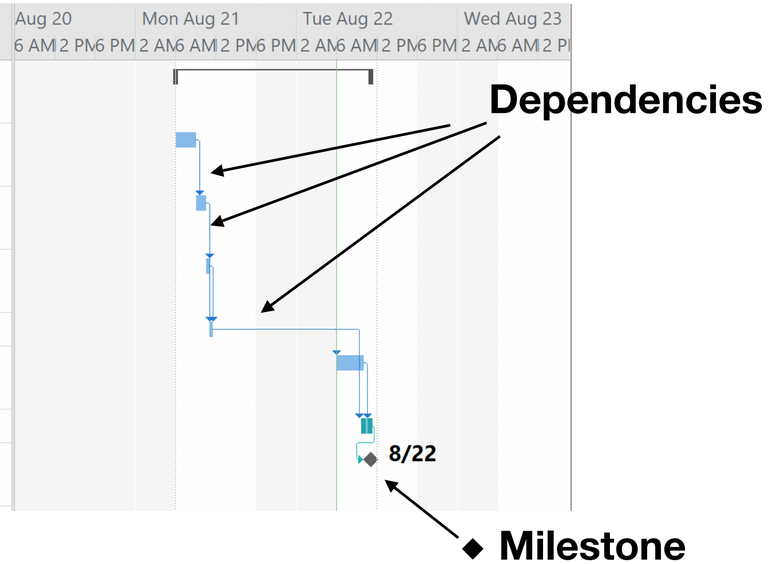
WHERE WE LEFT OFF ON TUESDAY

- Let's start together and try to replicate the simple WBS shown in this Gantt chart

L1 item

L2 items

	Task Mode	Task Name	Duration	Start	Finish	Predecessors	WBS Predecessors	WBS
1		**Phase I: Prototyping on breadboard**	**1.39 days**	**Mon 8/21/23**	**Tue 8/22/23**			**1**
2		Acquire all the circuitry parts	1 hr	Mon 8/21/23	Mon 8/21/23			1.1
3		Assemble circuit on a breadboard	1.5 hrs	Mon 8/21/23	Mon 8/21/23	2	1.1	1.2
4		Write code to readout the circuit	0.5 hrs	Mon 8/21/23	Mon 8/21/23	3	1.2	1.3
5		Test of the circuit	0.5 hrs	Mon 8/21/23	Mon 8/21/23	3,4	1.2,1.3	1.4
6		Calibration of the BME sensor	2 hrs	Tue 8/22/23	Tue 8/22/23	5	1.4	1.5
7		Test data taking	1 hr	Tue 8/22/23	Tue 8/22/23	5,6	1.4,1.5	1.6
8		Circuit successfully prototyped!	0.1 hrs	Tue 8/22/23	Tue 8/22/23	7	1.6	1.7



Dependencies

Milestone

- Let's take it to the **interactive mode** from now on!
- Next step is to define Phase II - design and production of PCB and its 3D-printed case
- Then you begin with Phase III - Assembly, Test and Data taking

DID YOU MANAGE TO CARRY OUT THIS EXERCISE?

- The time between tasks at the moment is not crucial - we will discuss this in the next lectures! Focus on dependencies and milestones

TASKS IN MS PROJECT

- On Tuesday, we introduced the **Tasks,** and we have seen how to declare and group tasks in a project
- Let's now dig further into how we can manage a task through the project interface!

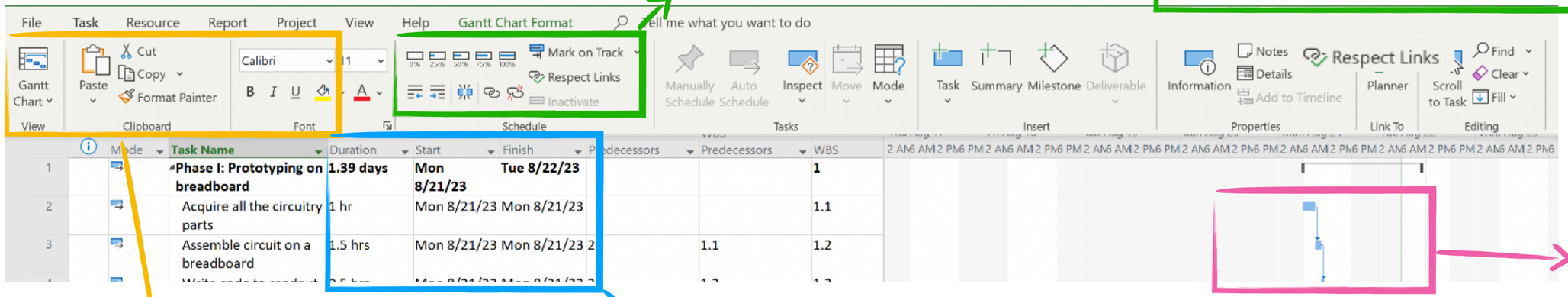
Task management commands

Split tasks in sub-tasks

Mark progress

Respect Links — Update task according to dependencies that may be late

Unlink tasks



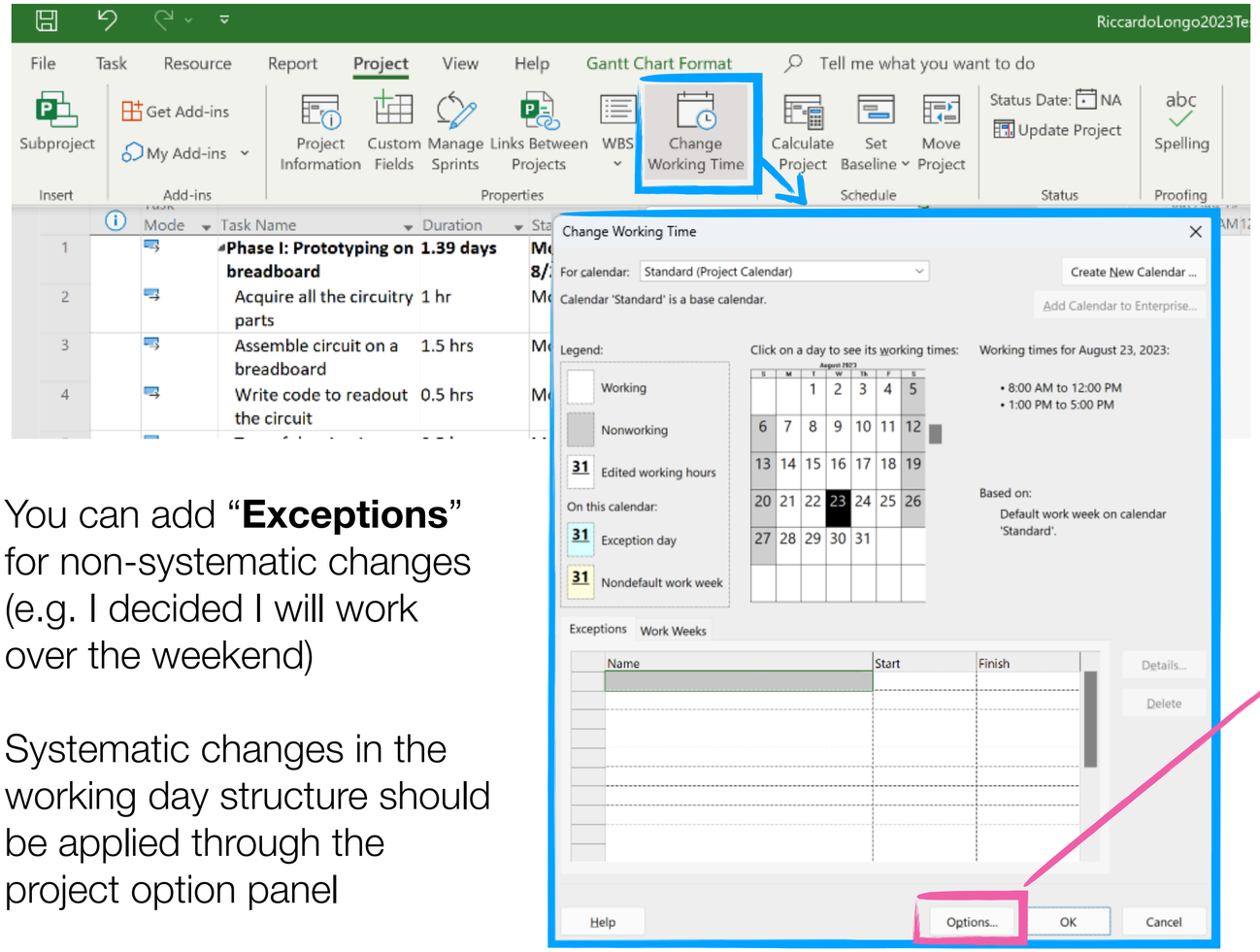
Tasks can be click-and-dragged in the Gantt chart (to adjust the timeline)

Standard editing commands for the WBS text entries - i.e. you can color differently tasks assigned to different group members

Duration: provided a start day, set the finish date accordingly. You can also work the other way around, setting start and finish date and get the duration accordingly
But what time frame is considered?

