

# Project Planning Tools

Unit R012 - Understanding tools, techniques, methods and processes for technological solutions

# Introduction

- During the planning phase the project **manager** will use a range of **planning tools** to create **documentation** to help during the creation of the product.
- Some tools can be **used** within the **phase review** to **judge** whether the project is **running** as **planned**.
- Some tools can be **created** to **show tasks** and/or **processes** which have to be **completed** in the creation of the product.

# Introduction

- The choice of planning tool used may depend on the type of program being created.
- There are many types of planning tool. These are:
  - Task Lists
  - Gantt Charts
  - PERT (Project Evaluation and Review Technique)
  - Critical Path
  - Visualisation Diagram
  - Flow Charts
  - Mind Map

# Task Lists

- A **task list** will **show** an **ordered** list of **tasks** that **must** be **completed** during a project.
- They will also show the **start** and **end dates** and the **duration** that each task has taken.
- Some **larger** tasks may need **breaking** down into **sub-tasks**.
- By using this it allows a **project manager** to **monitor** the **project** and see what **tasks have/have not** been **completed**.

# Task Lists

Task No	Task	Start Date	End Date	Duration
1	Gather requirements	1 March	4 March	3
2	Legislation requirements	6 March	10 March	4
3	Feasibility report	12 March	20 March	8
4	Phase review	21 March	22 March	1
5	Planning	24 March	12 April	19
6	Create constraints list	3 April	12 April	9
7	Create test plans	9 April	12 April	3
8	Phase review	14 April	15 April	1

# Task Lists

- Key components of task lists are:
  - Tasks
  - Sub-tasks
  - Start Date
  - End Date
  - Duration
  - Resources

# Task Lists

Advantages	Disadvantages
Can help focus on the tasks to be produced	Should not be used for large and complex projects
No tasks will be missed out.	

# Gantt Chart

- A **Gantt chart** shows each **task** as a **block** of **time** and indicates:
  - How **long** each task should take
  - The **order** of the tasks
  - **Dependencies** between tasks
    - Tasks that cant be started until a previous task has been completed
  - **Milestones**
  - **Contingency** time



# Gantt Chart

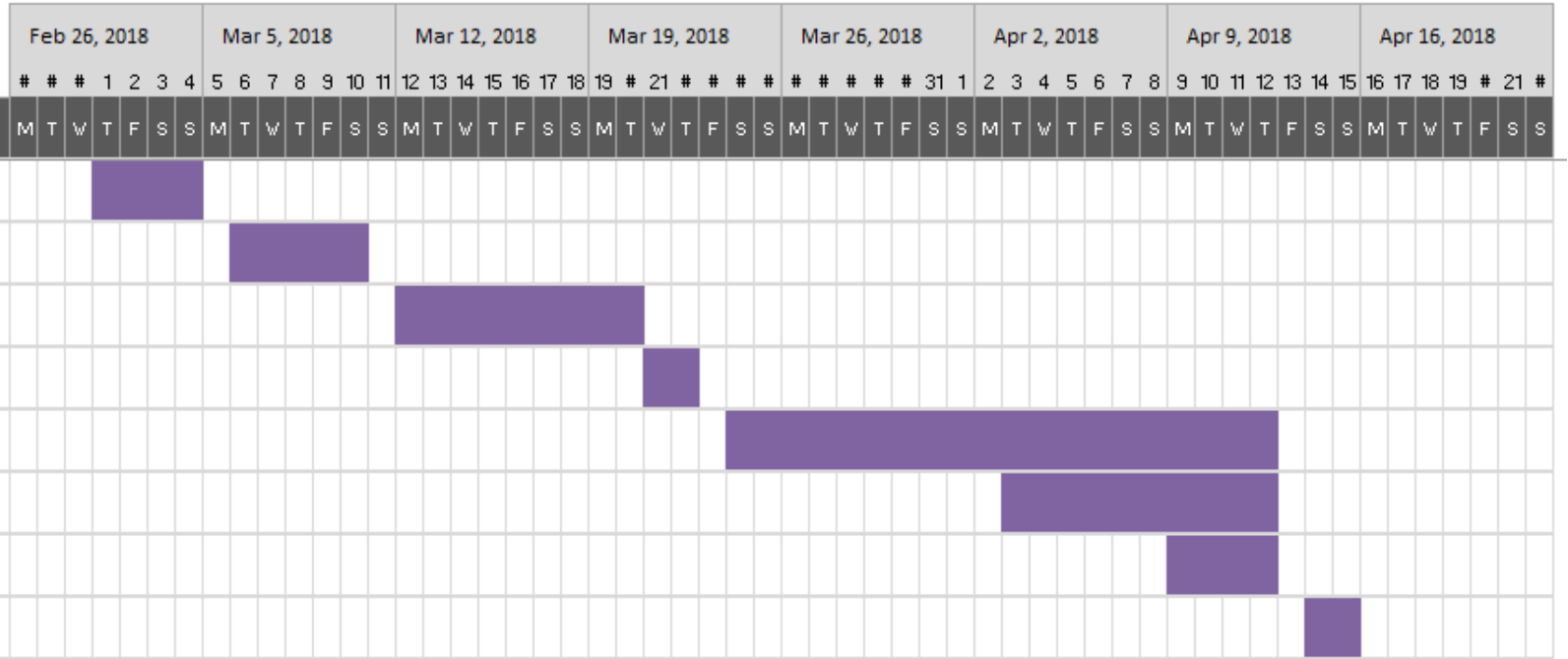
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- A Gantt Chart can be made from the table above. Some points to note are:
  - Some tasks are running at the same time.
  - Contingency – Some tasks do not start directly after the previous has finished.

