



Digital Technology in Health and Care

Project Planning and Estimation

Cohort 2 week 5 Asynchronous session

Muntaha Alam Nafisa
BDS MPH(Epidemiology)
MSc PhD (Part-time, on course)



Prifysgol Cymru
Y Drindod Dewi Sant
University of Wales
Trinity Saint David

WIDI Wales Institute of Digital Information
Athrofa Wybodaeth Ddigidol Cymru



20/10/2022

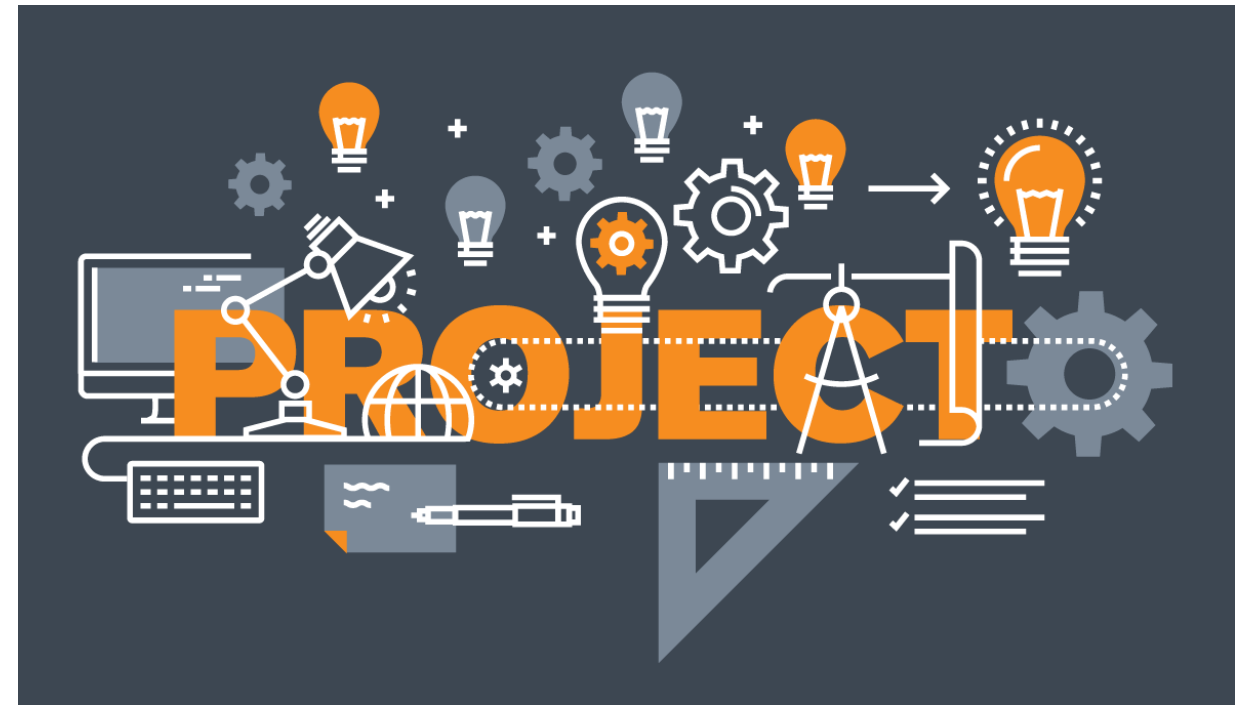
Agenda

1. Project Planning and Organising
2. Project Estimating
3. Project Scheduling



What is a Project

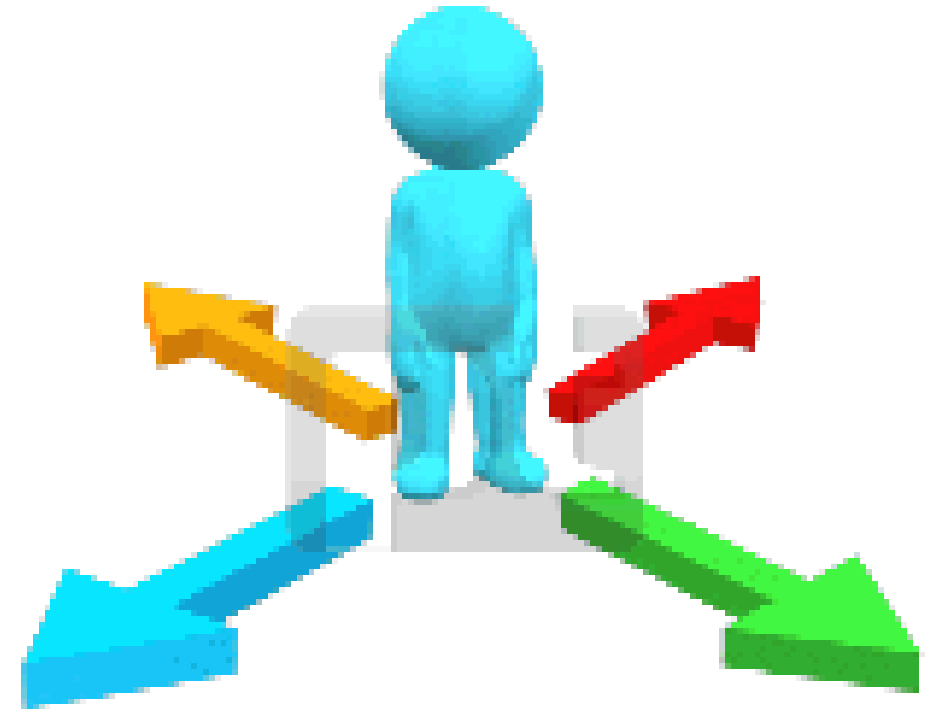
“A **Temporary** endeavour undertaken to create a unique product service or result which ends when the objectives have been reached”