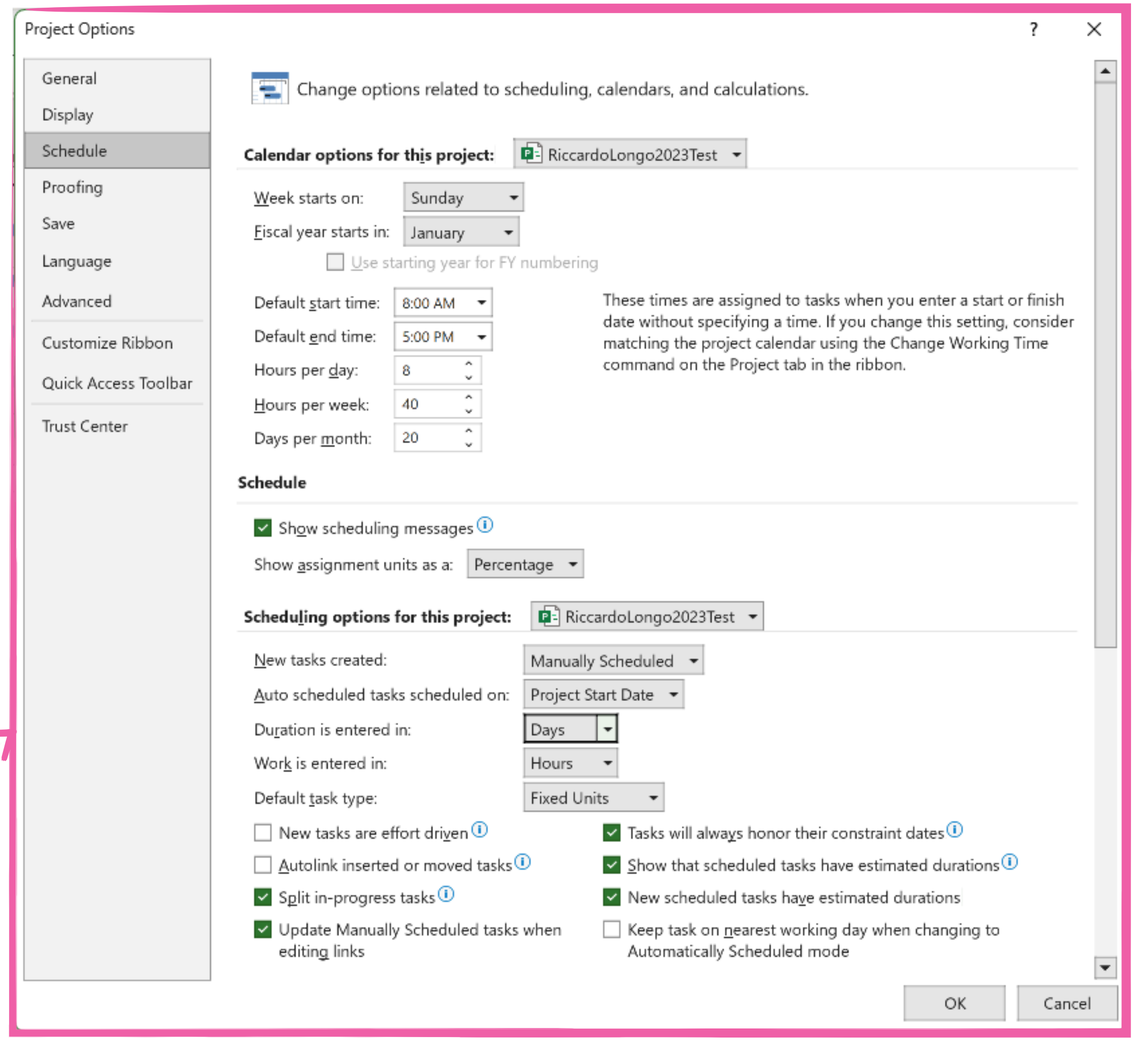
WORKING DAYS IN MS PROJECT

The whole scheduling of tasks is progressive - and takes into account working days only. But how are these working days declared?



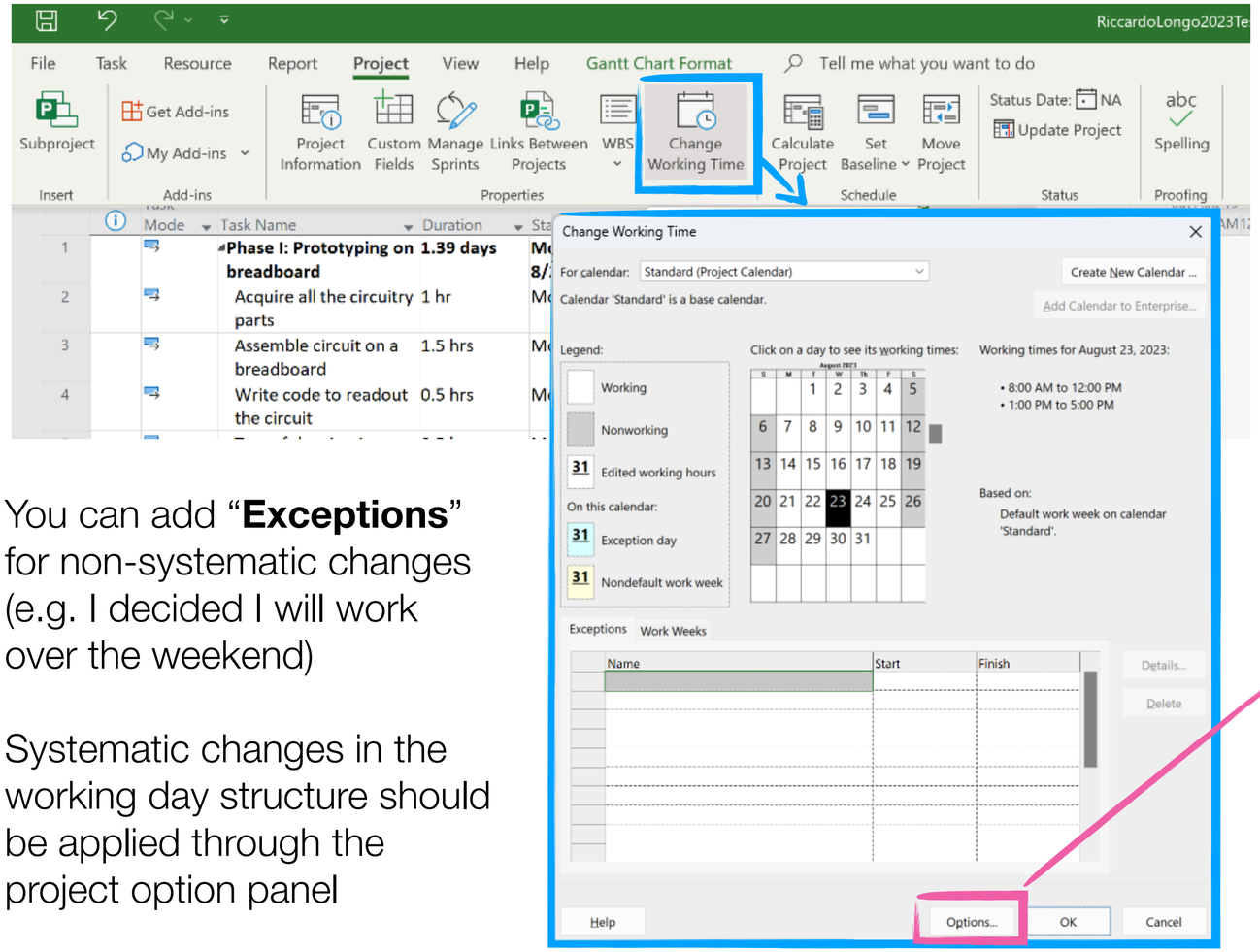
You can add "**Exceptions**" for non-systematic changes (e.g. I decided I will work over the weekend)

Systematic changes in the working day structure should be applied through the project option panel