# Gantt Chart

Project Lead

Thu, 3/1/2018
1



- What are the possible consequences if contingency time had not been built in?

# Gantt Chart

- Key **components** of **Gantt** Charts are:
  - **Date/Days** along the top
  - **Tasks** down the left hand side
  - **Blocks** to represent the **time** allocated
  - Key **milestones** highlighted as shapes
  - **Dependant** tasks
  - **Concurrent** tasks
- Can be created in Project Management or Spreadsheet software

# Gantt Chart

Advantages	Disadvantages
Can show estimated time schedule	Can be too simple for a complex project
Tasks are shown against a time schedule	Task time is estimated so the plan may be unrealistic
Comments can be added	Task dependencies can be difficult to identify at the start of a project
Resources for each task can be shown	Not easy to identify a critical path



# PERT (Project Evaluation and Review Technique)

- A **PERT chart** uses **circles** (sometimes called nodes) to **represent tasks**
- **Lines** are **drawn between** the **nodes** to represent **dependant** tasks and the **time** allocated to them.
- **Two lines** can come out of **one node** to show **tasks** that can be done at the **same time**.

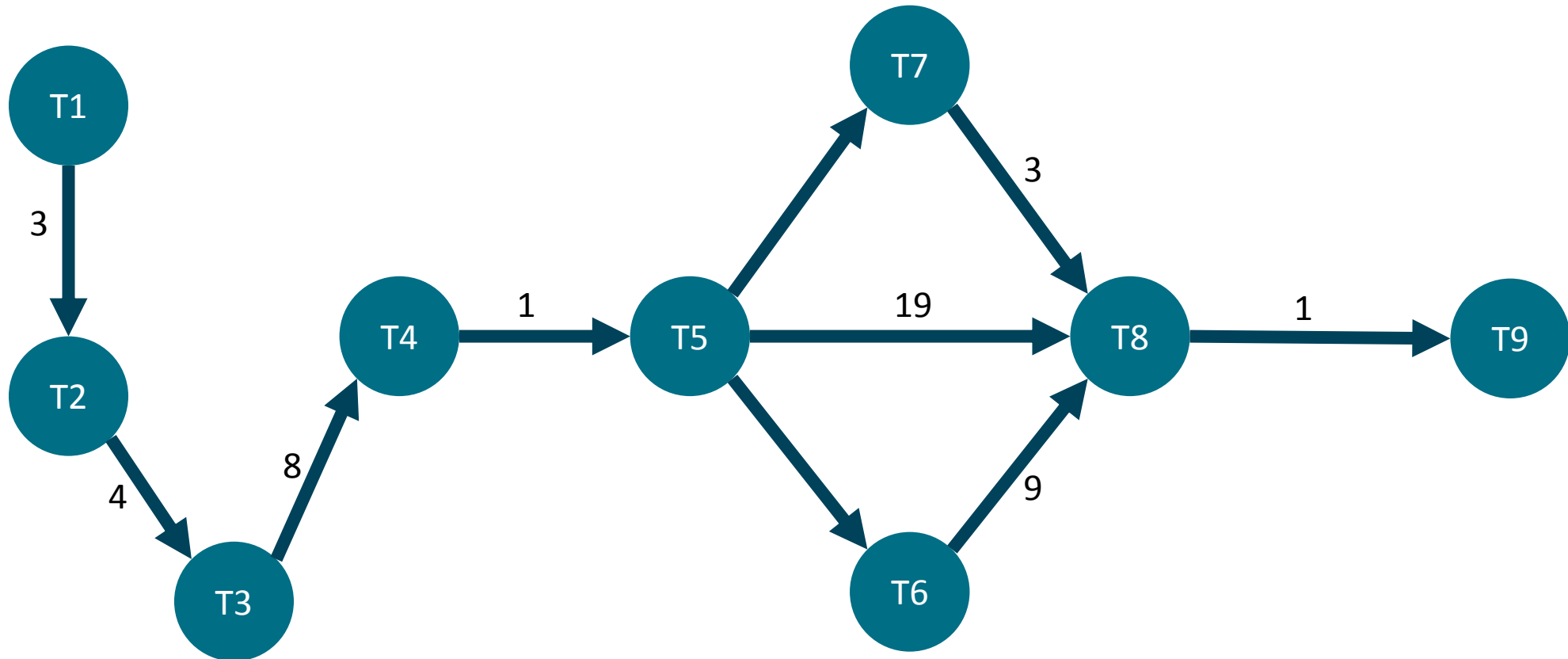


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# PERT (Project Evaluation and Review Technique)



# PERT (Project Evaluation and Review Technique)

- Key **components** of **PERT** Charts are:
  - **Nodes**
  - **Sub-nodes**
  - **Time/duration** links
  - Task **sequences**
  - **Dependant** tasks
  - **Concurrent** tasks
  - Can show a **critical path**
- Could be created in Word Processing or DTP software





# PERT (Project Evaluation and Review Technique)

Advantages	Disadvantages
Can show slack time so resources can be reallocated	Can become confusing
Enables timescales to be planned	Needs skill and knowledge to be able to create
Tasks can be scheduled as dependant or concurrent	Can be limited in large and complex projects

