The twelve steps to managing a project successfully

1. Agree the success criteria and major constraints with the customer, in writing.

Planning

2. List the tasks

3. Estimate times and costs for each task

4. Assess dependencies and draw critical path – how long will the project take?

5. Consider crashing or overlapping critical tasks

6. Draw Gantt (bar) chart for the project

7. Calculate resource requirements over time: adjust using float of non-critical tasks

8. Assess risks, and prepare action plans
   - preventative and protective
   - ensure contingency

Possibly back to step 1 to negotiate

Action

9. Monitor progress to the Gantt chart (watching the critical ones particularly closely)

10. Monitor cumulative cost

11. Make decisions on slipping or crashing, and communicate progress and changes

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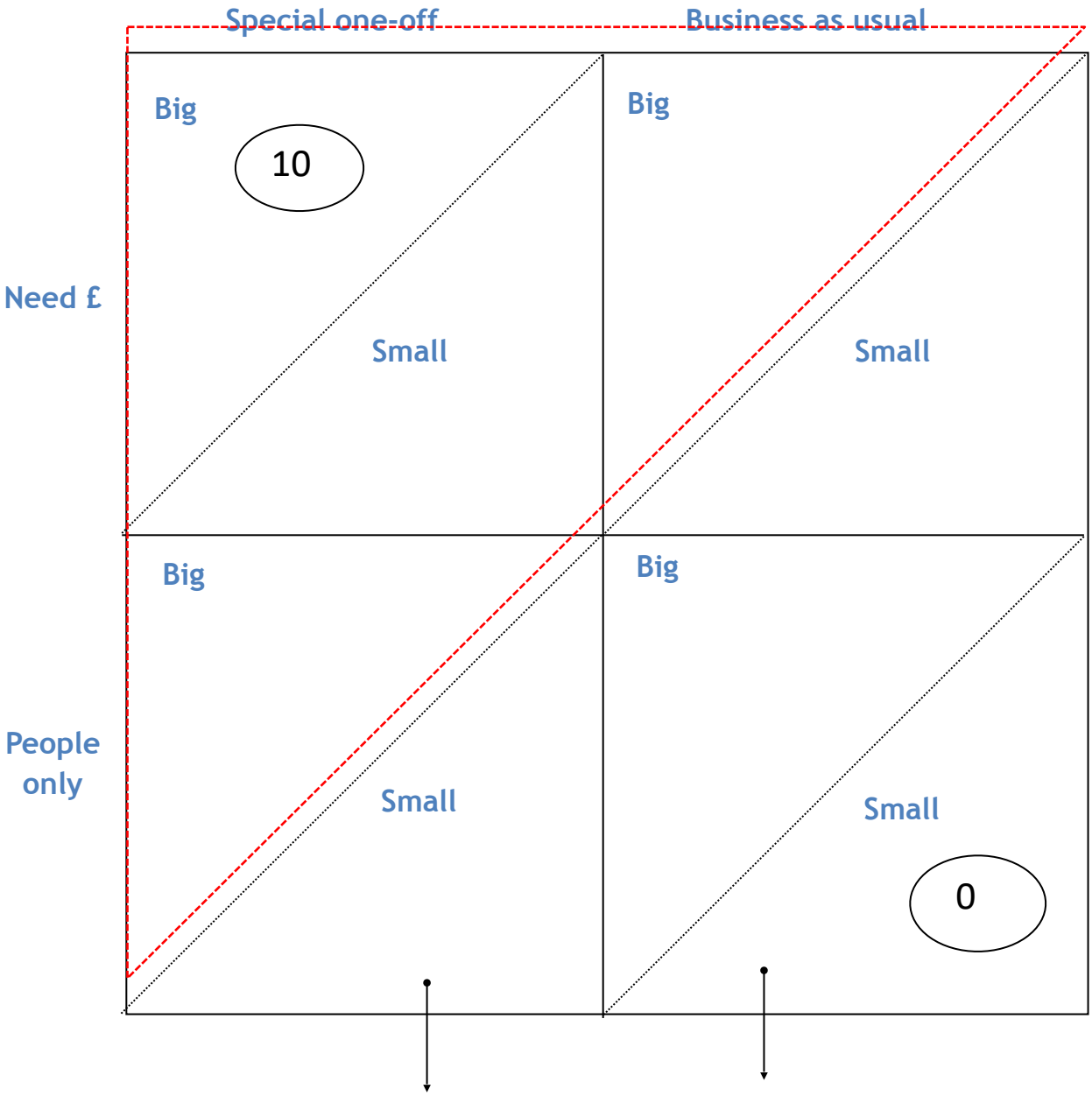
12. Review: learn and praise