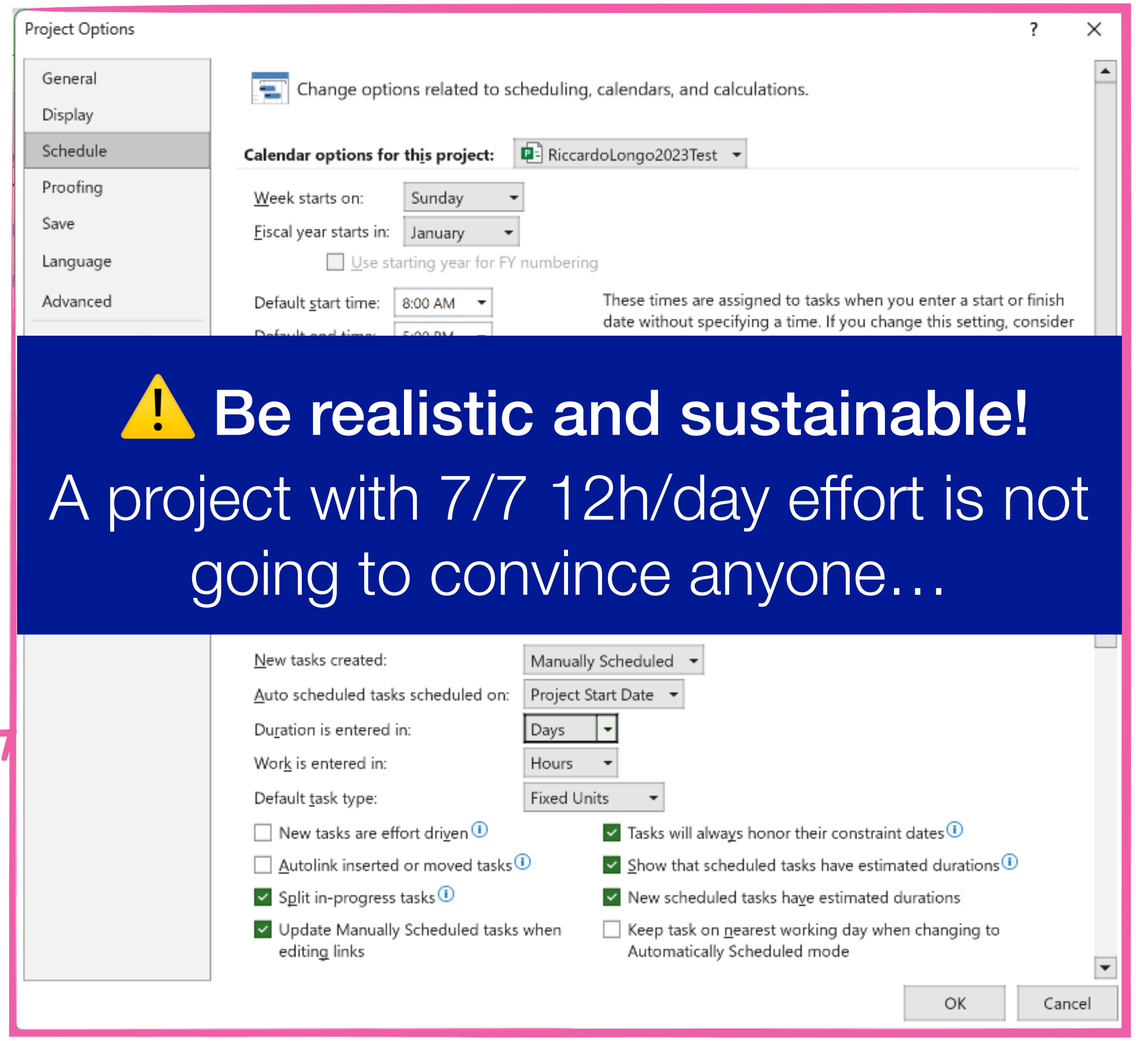
WORKING DAYS IN MS PROJECT

The whole scheduling of tasks is progressive - and takes into account working days only. But how are these working days declared?



You can add "**Exceptions**" for non-systematic changes (e.g. I decided I will work over the weekend)

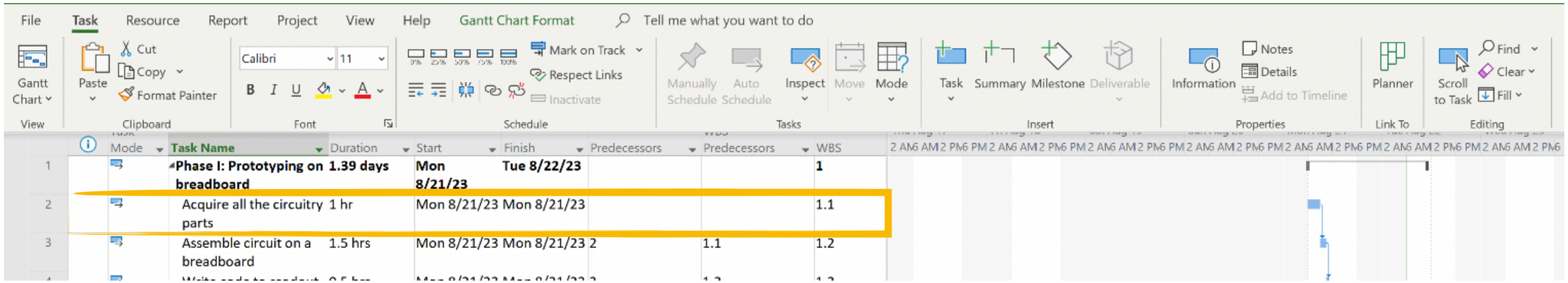
Systematic changes in the working day structure should be applied through the project option panel



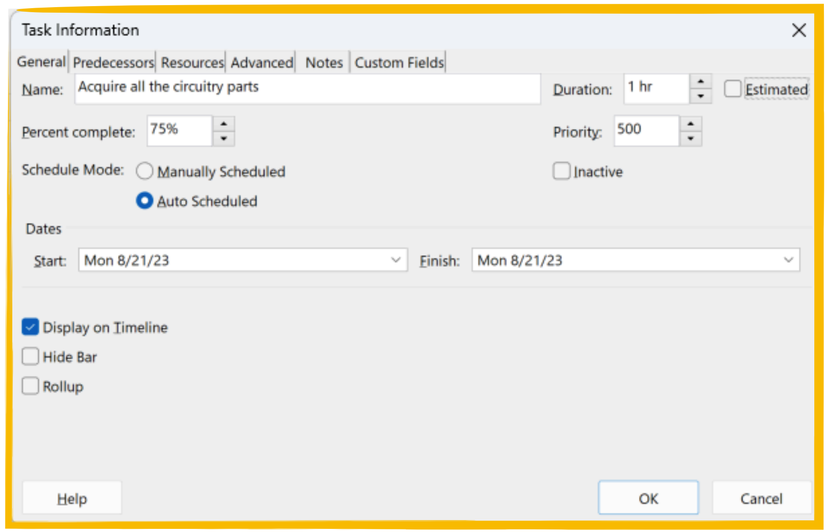
⚠ Be realistic and sustainable!

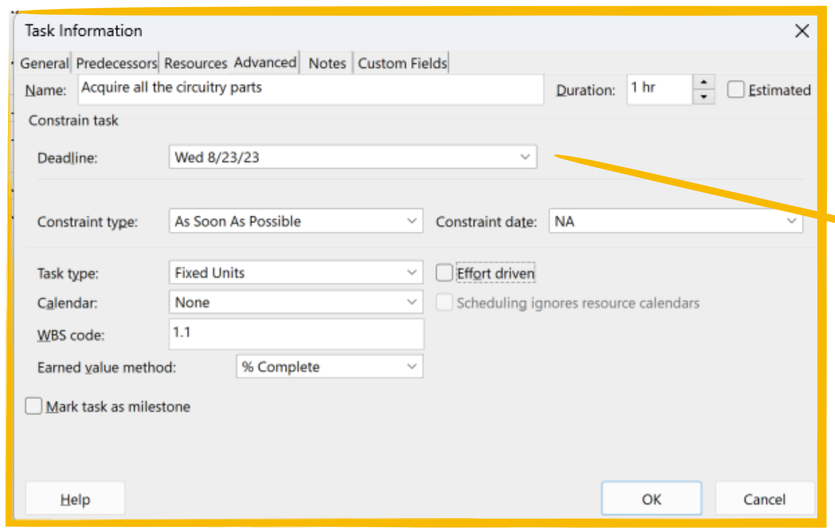
A project with 7/7 12h/day effort is not going to convince anyone…

