

### Prior to planning

**Business Case** should be set out. Outlines how projects benefits outweigh costs

**Project objectives** should be ID'd and agreed. Objectives define successful project outcomes

### Activity planning

Work out activity order. Draw up an activity network diagram. There are two ways:

#### 1. Activity on node used in this cheatsheet

- Activities are represented on nodes
- Used by most PM tools inc MS Project

#### 2. Activity on arrow

- Activities are represented by arrow

### Identifying Milestones

Events which do not take up time or energy.

### Estimating elapsed time

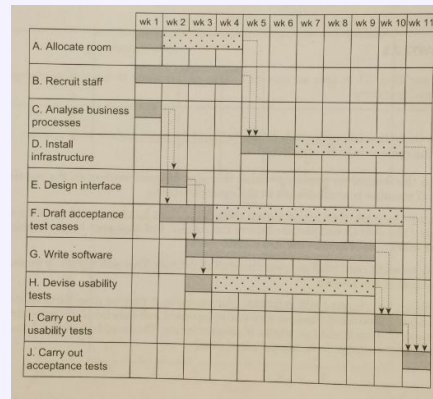
- Estimate how long each activity will take
- Add these to the nodes in your diagram
- If task finishes on day 4, the next task should start on day 5
- Float is leeway time between activities

### Critical path (CP)

Chain of activities from beginning to end with no float. A CP activity delayed then project delayed. Activity span = total period during which the activity has to take place

ES = Earliest start, EF = Earliest finish, LS = Latest start, LF = Latest finish

### Gantt Chart Example



### Useful equations

Earliest finish = earliest start + duration

Latest start = latest finish - duration

Latest finish = earliest of 'latest start' activities dependent on the activity

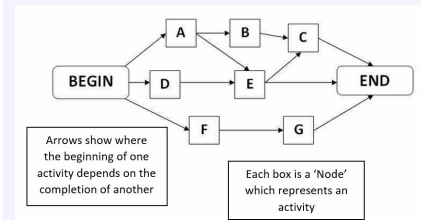
Float = latest finish - earliest start - duration

Activity span = latest finish - earliest start

### Product based planning

1. ID project deliverables: project outputs delivered to client. Tangible.
2. ID intermediate products: created during project, but not delivered to client.
3. List deliverables or display them in a work breakdown structure
4. Produce definitions for stakeholders
  - ID or name of the product
  - Description
  - Product/s that need to exist before this one, those it is derived from
  - Components that make up the product
  - Quality criteria which explain how product will be judged as satisfactory

### Activity on node example



Each node then given information in image 'Layout of an activity node'

### Resource allocation

Resources = raw materials, staff & equip

For each activity ID the resource type needed

For HR identify role to carry out the task

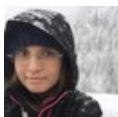
On activity network diagram for each node note resources needed

### Problems you may encounter

- Not enough staff available - resource clash
- Use the float to delay until staff available
- Delay start even though float used up. Will delay completion
- Buy in staff to cover deficiency. ^ cost
- Split into sub activities to spread evenly
- Need to keep workflow steady

### Put into a form that everyone will understand e.g. Gantt chart

- Activities left hand side
- Calendar units along the top
- Block symbols used to show when activities will be taken out
- Free float shown in light blocks
- Arrows show dependencies



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Published 5th November, 2015.

Last updated 12th May, 2016.

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### Work / activity based planning

Very similar to 'Product based planning' but replace the products with activities

### Product flow diagram (PFD)

Part of the **Product approach**

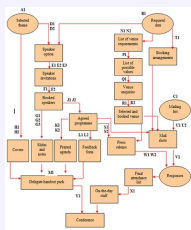
Visual representation of order in which a sequence of products is created according to product based planning principles

Should contain all of the products of the Product Breakdown Structure (equivalent to a Work Breakdown Structure) - the PFD should be kept simple

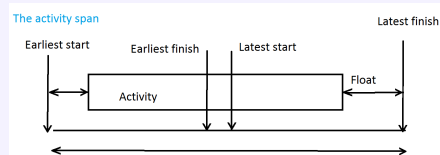
Flows top to bottom and left to right

Looping back is not allowed

### Product flow diagram (PFD) - Example

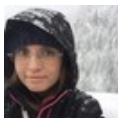


### The activity span



### Layout of an activity node

Earliest start	Duration	Earliest finish
Activity identifier/description		
Latest start	Float	Latest finish



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