Projects are…

Has a start & a finish / Big / Not business as usual / Need money

May or may not be in the service plan / annual plan / business plan



- May impact other projects
- May affect total resource plan
- Strategic fit – should we be doing it?

Project Management methodologies compared

PRINCE2

Invented by the UK government in 1985 for large IT projects (and look at them!)

Broadened out to all projects in 1995: PRINCE '2', and very popular since then

In decline now

Product extension called MSP

Has a multiple choice test at the end which is a sort of qualification

Gives an overview of all projects

Gives control of projects – they can't be started or progress to next stages without sign off

Forces management to engage with the PM process

Great if you are doing one big project and you a full time PM

Expensive to learn and to implement

Too complicated (just google it and see for yourself)

Doesn't tell you HOW to do anything e.g. how to estimate tasks. Not even how to use Gantt charts. Just certifies that there is a plan, signed off by the board.

Too boring for normal staff to engage with

I've never seen it work successfully

APM Association of Project Management

Been around for 100 years, it's the combined experience of 1000s of real Project Managers

All their knowledge is in an ever increasing tome called the PMBOK (Body of Knowledge)

Has a qualification called PMP (Project Management Professional) which is well respected

Very practical

Tells the PM everything they need to do in the process of planning and implementing a project

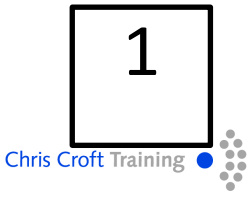
Allows you to forecast finish time and cost at any point during your project

Recognised in USA as well – they call it PMI over there.

The PMBOK can be too complicated – needs to be boiled down and just the good bits used, (which is what my course does)

Does require a list of all tasks, and estimates of all tasks, at the start – though risk planning recognises that some of these will change during the project.

Define the project clearly



Agile / Scrum The latest trendy thing being pushed by consultants

Based on remaining flexible when there is uncertainty in the project, e.g. software design

Contains terms like “Sprints”, “Burndown charts”, and “Scrum masters”.

Acknowledges the risk involved in creative processes.

Sounds fun and exciting.

Not able to predict finish time or total cost, unless these are fixed and the deliverables are allowed to be completely flexible.

So not really a plan at all, more a weekly time management meeting. (Those are good, but not enough!)

All the risk is with the customer

and agree it with everyone

If the project is not clearly defined, in writing, two things will happen:

1. **During:** The client will move the goal posts
2. **After:** You will never have done enough

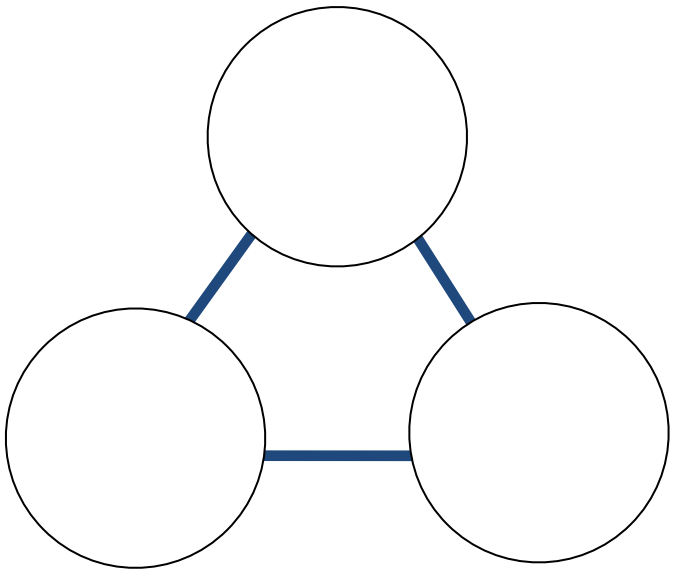
Therefore: define all outcomes and constraints

e.g. when client decisions are required by,
when staff are required and promised to be available,
when equipment is due to be available
Define the reporting procedure: how often, how formal, how much detail, e.g. monthly written summary, or 'only if there's a problem'.