MORE ABOUT THE TASKS



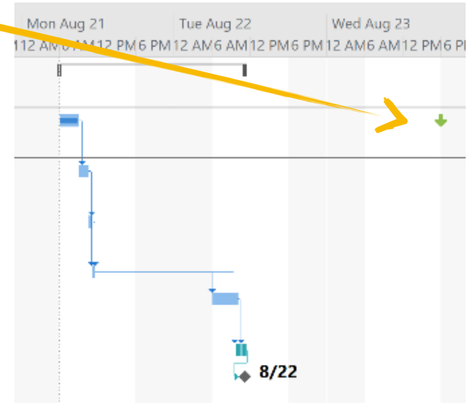
If you double click on a task - you get access to a panel with further options to edit it

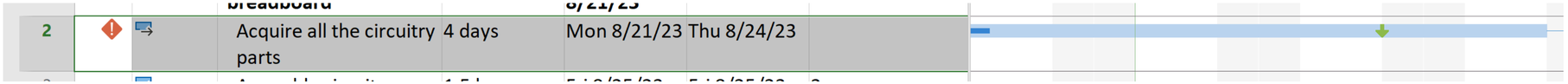




↓Deadline marker

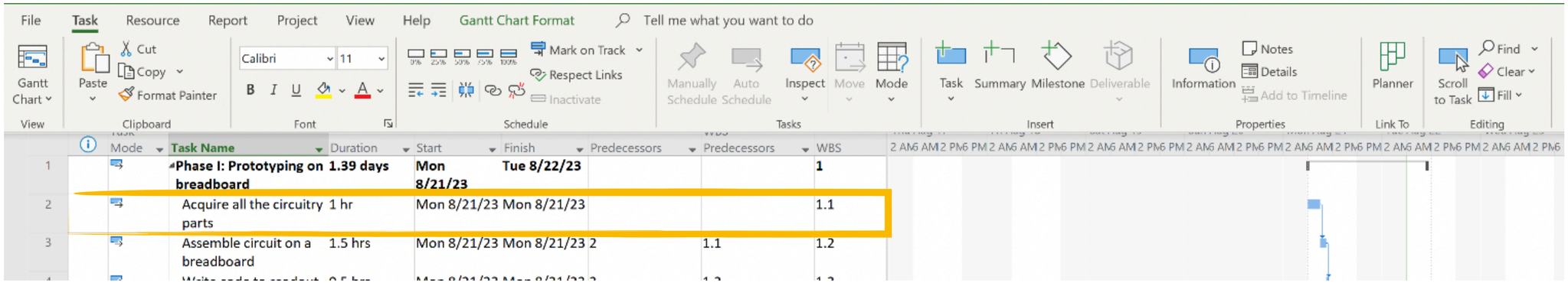
In case you need a visual reminder for a particular cutoff on your schedule!



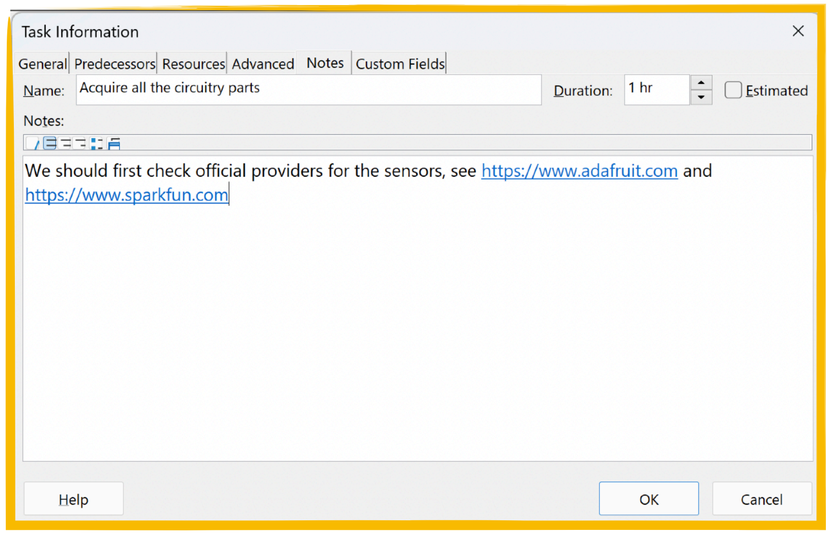


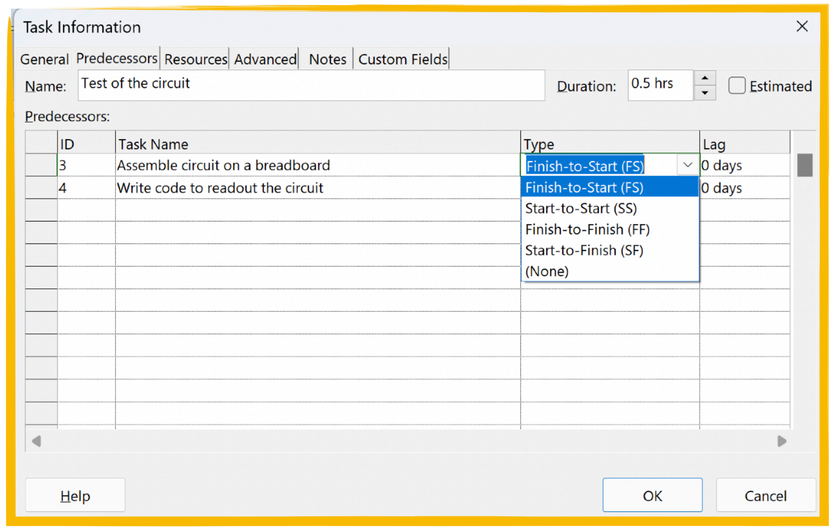
If you extend the task past the deadline - the software gives you a warning

MORE ABOUT THE TASKS



If you double click on a task - you get access to a panel with further options to edit it





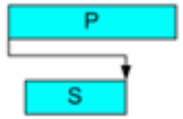
You can also set a specific type dependency between task:

- finish to start

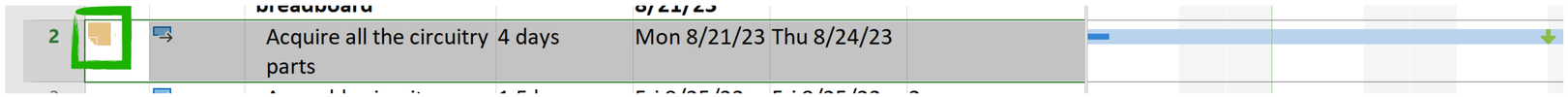
- start to start

- finish to finish

- start to finish

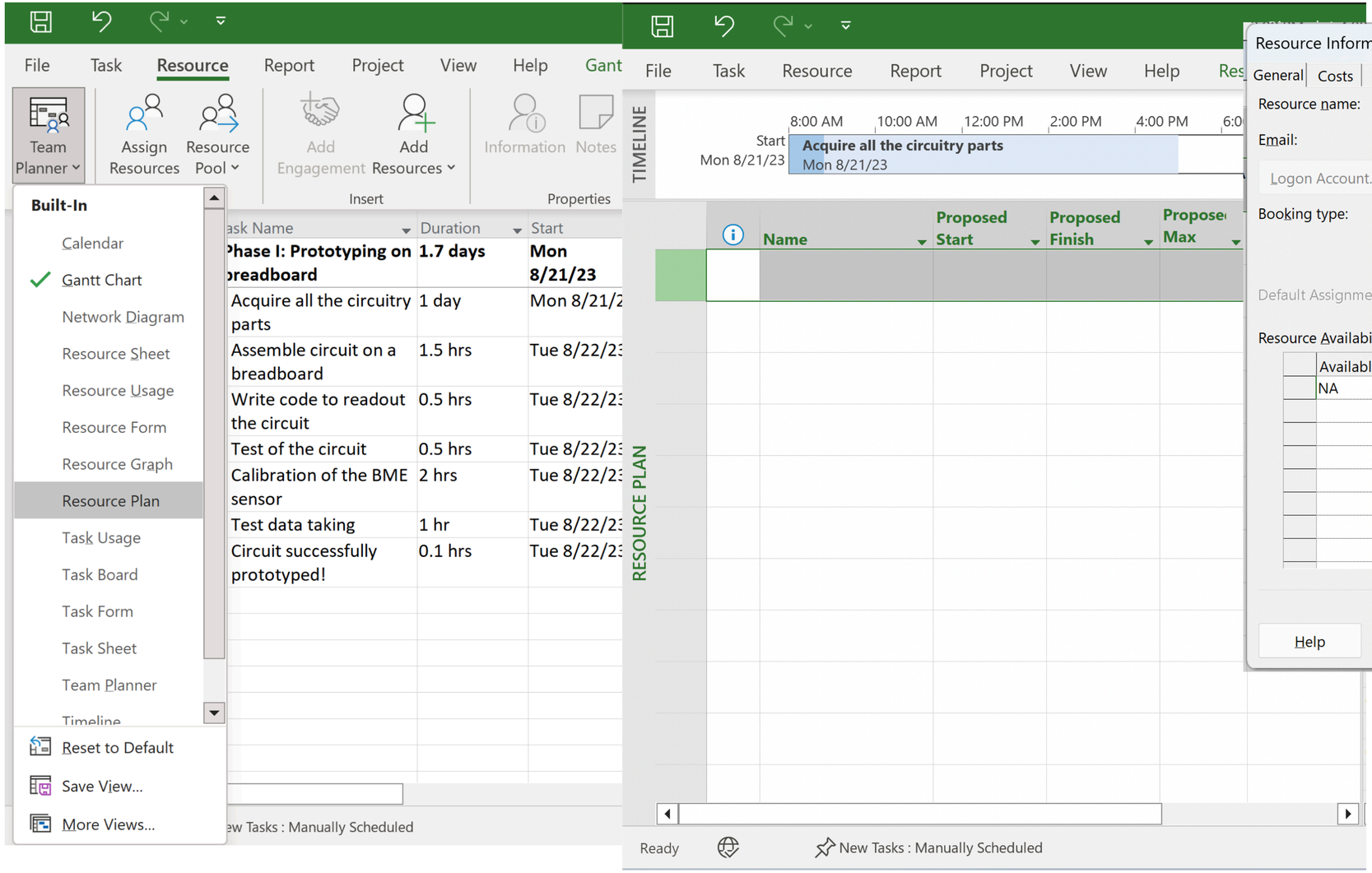


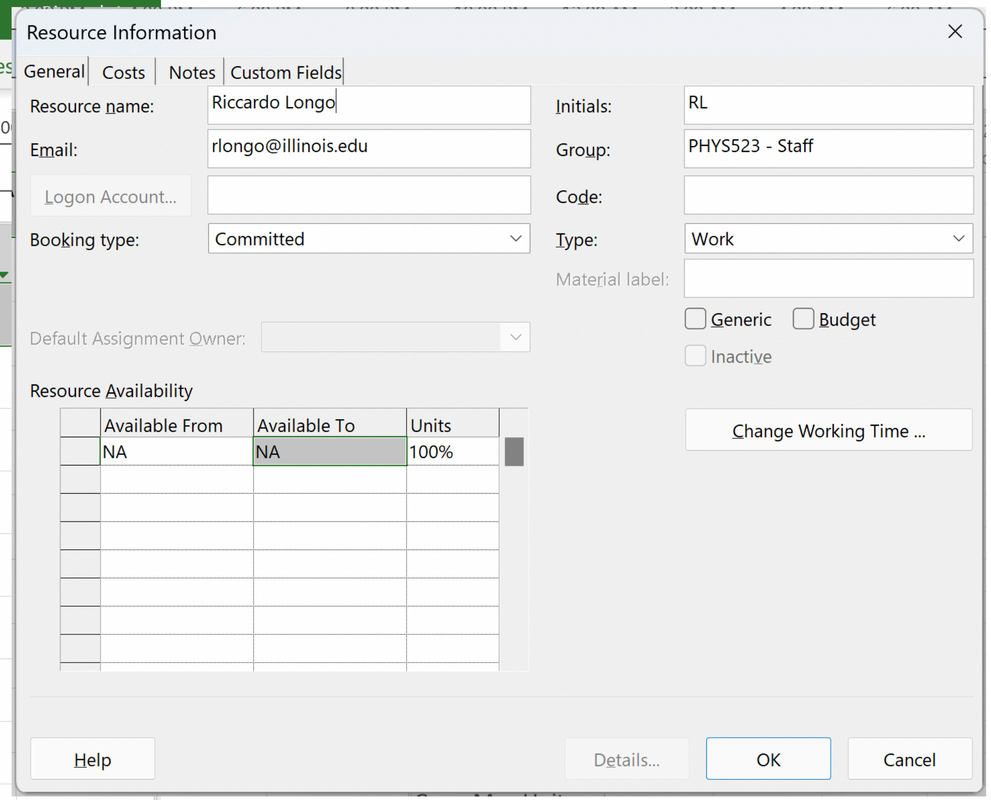
You can add notes specific to the task - they will appear as an icon next to the main list of tasks



HOW DO WE MANAGE TASKS ASSIGNMENT?

- In a project, different team members that can contribute hours of work are seen as **resources**





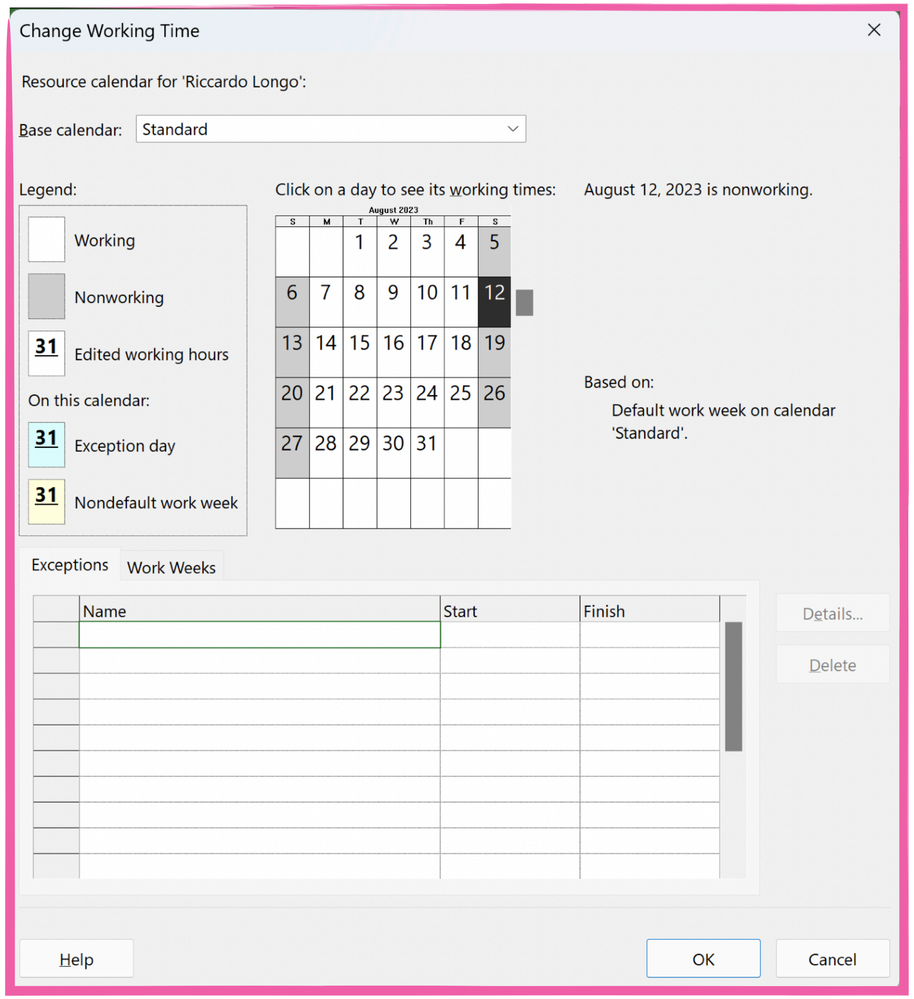
Here you can create a record for each of you!
Type —> Work
Booking type —> Committed? 🙂