# Critical Path

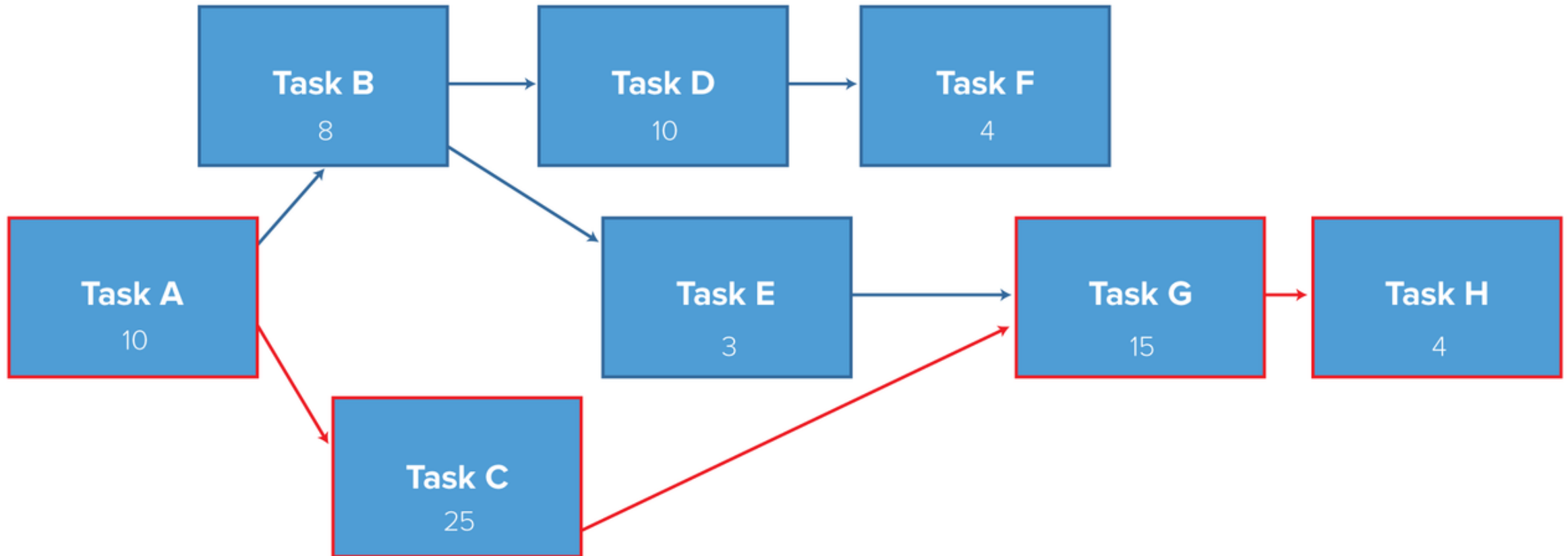
- The **critical path** is the **longest** path that the **project** should **take** to be **completed**.
- It **analyses** the **tasks** that are **dependant** and works out the time needed to complete all of them.
- The critical path is **used** by the **project manager** to **monitor** the project and to make sure that every task is running to **schedule**

# Critical Path

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- The critical path for these tasks is 45 days.