Multiple Stakeholders? – Have a Kick-Off Meeting - or maybe **TWO**…
one where you discuss what everyone wants, and then, after you’ve been away to do some planning in order to check feasibility, another where you all agree on (and sign up to) what will be done. Signing up can either be by a PID (Project Initiation Doc) or by emailing the minutes.
Negotiate – get them to open first, and when you open don’t quote a round number

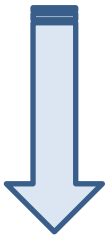
Be assertive! The time to be strong is at the start of the project!
PMYS: Planning makes you stronger – use Gantt charts etc to argue your case with facts

Identify the key project driver (Cost, Quality or Time)



by asking probing questions:

- **why**
  is it required by that date?
- **what if**
  it goes over budget by £1000?
- **offer to trade**
  (see examples below)



"If we could have a bit longer we could add some extra features…"
"We could add some extra features and still deliver on time, but this would add a little to the cost.."
"We could save you some money if we could take out one or two of the features…"

List the tasks

2

Involve your team for this part of the process!

1. **Brainstorm:** best as a group: every task, in any order, then organise them afterwards, perhaps into a hierarchy, filling in the blanks. Involvement means better answers and more motivation.

2. **Hierarchy / logical approach** - divide the task down into sub-sections (keep dividing them until tasks are done by one person, one type of person, or are very short). This is sometimes known as a Work Breakdown Structure (WBS).

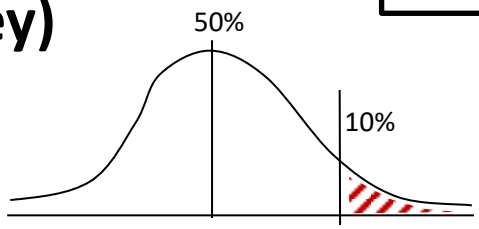
3. **Historical:** see what they did on the last similar job;
   are there any jobs you've forgotten? Is there an expert you can ask?

Include **Decide, Gain Approval,** and **Wait** as tasks - they take time, and could delay the project.

Granularity: how small or large should tasks be?
The answer, ideally, is to divide tasks down until there is:

* no overlap,
* accountability to one person or skill-group, and
* it is possible to monitor progress closely by completion of each task.

Estimate the time (and money)



When times may vary,
consider the range, and don't take the average.

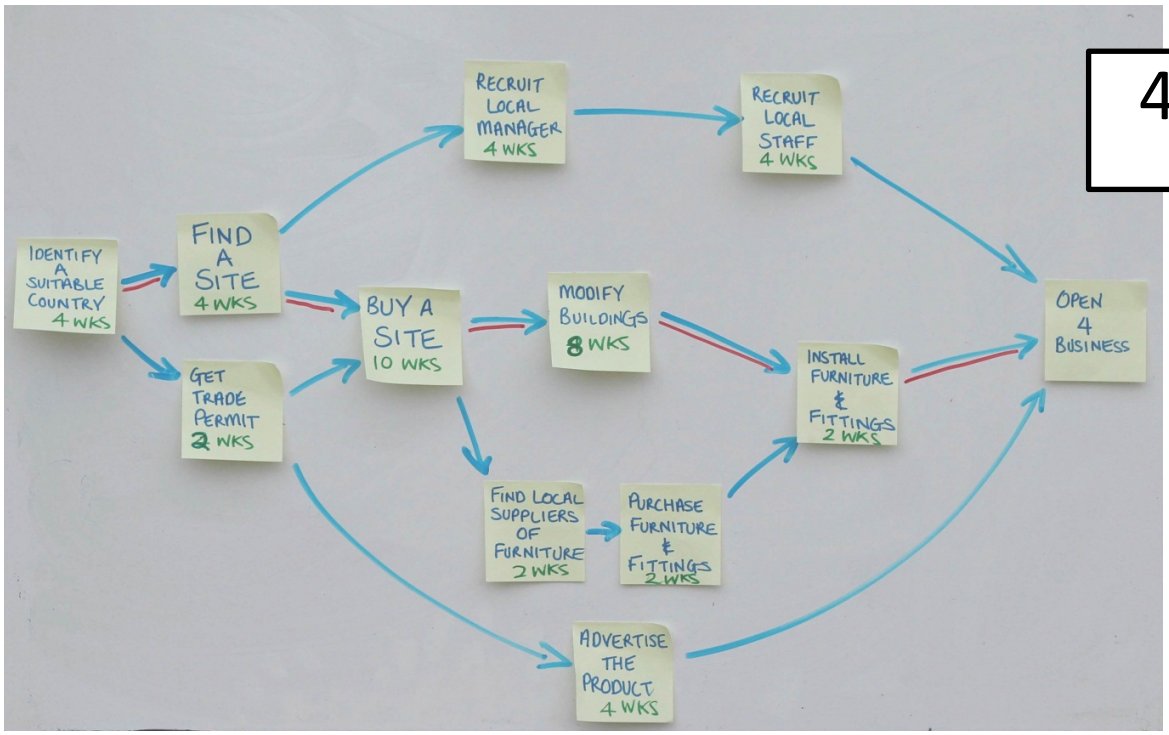
Assume the most economical way of doing the job.
If the critical path is too long, activities can be crashed later, for example putting more people on it, hiring a more expensive machine etc., but these expenditures may not be necessary if the task is not critical or if the critical path is not too long.