Project Planning

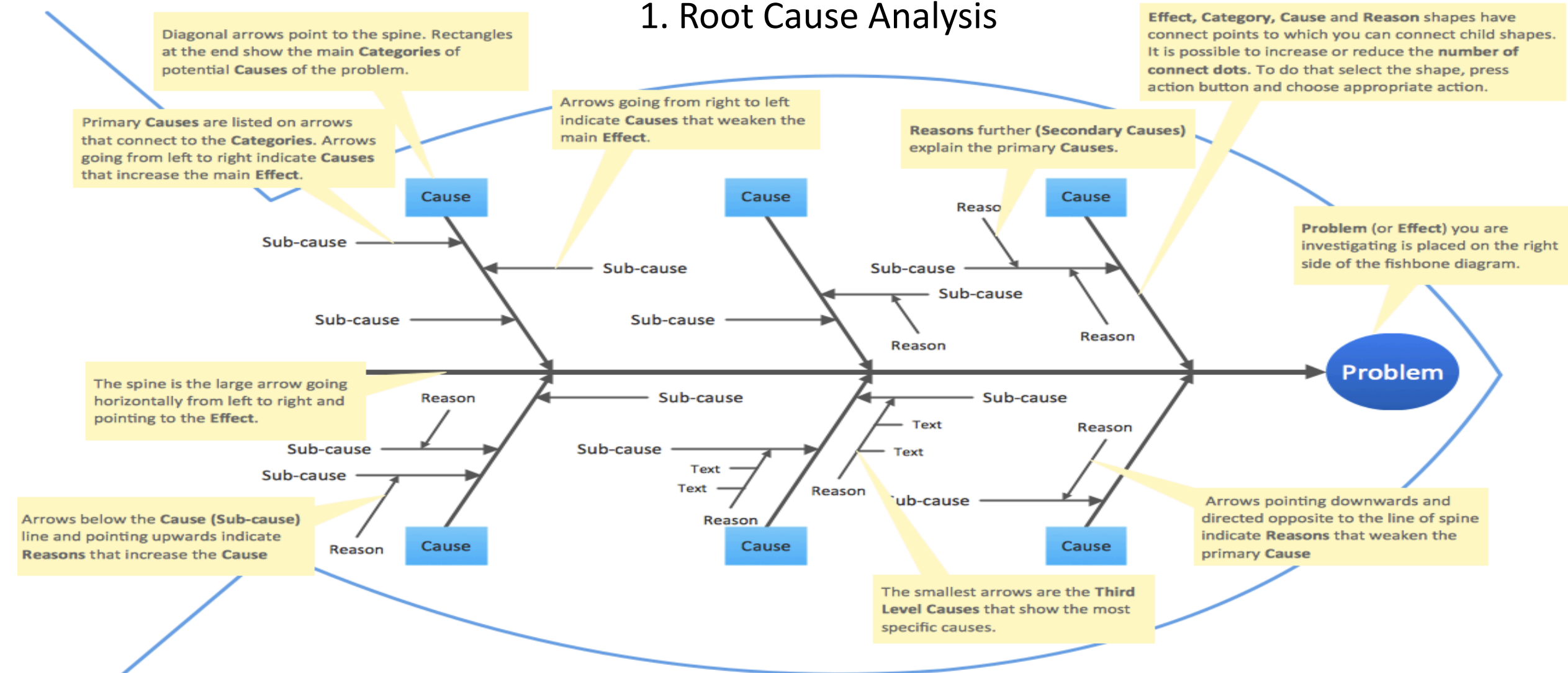
Why are Projects Chosen?

- Personal
- Financial
- Competitive
- Safety



Decision making tools for Choosing a Project

1. Root Cause Analysis



Choosing a Project

2. Cost-Benefit Analysis

- Direct and indirect cost
- Non-recurring and recurring cost
- Accidental cost
- Direct Financial Benefit
- Indirect Non-Financial Benefit
- Long and short term benefit



Choosing a Project

3. Brainstorming

“Let’s throw as much as we can against the wall and see what sticks”