# Critical Path



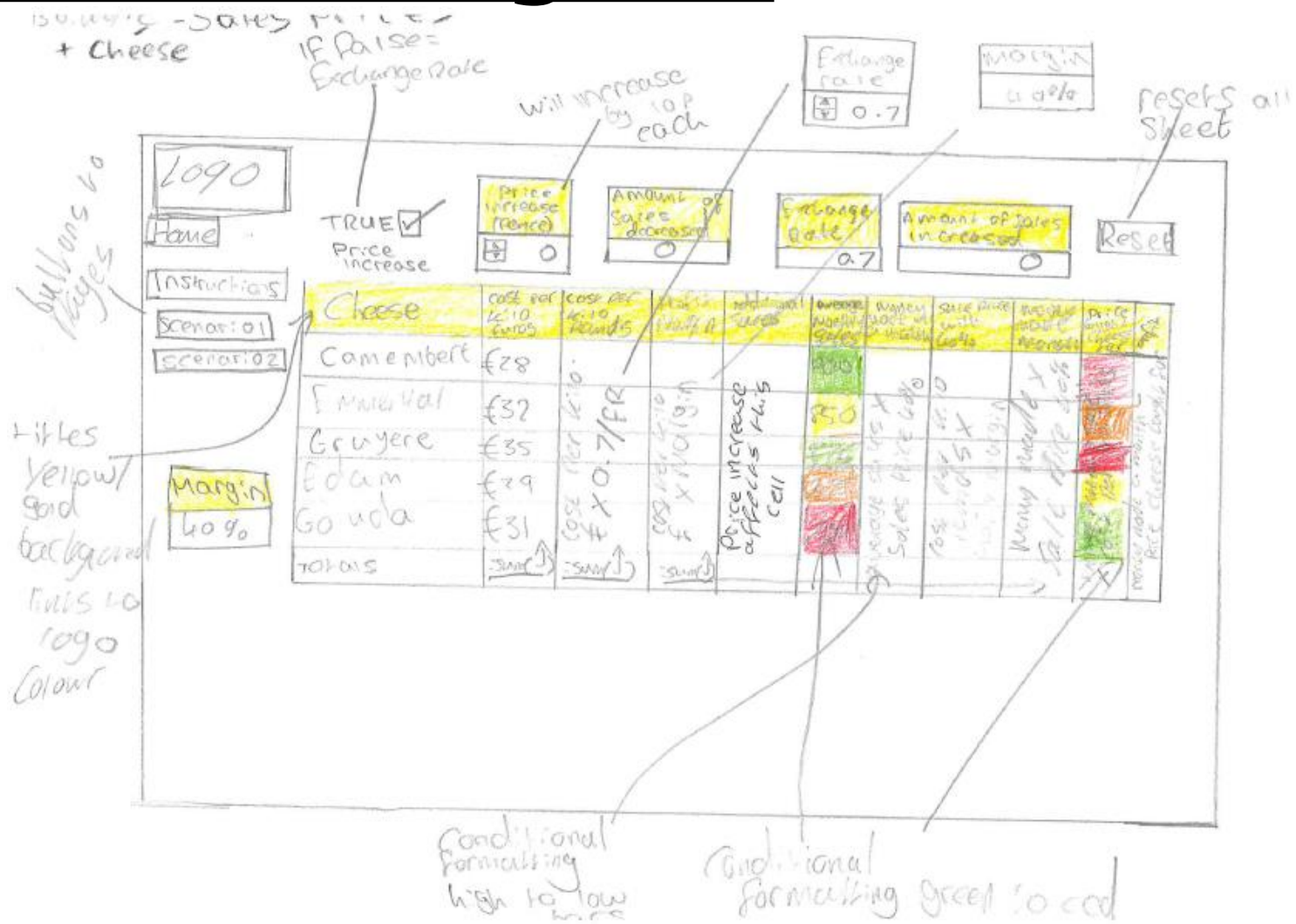
# Visualisation Diagram

- A **visualisation diagram** is a **sketch** of what the final **product** will look like.
- This is usually created for static products like:
  - CD/DVD **covers**
  - Film **Posters**
  - **Webpages**
  - Magazine **covers**
- It is **not** usually **suitable** for **moving products** like videos etc.

# Visualisation Diagram

- It should be used to **show** the **format** and **layout** of outputs.
- This diagram can be **created** to help people **understand numerical data**.
  - E.g. Graphs/Charts
- Common benefits of visualisation diagrams are:
  - Information can be **understood quickly**
  - Emerging **trends** and **patterns** can be **spotted quickly**.
  - **Non-specialists** can **understand** the **information** being shown.

# Visualisation Diagram



# Visualisation Diagram

- Key **components** of **Visualisation Diagram** are:
  - Multiple **images/graphics**
  - **Size** and **position** of images/graphics
  - **Position** and **style** of text
  - **Fonts**
  - **Annotations**
  - **Colours/themes**
- Could be created in Word Processing or DTP software



# Visualisation Diagram






Advantages	Disadvantages
Information and data can be understood quickly	Not appropriate for large and complex projects
Emerging trends and patterns can be spotted quickly	
Non-specialists can understand the data shown	