Judgment
It is up to you to judge whether your team, who will be providing some of the estimates, are underestimating the difficulty of the task, perhaps due to inexperience, or adding safety margins on in order to play safe.

Estimates of time and cost for two significant tasks:

Please show the minimum, mean, maximum, and a reasonably safe estimate of cost and time for two tasks (one showing time, the other showing cost) below:

Always do the post-its!!



4

- Worth doing for two reasons: planning how you'll do the job, & finding the critical path.
- Post-it notes on a whiteboard are best – sideways peeled!
- Ideally with a group of 3 or 4
- Use a **marker pen** on the post-its
- Put in the arrows and times (usually in **weeks**)
- Not drawn to scale – vertical lining-up isn't important, just arrows in and out.
- Every post-it must have at least one arrow coming in and going out
- Times go **on the boxes** not on the arrows
- Times are elapsed times, not hours worked
- Consider breaking down large or "ongoing" tasks into small parts (= granularity)
- Arrows go in and out of the sides of the post it not the top or bottom
- **Longest path** (in red or double line) = how long it will take to do the project
- If too long, then money/people up, quality down, or overlap (which adds risk).
  Pick the largest tasks on the critical path, keeping an eye on parallel tasks.
- Don't think about real dates or constraints until after you have made this plan
- There's no right answer – it's just a plan that you're happy with that everyone agrees to and which you then carry out.

5

Gantt Charts

why they are essential:

1

Communication: everyone can see the whole project and where their part fits in, with real dates. They can all commit to doing their part when the time comes. Keep it on the wall for all to see.

7

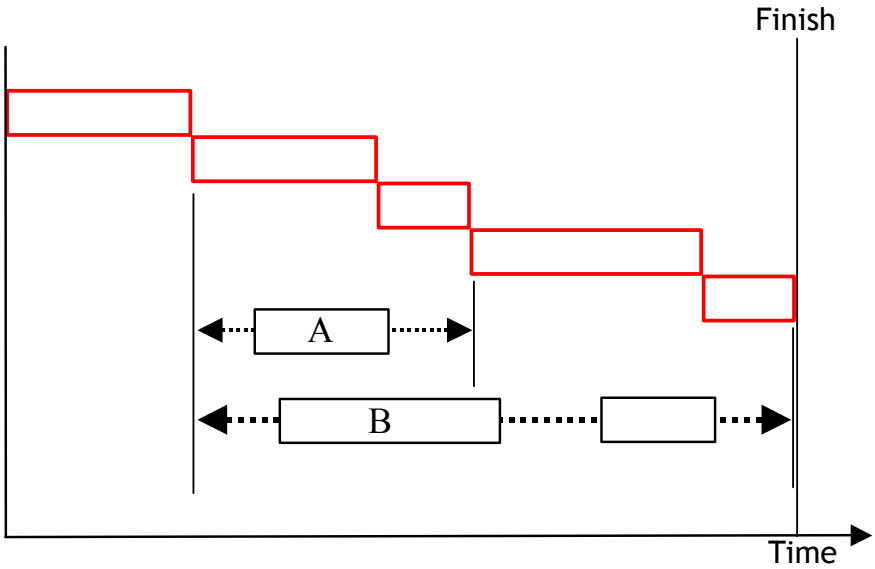
Resource planning: by looking vertically you can make sure that you can cope with any tasks than are going to happen at the same time, whether it is just you doing the project, or a number of people. You can even combine a number of Gantt charts to see whether a department can cope with a number of projects at once. (and if it can't, then you have proof that you need either more people or more time).