-Highly effective

-Can lead to Very Creative decision

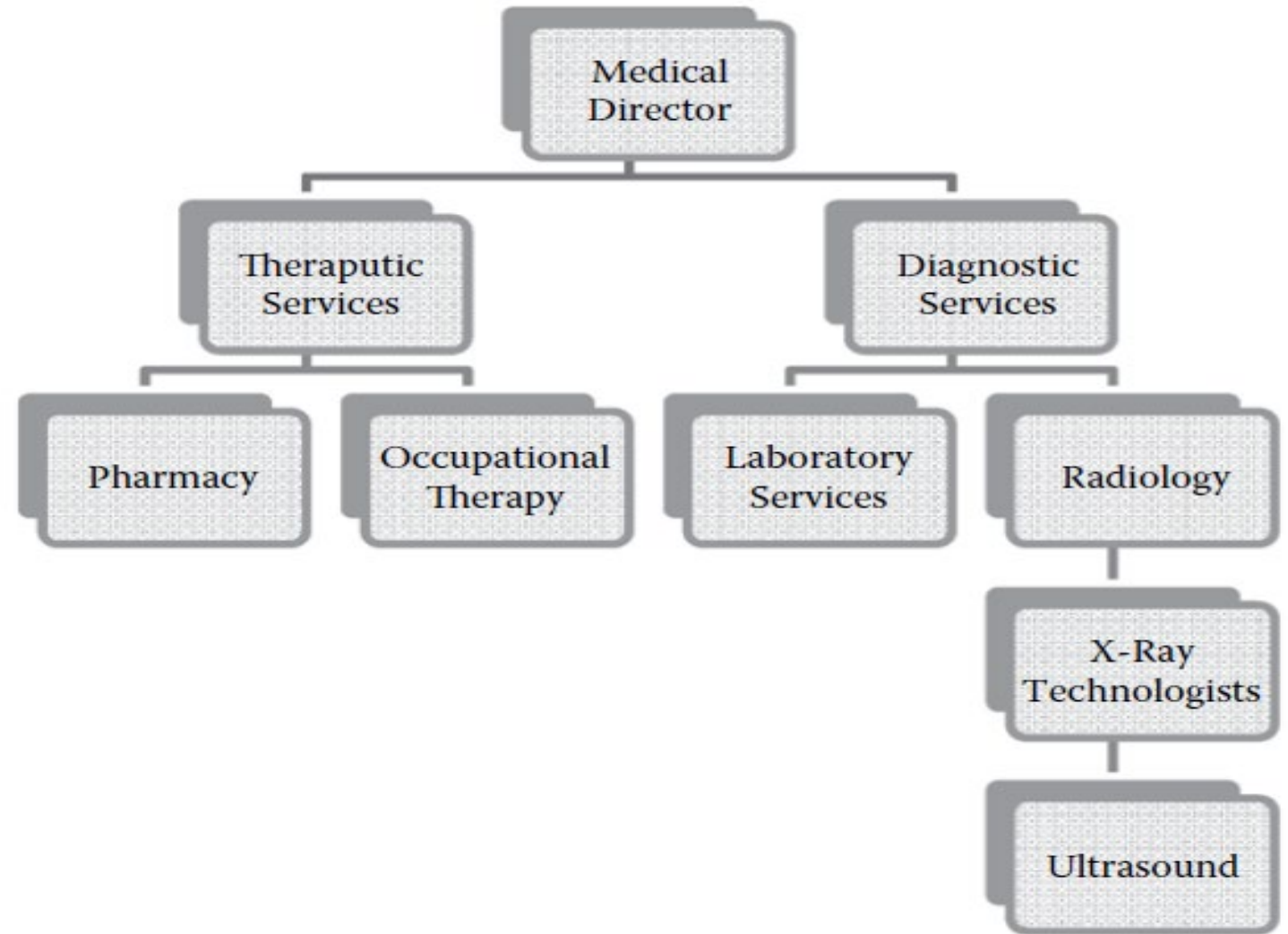


Organizational Structure

1. Functional Organization

- Most difficult Structure
- Vertical Communication
- Distorted Information

Fig: Representation of a functional Organization structure



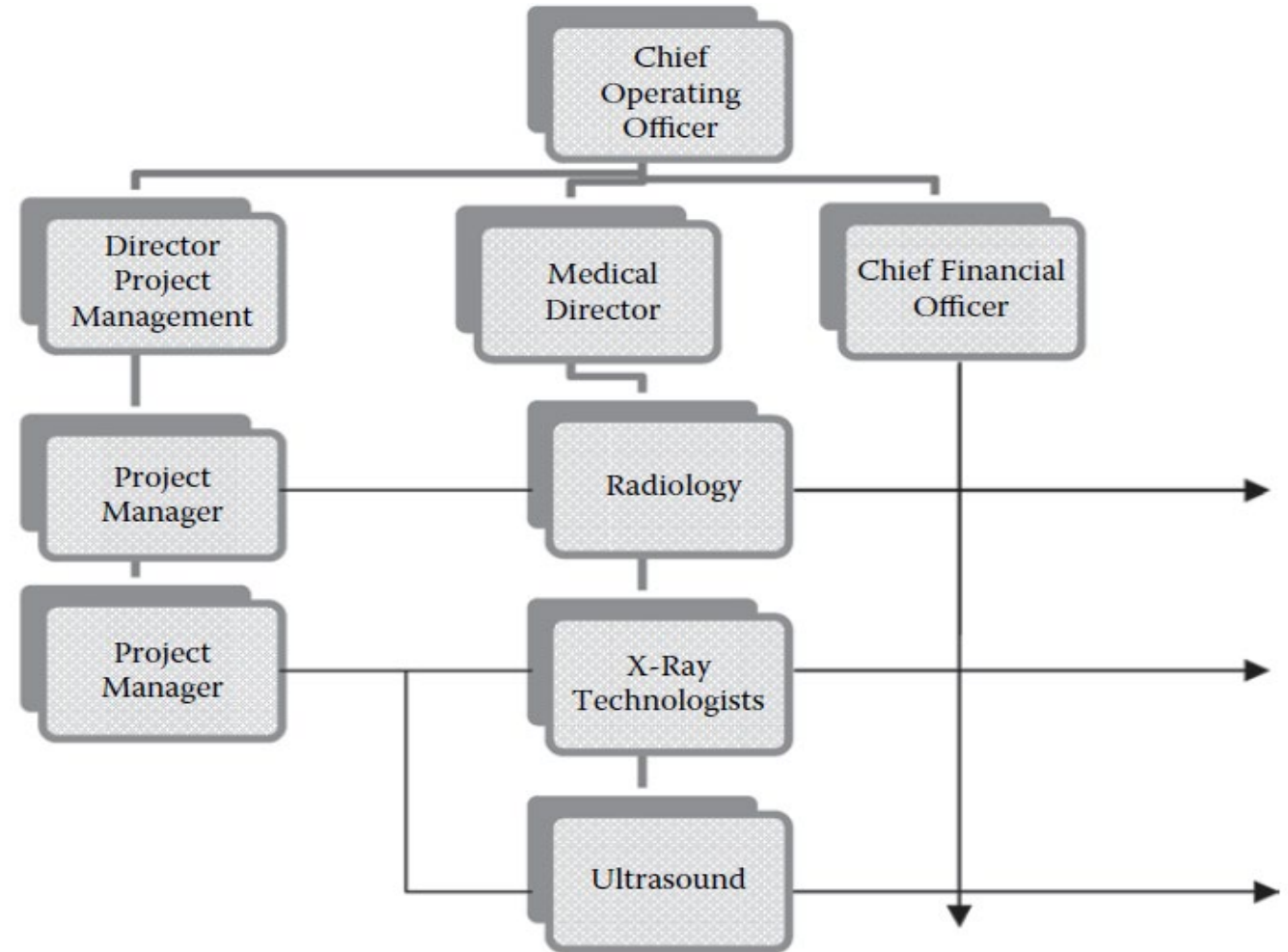
Organizational Structure

1. Matrixed Organization

-Committed Cross-functional Participation

-additional resources (project team member) are loaned to the project manager