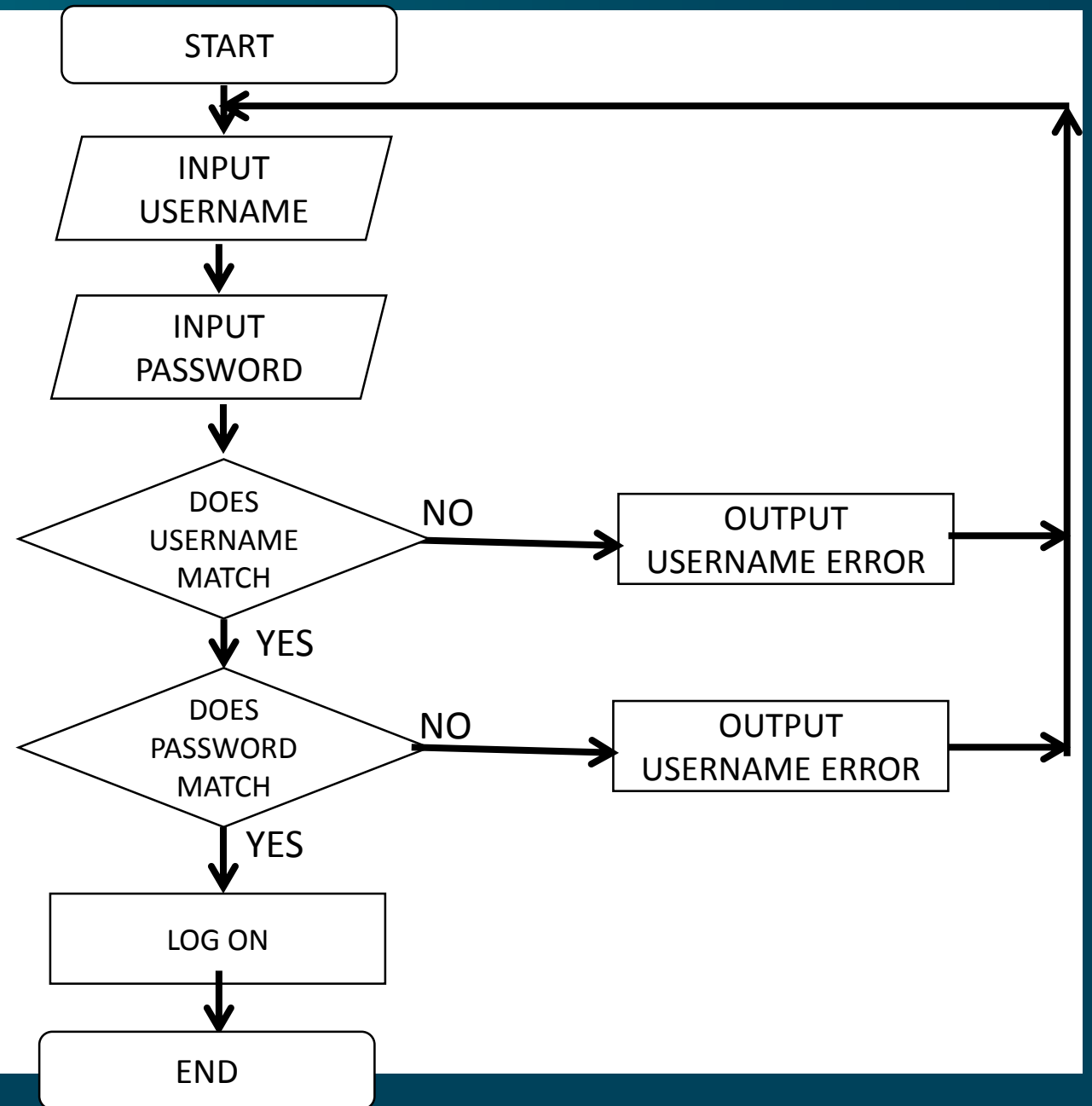
# Flow Charts

- A **flow chart** can be used to show the **steps, decisions** and **outputs** in a process.
- It can be used to create a simple **diagram** of all the **steps** that need to be **carried out** in a **project**.
- A flow chart will be **set out** in **order** of when tasks will take place. Unlike PERT charts, there is **no indication** of **timings**.

# Flow Charts

A simple flowchart showing how users log on to a system.

Symbol	Name	Function
	Start/end	An oval represents a start or end point.
	Arrows	A line is a connector that shows relationships between the representative shapes.
	Input/Output	A parallelogram represents input or output.
	Process	A rectangle represents a process.
	Decision	A diamond indicates a decision.