9

Monitoring progress: colour in what you have completed, and see whether you are keeping up with the Now Line. a Gantt chart is the quickest way to see if someone else's project is going OK or not. If a task is long you might want to keep a separate mini-gantt showing the progress of the parts within it.

10

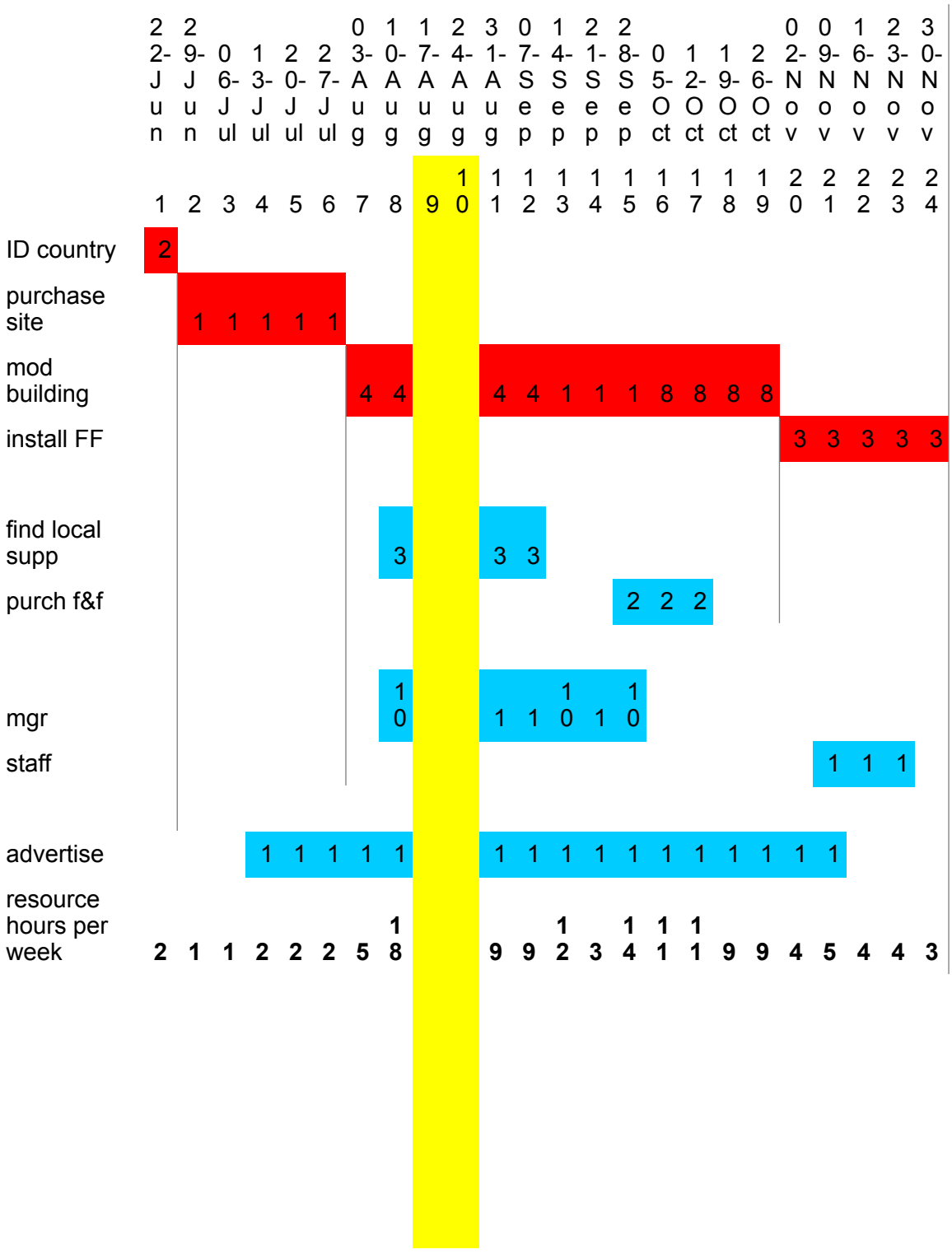
Finance: Gantt charts also help you to make sense of financial information (are we underspent or just running late?), and even for drawing up expected spend rates since they show what you'll be doing when – whether it is people or purchasing.