Fig: Representation of a matrixed Organization structure

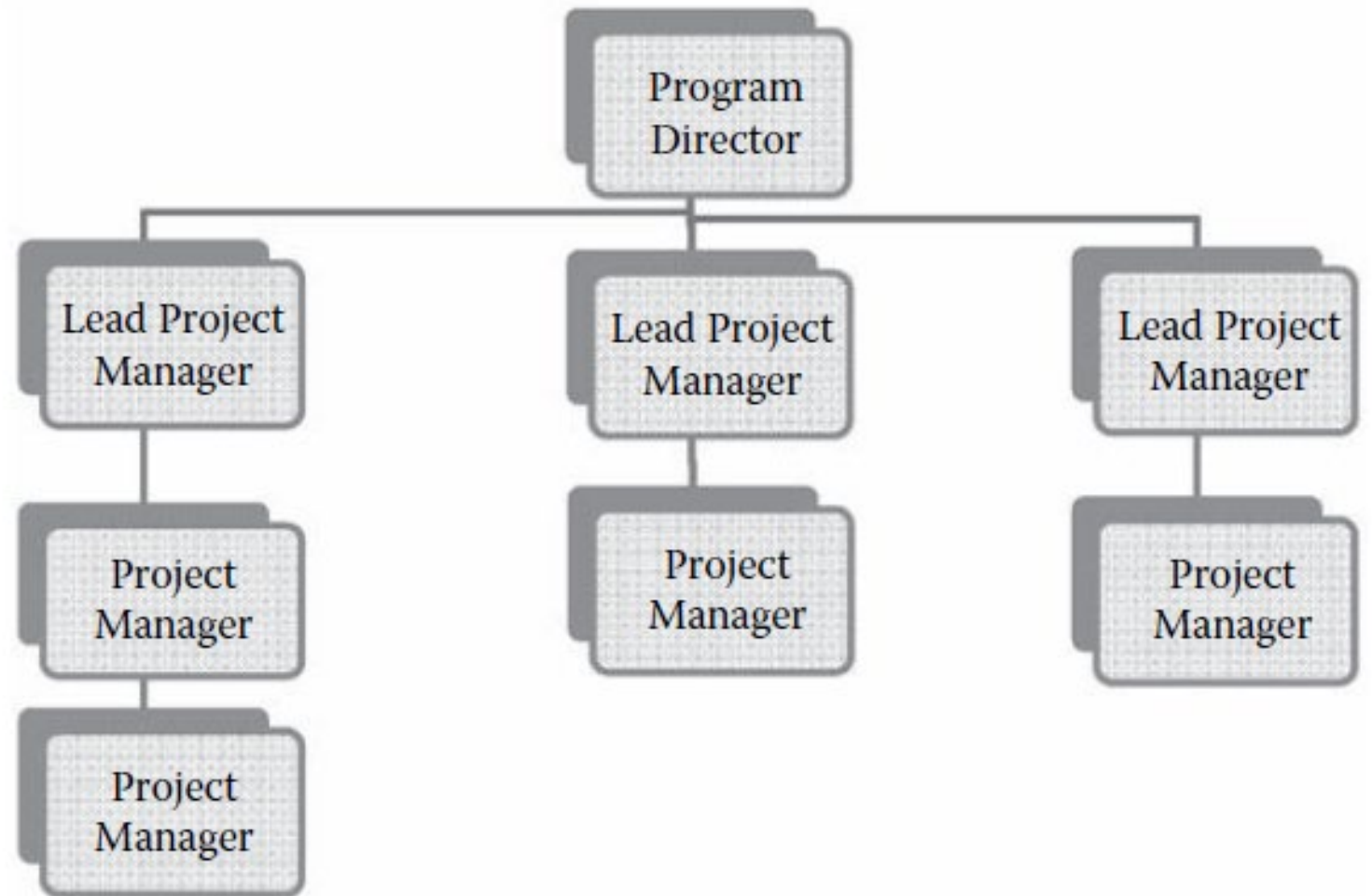


Organizational Structure

1. Project-focused Organization

- Easiest for the project manager (PM)
- PM will have dedicated staff.
- Difficult for healthcare setting

Fig: Representation of a project-focused Organization structure



Project Aim

Projects should have a clear focus on (ideally)a single aim :

“implement a new EPR system for a hospital”

“land a man on the moon “

achieving the aim = the project has been a success .

it is finished !