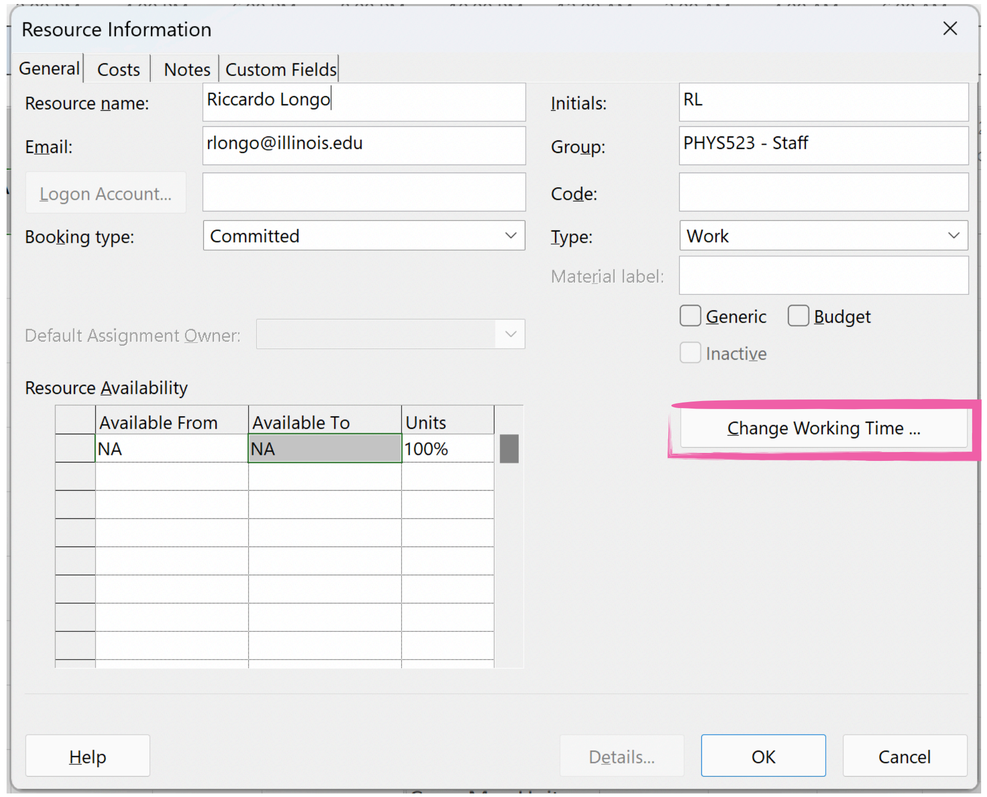
HUMAN RESOURCE PERSONAL MANAGEMENT

- Each work resource can be personalized to take into account various aspects

- Add exceptions for days of special (in)availability

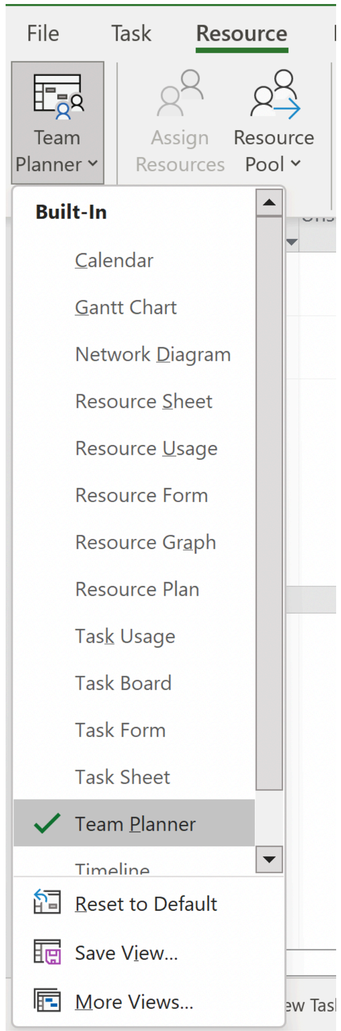
- Note: no modification of the main calendar (e.g. slide 4)
  ➡ make sure you define your main calendar to best match the overall availability of the team

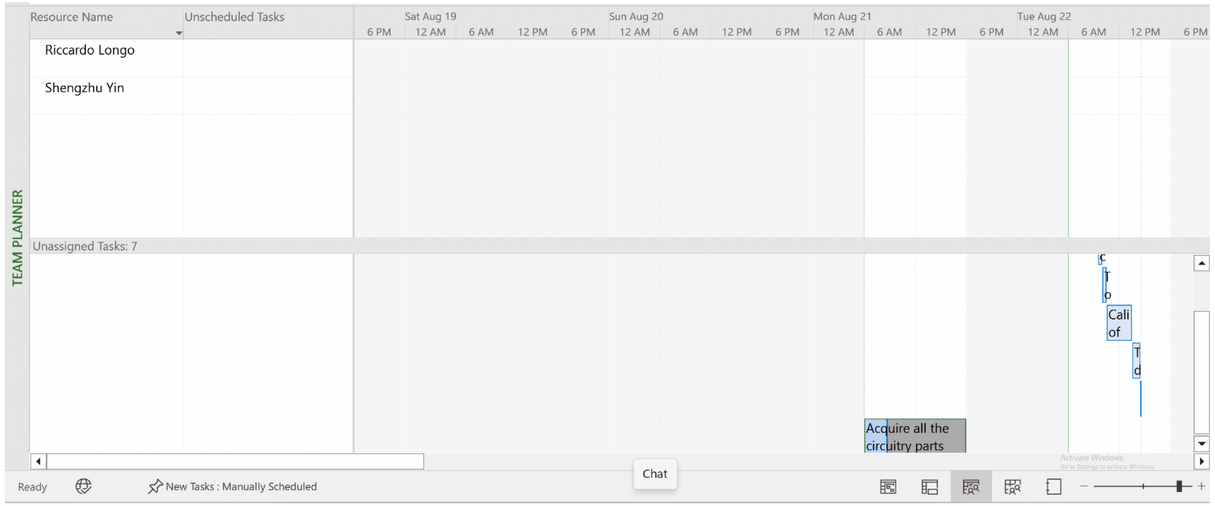




ASSIGNING WORKFORCE TO A TASK

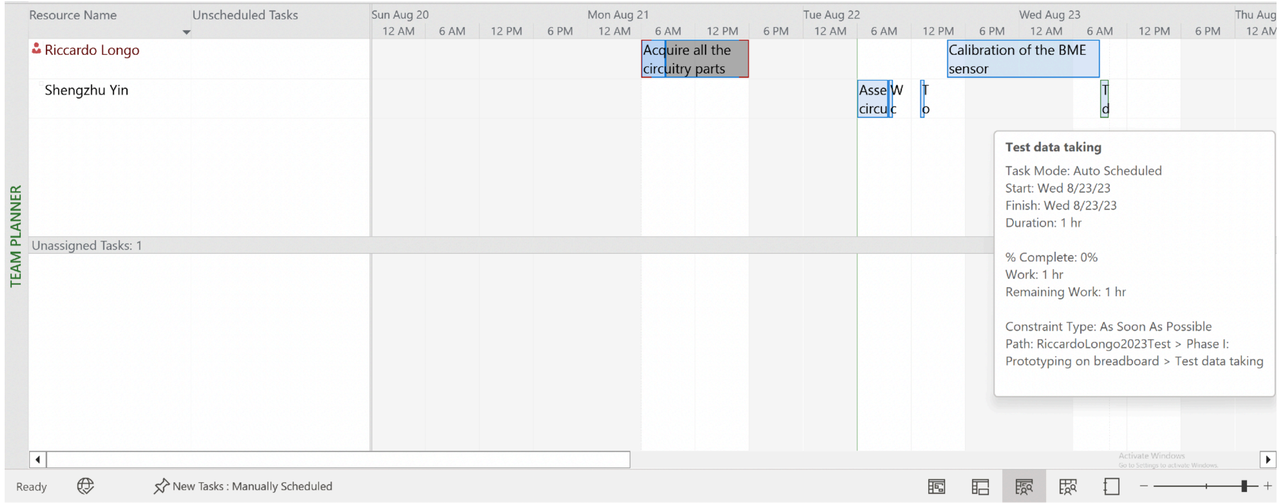
- There are different ways to do the task assignment - the easiest one is by far using the Team Planner interface





- Here you can either right-click on each task available on the bottom panel - and “reassign to” the corresponding team member you want put in charge
- Or - you can simply drag and drop the task on the resource you want to “load” with the it.

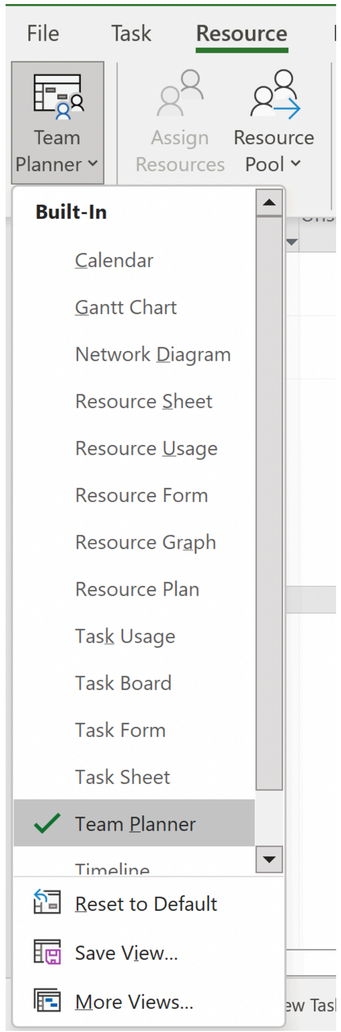
- Please note that the software checks the time location of the drag-and-drop, and provides you feedback in case you generate conflicts between dependencies by wrongly scheduling the task assignment.