To draw your Gantt chart

1. Get some squared paper, lined paper on its side, or use Excel
2. Put in the critical path, coming down in steps (easier to see the joins)
3. Put in the vertical lines and then the floating tasks between them
4. Slide the floaters in order to level out the resource requirements

e.g. move A to the left and B to the right so they don't overlap



I have used Conditional Formatting to make it colour in the boxes

I have shown holiday /shutdown in yellow

You could also use it to forecast predicted spend if you add up money instead of hours

You could add up all of your projects in order to check that you have the resources to do them all

Excel tips for Gantt charts

There's not really a template for a Gantt chart, it's just a list of tasks down the left and dates across the top.

……..But a few tips that might help:

Column Widths

Click on the top of the column to select the whole column. Hold the shift key down while selecting another column and you get the whole block. Drag the edge of the box at the top of the column and you change the widths of all the columns at once.

Conditional formatting

Select your range with the mouse. Format / Conditional formatting. Pull down if cell value is "Greater than or equal to" and type 0 into the third box. Click on the Format button and select patterns and then Red.

Week numbers and dates

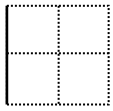
Put the dates in the first two boxes, select both, and drag across the page the little dot that is in the bottom right corner.

Dates need to be turned to diagonal to fit into the narrow columns

Select the row (right click on the number at the left) / format cells / alignment and move the clock hand around

Borders on cells to give vertical lines

Select the column that you want a line on the left edge of, then click on the icon that shows a dotted square with a line across the bottom, pull down menu and select the square with a border on the left.



Arrows for the floaters

On the drawing toolbar (might be at the top or the bottom of the screen) click on the arrow and then pull it out on the page wherever you want it. Double click allows you to use it repeatedly.

What if no drawing toolbar visible?

Go to View / Toolbars / Drawing

Adding up a column

Select the whole column including a couple of lines at the bottom. Click on the AutoSum icon and the total will go into the bottom of the range you selected.

Graph of resources required (or money)

Select the row of totals, and click on the graph icon (little blue yellow and red columns). Select Finish to accept it as it is. Click on the edge of the graph again, and pull the black dots to get the columns to line up.

Auto sum for some of the columns

Just mouse over the columns you want to add up and look down at the bottom right where it will say Sum= and whatever the sum of your selected cells is.