Project Objectives

Objectives the direction needed to reach the Aim. Objectives may expand on and give more details about the overall aim. Objectives should be understandable and SMARTER

S= Specific

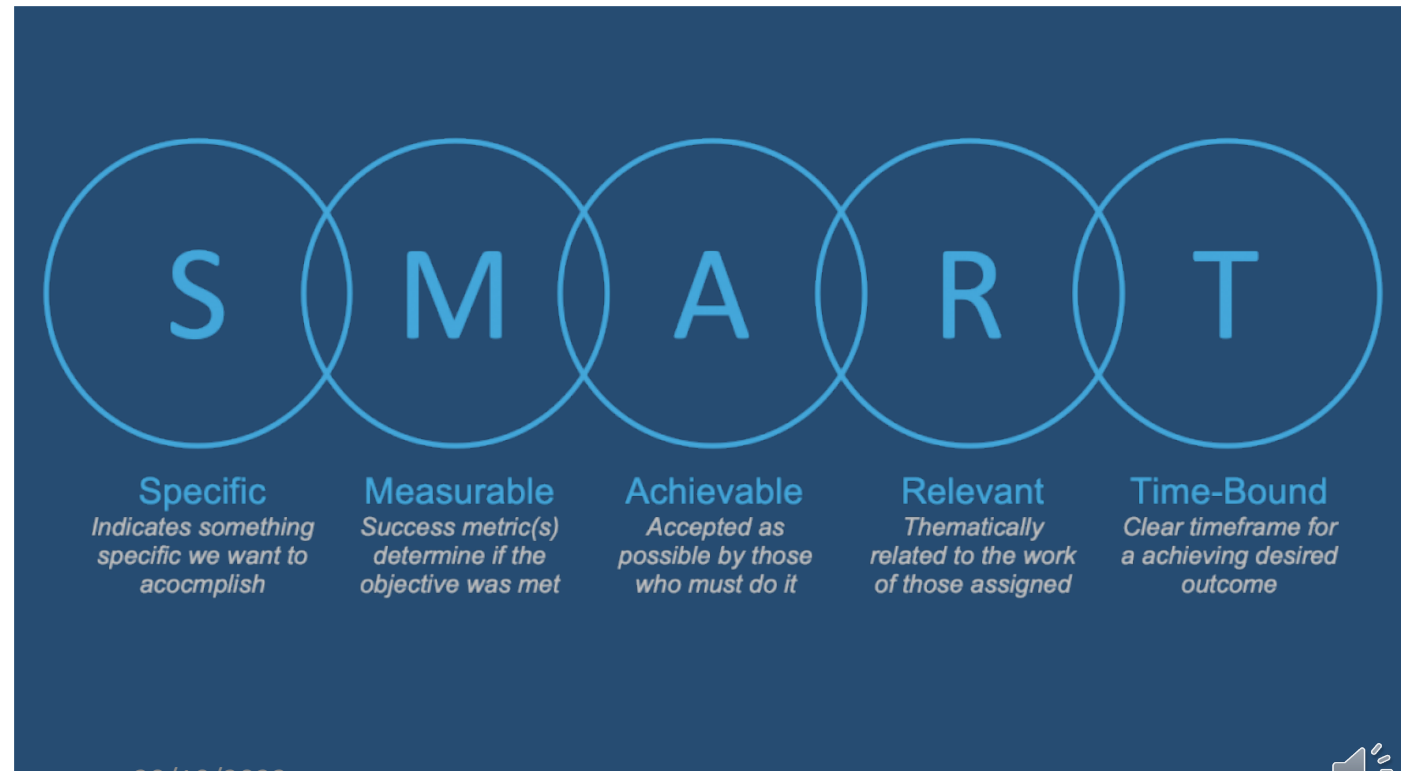
M=measurable

A=attainable

R=Related to the goal

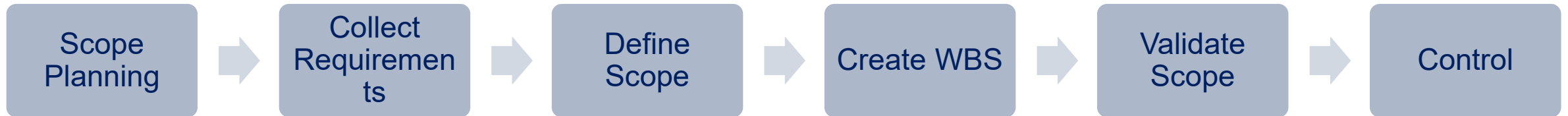
T=Timely

ER=environmentally responsible



Project Scope Statement

- **Scope:** all the work, activities and deliverables necessary to deliver the project
- **Scope planning** starts off once the project has been signed off (committed resources etc): documents project scope, defines how the scope will be verified and how changes will take place if needed.



Deliverables and Milestones

Deliverable: a deliverable in most cases has a time frame associated with a start date and a completion date. If the deliverable is significant it may have a milestone attached. Deliverables can be: reports, plans, prototypes, complete/final IS, presentations and many others, should be SMART

Deliverable = The Product of the project

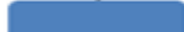
Milestone: a milestone is a point in time that requires no resources and has a duration of zero (there is no time associated with it).events that Usually mark the acceptance of a deliverable, achievement of something (e.g., completion of a task or a phase) – if we achieve all milestones theoretically we will complete the project on time. Should be realistic, reduce risks around the project, provide opportunities for focused work (think of assignment deadlines), opportunities to review.