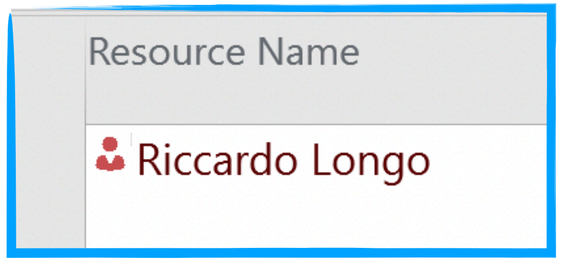


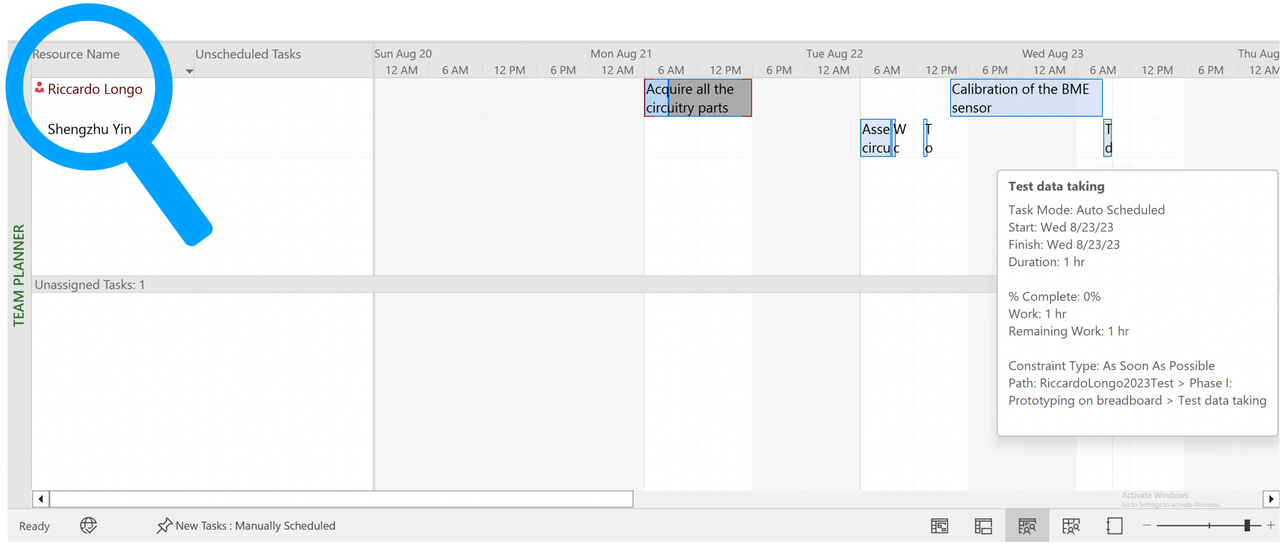
OVERALLOCATED RESOURCES

- The red tag next to my name indicates that the task assignment I made is over allocating resources, e.g. assigning not-available resources to the task

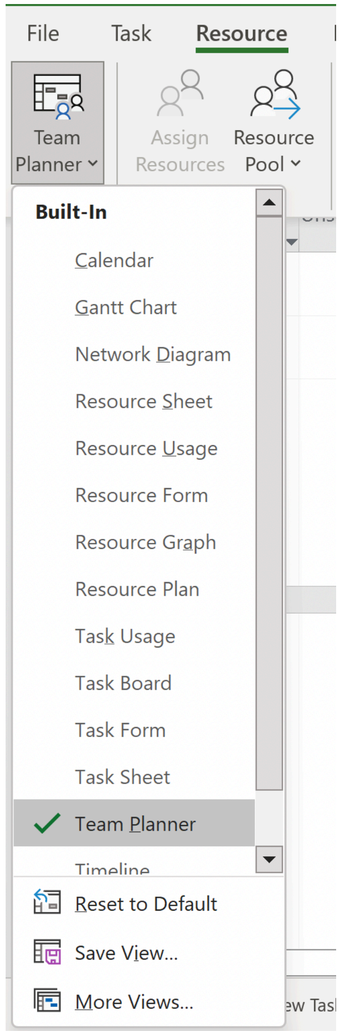
- Why?



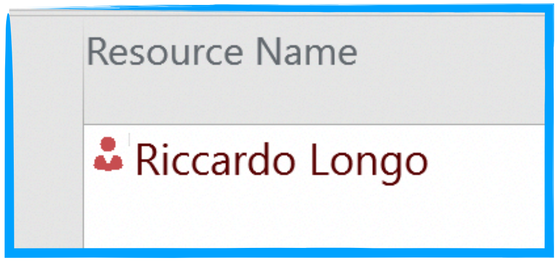


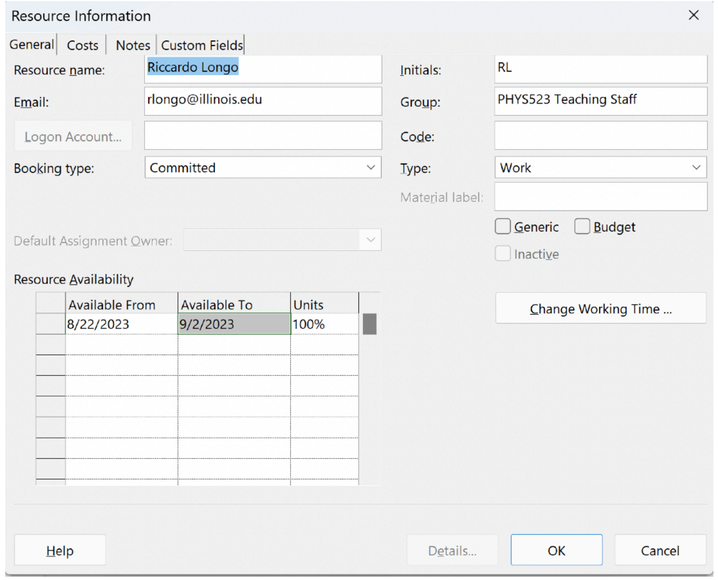


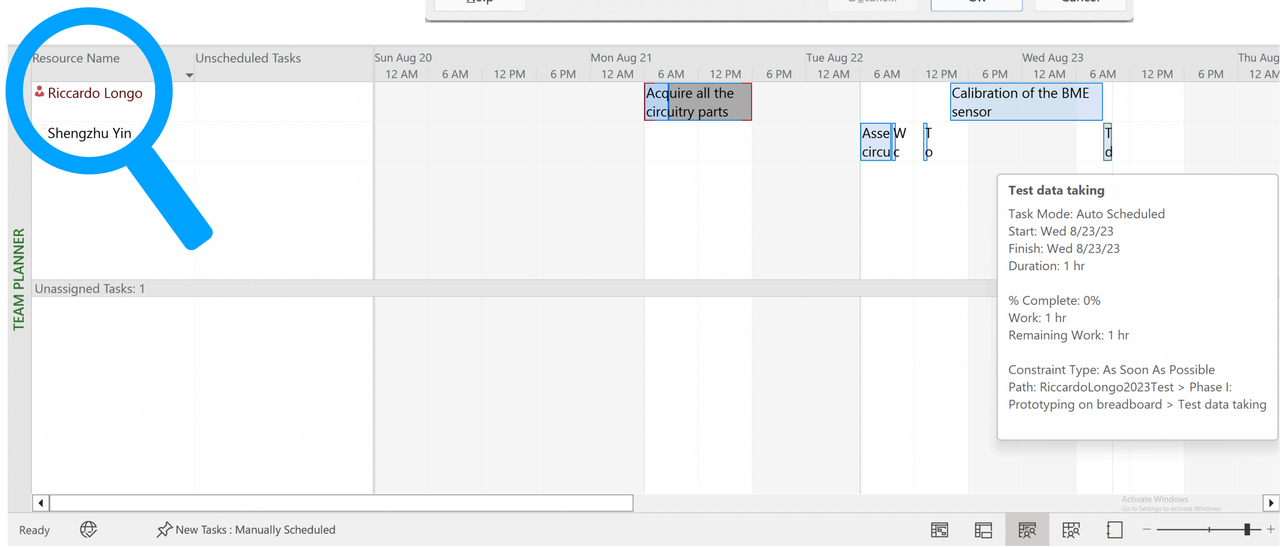
OVERALLOCATED RESOURCES



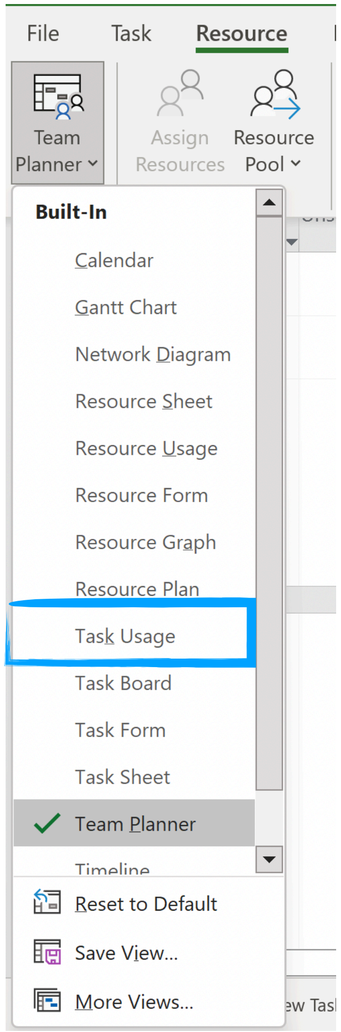
- The red tag next to my name indicates that the task assignment I made is over allocating resources, e.g. assigning not-available resources to the task
- Why?
- Because my workforce was indicated to be available starting from the day after the tasks scheduling!