Copy to a second sheet

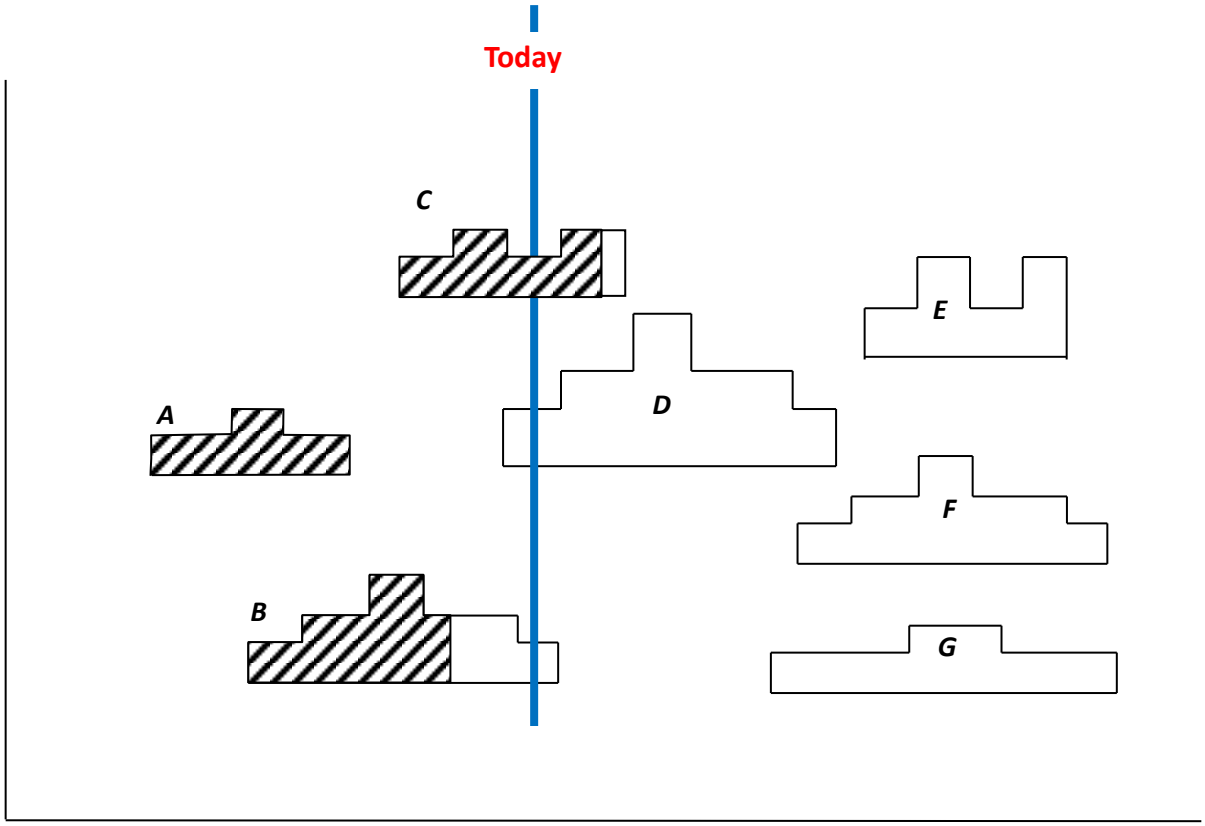
Right click on the tab at the bottom called Sheet 1 and select rename to Hours or Time. Once you've done that, right click on it again and this time select 'Move or Copy', then tick the box called Create a copy, and select "Before sheet 2" and OK. Right click and rename sheet 2 as Money or Costs

Gantt of Gantts – planning the big picture

If you want to insert a new project or move a project forward (do it sooner) then you'll probably need to

a) Get more resources, or

b) Postpone one of the other projects
– you can have a sensible discussion about this, in time to make any changes in an orderly fashion



View overall project progress

Calculate loading profile for all planned projects combined

The past:
are we keeping up with the plan?

The future:
can we do what we want to do?

Computer Options for Project Plans

	Nothing / Paper	Excel	Microsoft Project	Specialist packages
Pro	Cheap!	Already got it Nobody has to learn it Controllable – can put in what you like Good for later when you start adding up all projects and costs	Easy to learn The most popular Great for Gantt charts	Great for serious project managers
Con	Unprofessional Can't email plans Can't do templates No commonality	Dumb – just a drawing tool really Reduced commonality	Have to buy it Have to learn it Can't open it if you don't have it installed Has a life of its own – argues with you No good for costs and resource planning Hard to print out Show me someone who likes it!	Expensive Most people will never learn or understand it