Deadline: the Date for a deliverable:



Deliverables and Milestones

Project RedFlag Milestone Plan

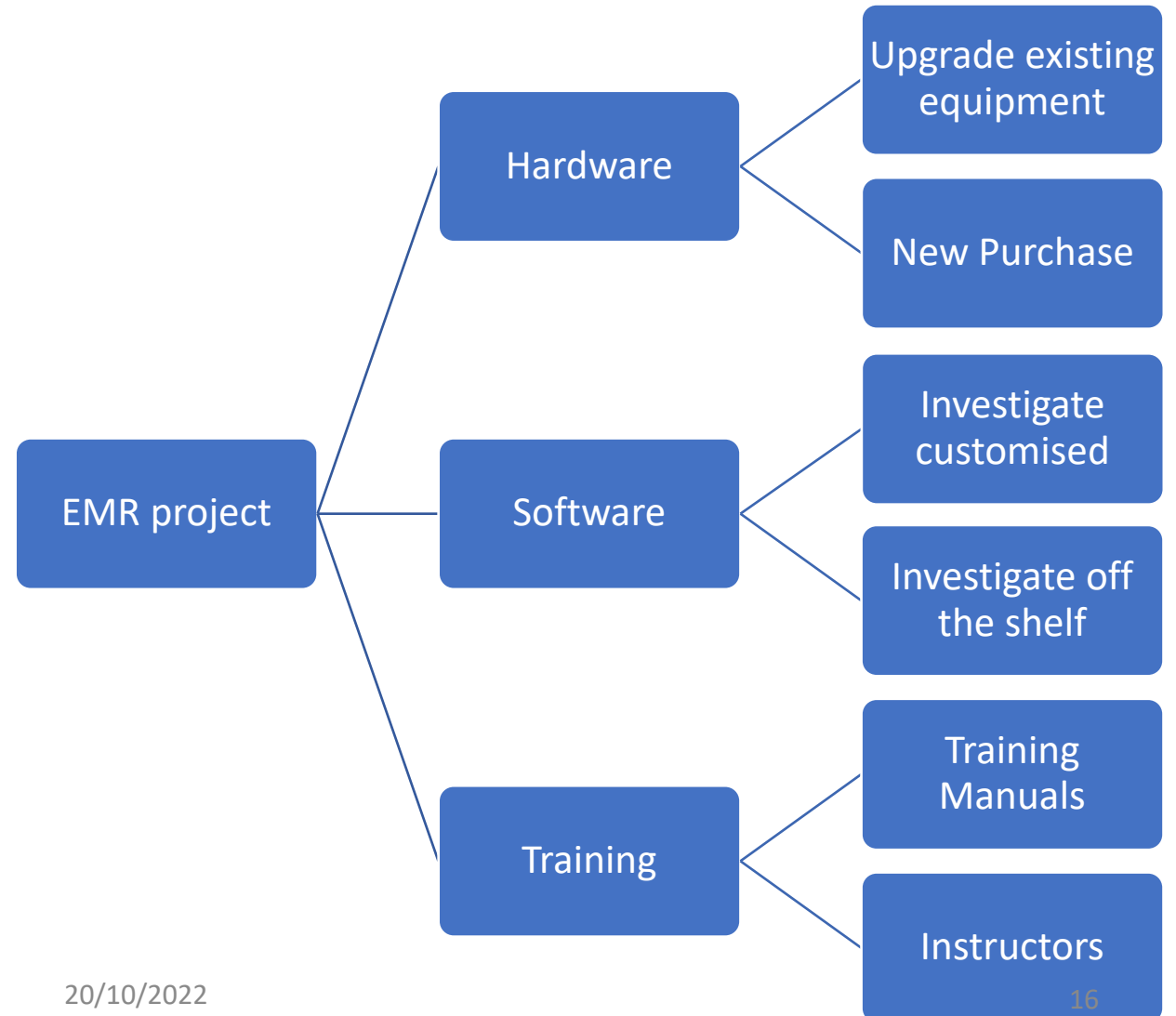
Key deliverables	2015				2016				Who is involved
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
Project scope clarification									Project Manager
Detailed planning sessions									Project team
Planning milestone (M1)			 5 Sep 2016						Steering Committee
Develop product									Project team
Conduct training									Project team
Handover to operations									Maintenance depart.
Execution milestone (M2)				 1 Jan 2016					Steering Committee
Finance follow-up									Finance team
Evaluation									Project team
Final survey									Customers
Execution milestone (M3)							 31 Oct 2016		Steering Committee



Work Breakdown Structure:

The Project Management Institute™ defines the WBS as

“a deliverable-oriented hierarchical decomposition of the work to be executed by the project team to accomplish the project objectives and create the required deliverable. It organizes and defines the total scope of the project.”



Work breakdown structure (WBS)

Things to consider



Think about the project as a whole and break down into phases

- What comes first? Next?
How will you know the project is finished?



Identify which tasks are dependent on each other, or which are composed of each other

- This is called task dependency - composition



Identify activities/tasks for each phase

- What needs to be done in each phase?