TASK USAGE WORKSPACE



TASK USAGE

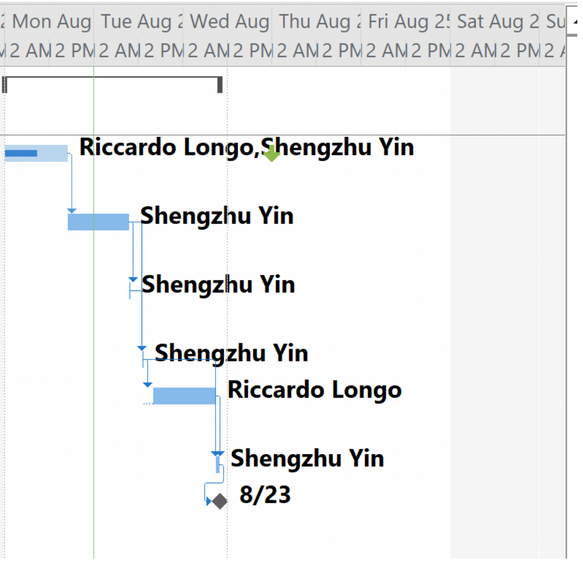
	Task Mode	Task Name	Work	Duration	Start	Details	Aug 20, '23 S	M	T	W	T	F
1		**Phase I: Prototyping on**	**13.5 hrs**	**2.26 days**	**Mon 8/21/23**	Work		8.02h	3.48h	2h		
2		Acquire all the circuitry	8 hrs	1 day	Mon 8/21/23	Work		8h				
		Riccardo Longo	*0.75 hrs*		*Mon 8/21/23*	Work		0.75h				
		Shengzhu Yin	*7.25 hrs*		*Mon 8/21/23*	Work		7.25h				
3		Assemble circuit on a br	1.5 hrs	1.5 hrs	Mon 8/21/23	Work		0.02h	1.48h			
		Shengzhu Yin	*1.5 hrs*		*Mon 8/21/23*	Work		0.02h	1.48h			
4		Write code to readout t	0.5 hrs	0.5 hrs	Tue 8/22/23	Work			0.5h			
		Shengzhu Yin	*0.5 hrs*		*Tue 8/22/23*	Work			0.5h			
5		Test of the circuit	0.5 hrs	0.5 hrs	Tue 8/22/23	Work			0.5h			
		Shengzhu Yin	*0.5 hrs*		*Tue 8/22/23*	Work			0.5h			
6		Calibration of the BME s	2 hrs	2 hrs	Tue 8/22/23	Work			1h	1h		
		Riccardo Longo	*2 hrs*		*Tue 8/22/23*	Work			1h	1h		
7		Test data taking	1 hr	1 hr	Wed 8/23/23	Work				1h		
		Shengzhu Yin	*1 hr*		*Wed 8/23/23*	Work				1h		
8		Circuit successfully prot	0 hrs	0.1 hrs	Wed 8/23/23	Work						

- Provides you an overview of the workforce allocation on different tasks per each day
- Very useful to see if there is available manpower for certain unassigned tasks - or if there are over-allocated resources
- You can also use this interface to assign multiple resources to the same task - or redistribute the work between different resources!

UPDATED GANNT CHART

GANTT CHART

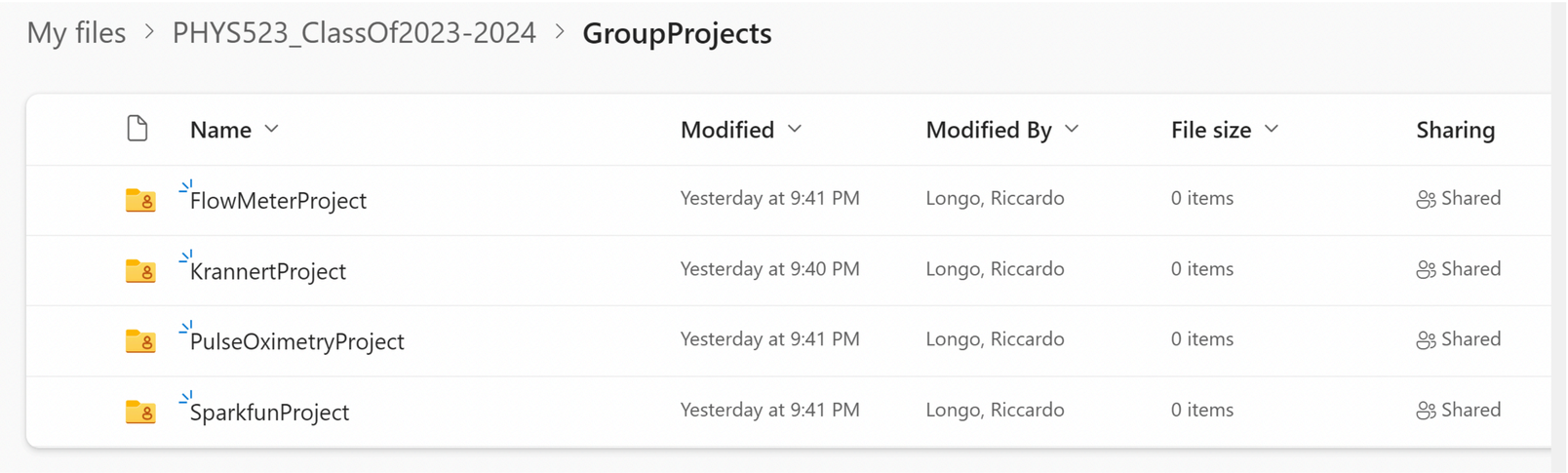
	Task Mode	Task Name	Duration	Start	Finish	Resource Na
1		**Phase I: Prototyping on breadboard**	**2.26 days**	**Mon 8/21/23**	**Wed 8/23/23**	
2		Acquire all the circuitry parts	1 day	Mon 8/21/23	Mon 8/21/23	Riccardo L Shengzhu Y
3		Assemble circuit on a breadboard	1.5 hrs	Mon 8/21/23	Tue 8/22/23	Shengzhu Y
4		Write code to readout the circuit	0.5 hrs	Tue 8/22/23	Tue 8/22/23	Shengzhu Y
5		Test of the circuit	0.5 hrs	Tue 8/22/23	Tue 8/22/23	Shengzhu Y
6		Calibration of the BME sensor	2 hrs	Tue 8/22/23	Wed 8/23/23	Riccardo L
7		Test data taking	1 hr	Wed 8/23/23	Wed 8/23/23	Shengzhu Y
8		Circuit successfully prototyped!	0.1 hrs	Wed 8/23/23	Wed 8/23/23	



- Your Gantt chart now automatically reflects the assignments you have made in the team planner interface!
- The examples made in these slides are related to short tasks - that can be recovered easily if there is lack of availability on short notice by one of the resources
- It will be way more important to account properly for the manpower in tasks that are more complex and require week(s) long work [same timescale as the milestones set for this class - that you want to meet]
- We will discuss more on how to handle these aspects next week!

IT'S TIME TO START SETTING UP YOUR GROUP PROJECT!

- You should now have the basics of MS Project and can use them to create your Project file and start planning your PHYS523 activities!
- The idea is that you start sketching the project plan for this semester, define your team, start laying out tasks and dependencies, and also set up deadlines for critical tasks.
- This first step is still quite in the "ideal" world. We will talk more next week about how to turn your project into a bullet-proof plan that takes into account everything that Murphy's law can bring you!



- Every group should have got an invitation for a **dedicated folder on OneDrive**
- Please **create your project file there** and start editing together!
- Remember: you can edit the file only once per each - but you can also create sub-projects out of the file and copy them into the master project later. Still, at this initial stage, is still better that you discuss together how to setup tasks and assignments!