# Flow Charts

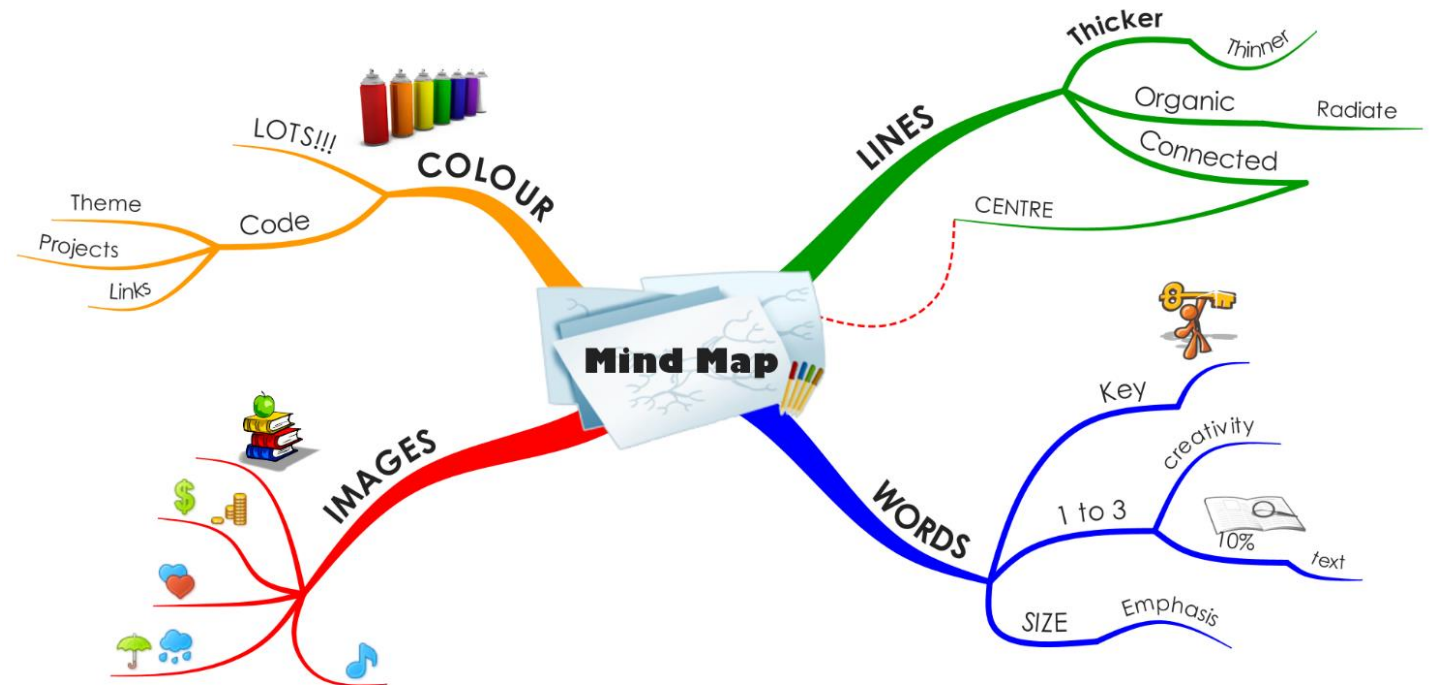
- Key **components** of Flow Charts are:
  - **Start point**
  - **End points**
  - **Decisions**
  - **Processes**
  - **Connecting lines**
  - **Directional arrows**
- Could be created in Word Processing or DTP software