Examine how appropriate your breakdown is

- Is the WBS too simple or too complex?
- This is called task granularity



Detailed Task List

The DTL is a listing of unique work packages

- It should include a clear description of: work to be done (**what**), responsibilities (**who**), predecessor relationships (**dependencies**)
- It is built together with the WBS: there should be correspondence between the two
- We use the DTL for purposes of estimation, scheduling and resource allocation

Task ID	Task Description	Responsible Parties	Predecessors
A	Requirements Gathering		
A1	SSM Analysis	Project developers	None
A2	Deployment Diagram	Project developers	A1
A3	User Modeling	Project developers	A1
B	Acquire Hardware & Personnel	Project manager	
B1	Hire team	Project manager	
B2	Get quotes for hardware	OpenSDG tech team	A2
B3	Procure hardware	OpenSDG tech team	B2
B31	Generate purchase orders	OpenSDG tech team	B2
B32	Submit receipts	OpenSDG tech team	B31
B0	Project preparation milestone		B1, B2
C	Install Platform	OpenSDG tech team	B
C1	Install software	OpenSDG tech team	B3
C2	Test Functionality	OpenSDG tech team	C1
C21	Run controlled pilot tests	OpenSDG tech team	C1
C22	User testing	OpenSDG tech team	C1
C0	Installation milestone		C21, C22
D	Customise Platform	Project developers	A, C2
D1	Translate platform	Project developers	
D11	Bahasa	Project developers	
D12	Javanese	Project developers	
D2	Local government interface	Project developers	
D21	Data upload	Project developers	
D22	Local government dashboard	Project developers	
D3	Federal government dashboard	Project developers	
D0	Customisation milestone		D2, D3
E	User Training	OpenSDG trainers	A, B, C, D
E1	Data producer training	OpenSDG trainers	D21
E11	Course design	OpenSDG trainers	D21
E12	Course delivery	OpenSDG trainers	D21
E2	Data user training	OpenSDG trainers	D2, D3
E21	Course design	OpenSDG trainers	D2, D3



Detailed Task List

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B1	Hire team	Project manager	
B2	Get quotes for hardware	OpenSDG tech team	A2
B3	Procure hardware	OpenSDG tech team	B2
B31	Generate purchase orders	OpenSDG tech team	B2
B32	Submit receipts	OpenSDG tech team	B31

B0	Project preparation milestone		Task ID	Resources Required	Deliverable	Estimated Duration
C	Install Platform	OpenSDG tec	A1	Project developers, key stakeholders	Systems analysis & recommendations for implementation	10 days
C1	Install software	OpenSDG tec				
C2	Test Functionality	OpenSDG tec				
C21	Run controlled pilot tests	OpenSDG tec	A2	Project developers, key stakeholders	OpenSDG tech team and trainers onboard	30 days
C22	User testing	OpenSDG tec	A3	Project developers, key stakeholders		
C0	Installation milestone		B1	Project manager		
D	Customise Platform	Project devel	B2	Tech team	Three quotes per item	10 days
D1	Translate platform	Project devel	B3	Tech team, project manager	Hardware	5 days
D11	Bahasa	Project devel				
D12	Javanese	Project devel				
D2	Local government interface	Project devel	C1	Tech team	Software installed	2 days
D21	Data upload	Project devel	C2	Tech team	Software tested	5 days
D22	Local government dashboard	Project devel				
D3	Federal government dashboard	Project devel				
D0	Customisation milestone					
E	User Training	OpenSDG tra				
E1	Data producer training	OpenSDG tra				
E11	Course design	OpenSDG tra				



Managing Time:

Developing a schedule requires the definition of four things:

- (1) what needs to be done,
- (2) who will accomplish those tasks
- (3) how much time each of those defined tasks will need, and
- (4) the sequence of those tasks, including which need to be done first (dependencies) and which can be done in parallel.



Time – Tracking Progress

Effective time management depends on record keeping, e.g.

- **Timesheet**
 - daily/weekly/monthly?
 - work completed/effort spent
 - work to do/estimate to go
- **Project management software: Microsoft Project, ProjectLibre, Trello, Jira etc.**
 - Record each task percentage of completion
 - Record the actual start, finish, actual and remaining duration for each task
 - Completion percentage, to dos



Time – Review and Corrections

Periodic (what frequency?) review of progress (with whom?)