# Flow Charts

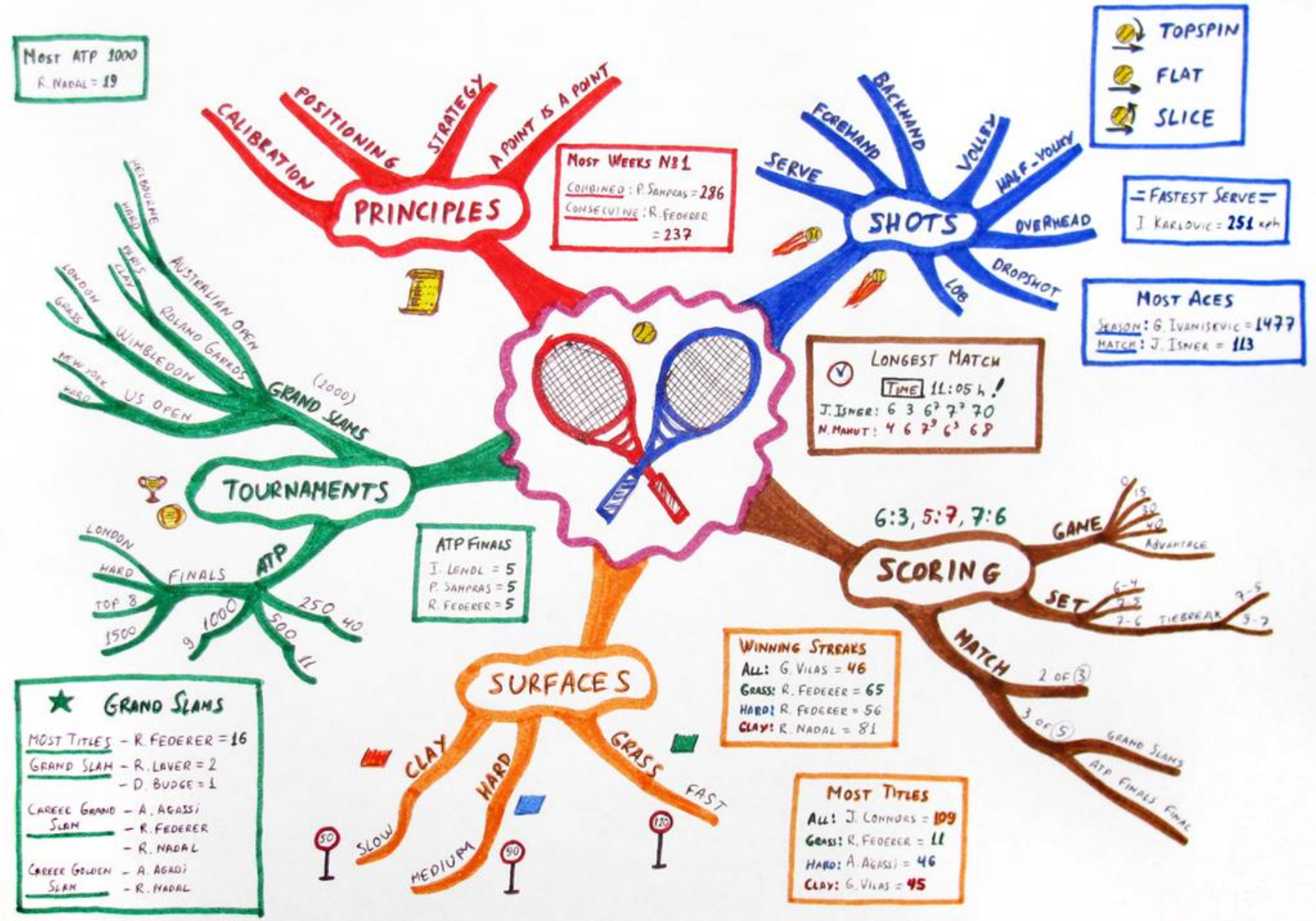
Advantages	Disadvantages
Can be useful for smaller projects with a small number of tasks and decisions	Does not show time allocated for each event
Does not need any specialist project planning knowledge to understand the flow chart	Tasks shown sequentially so does not show concurrent tasks obviously.

# Mind Maps

- Mind maps are sometimes called spider diagrams and usually **start with** a **target** in the middle.
- From there other **ideas/tasks** are **linked off** the central target and **further sub tasks** off of them.



# Mind Maps



# Mind Maps

- Key **components** of Mind Maps are:
  - **Nodes**
  - **Sub-nodes**
  - **Branches/connecting** lines
  - Key **words**
  - **Colour**
  - **Images**
- Could be created in Word Processing or DTP software





# Mind Maps

Advantages	Disadvantages
Easy to add tasks/ideas at any time	No time schedule
Can help focus on tasks and the links between them.	Can be difficult for others to understand
Shows dependant tasks	Does not show concurrent tasks