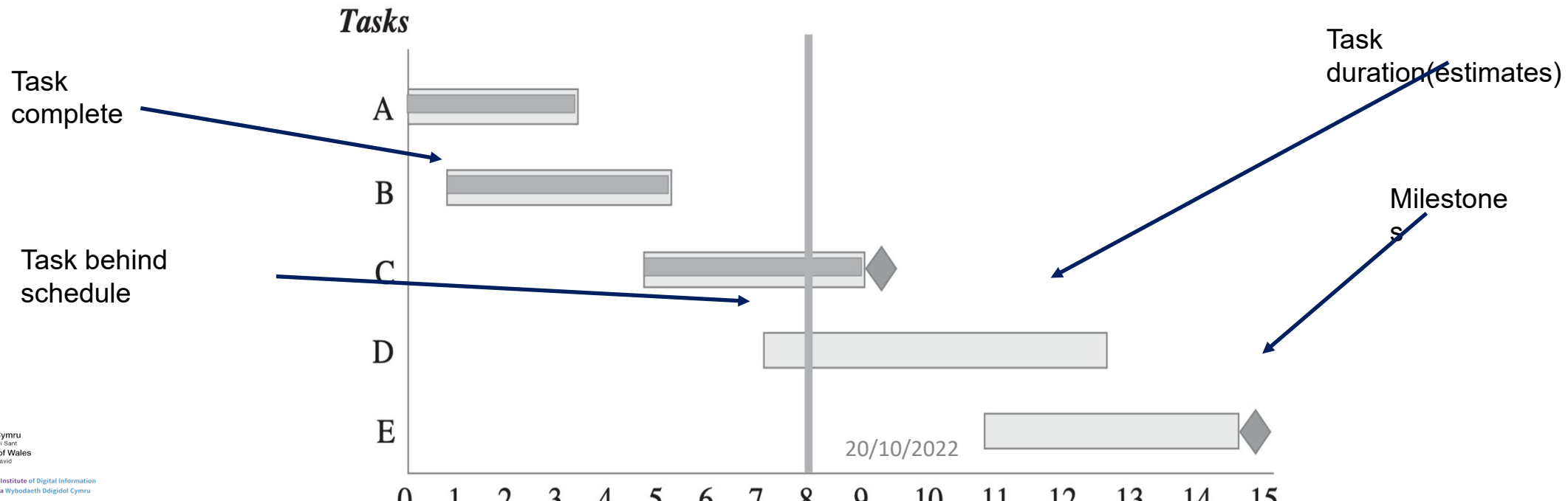
Identify corrective actions, e.g.,

- Replace staff
- Assigning more staff to tasks
- Adding higher skilled staff
- Improve supervision
- Overtime
- Staff incentives
- Training
- Increase the priority of tasks
- Outsource
- Reduce quality
- Negotiate with the customer
- Do nothing

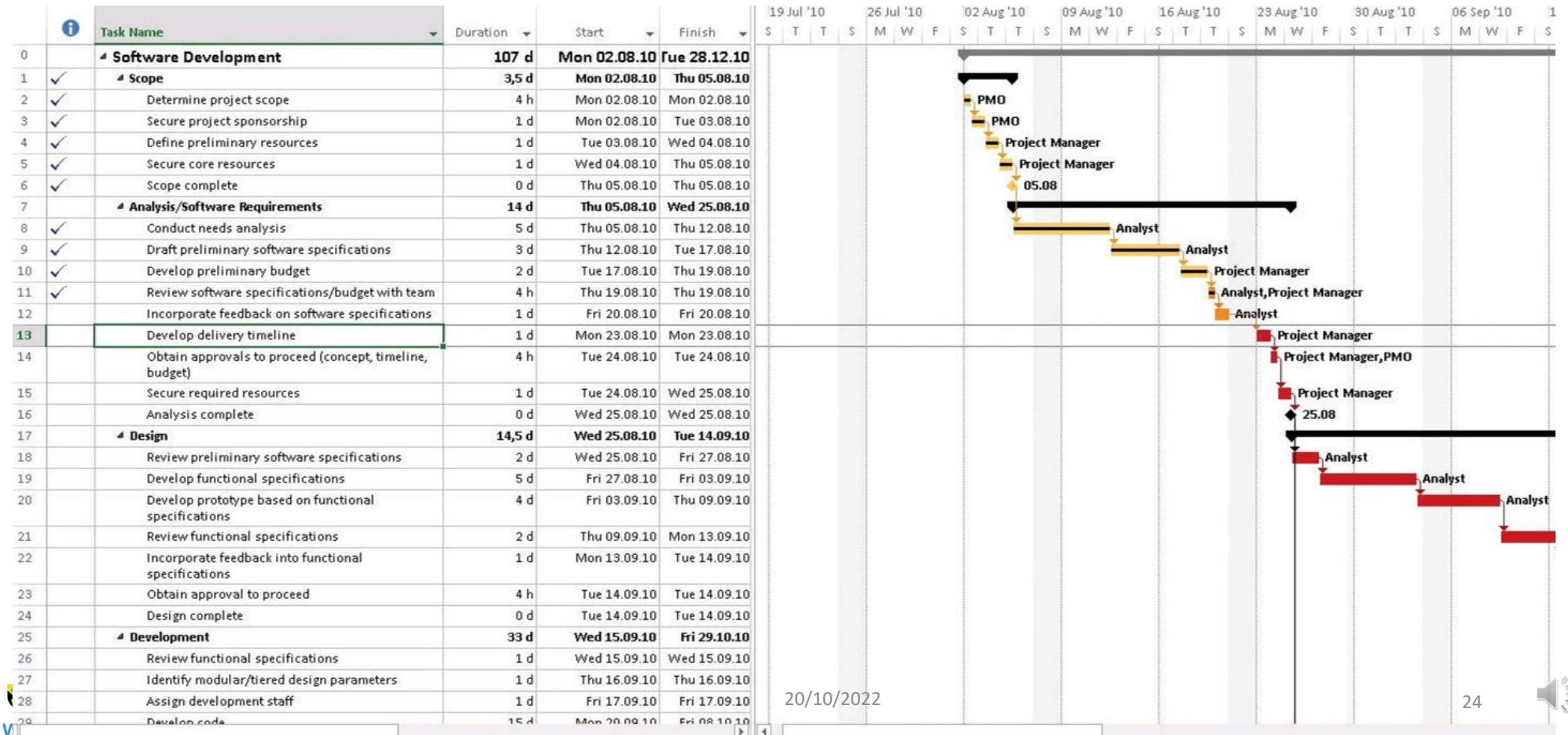


Gantt Chart

- How long will a project take?
- How are we going to prioritise tasks?
- **Gantt Chart:** represents tasks and their duration as a bar chart where task hierarchy and dependencies give us the overall duration
- Often used for waterfall projects



Gantt Chart



Learning Outcome

1. Project Planning and Organising
2. Project Estimating
3. Project Scheduling