Risk Planning Chart

If weighted factor > 5

Progress: **Exposure:**

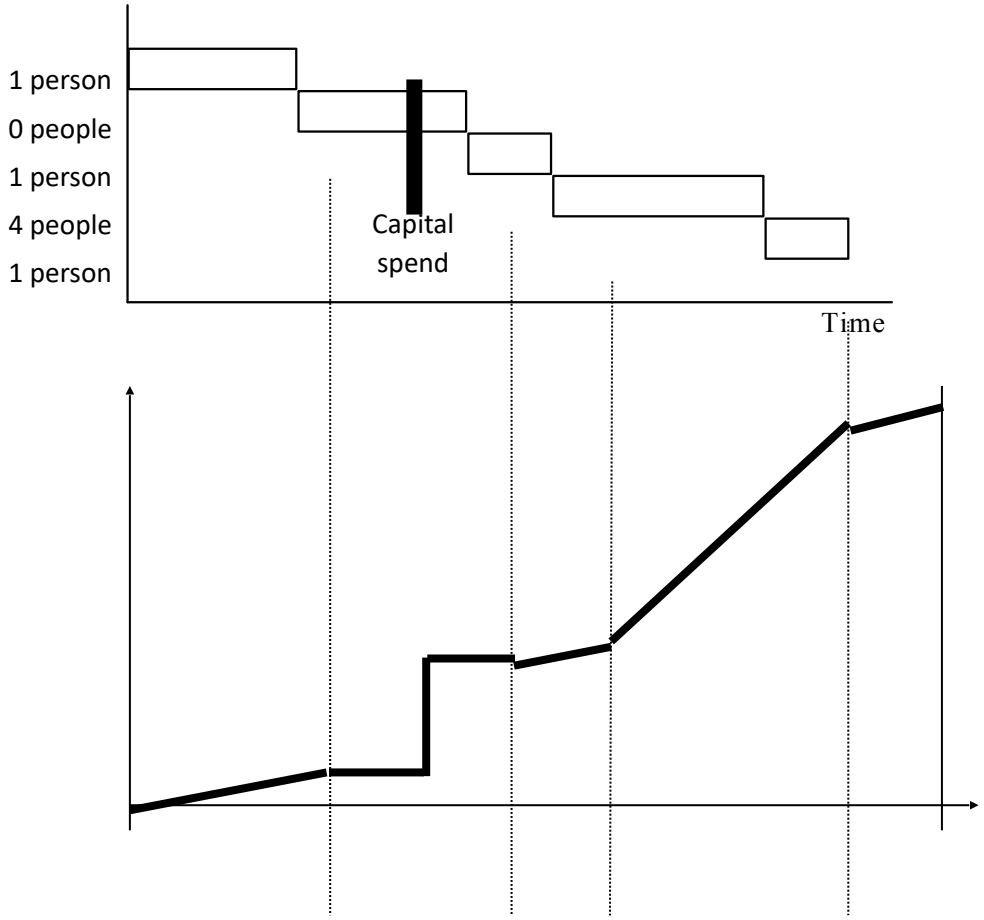
Description of possible problem	Risk factor (how likely?) 0-10	Impact factor (how serious) 1-3	Weighted factor (risk x impact) 0-30	Preventative action plan aimed at cause, to reduce likelihood of problem occurring	Protective action plan aimed at effect, to reduce impact if problem does occur	Person accountable	**C**= completed **IP** = in progress **NS** = not started	RF, IF and WF after action completed

Include in plan Back-up plan

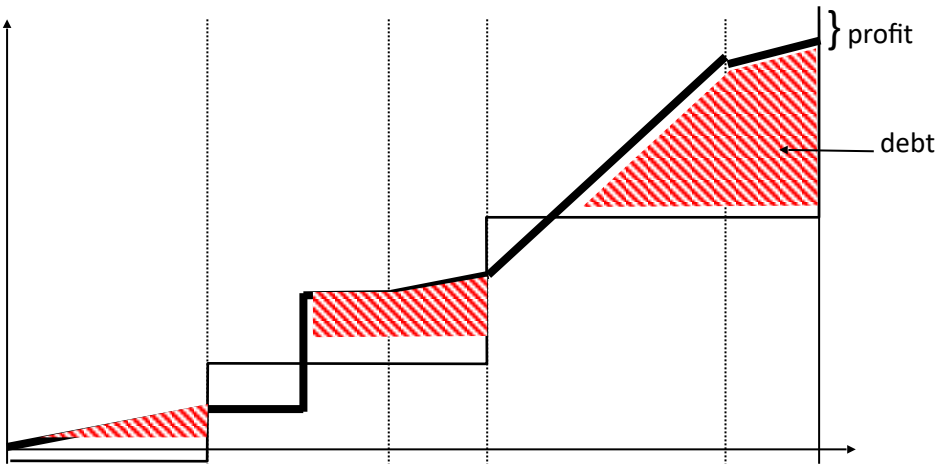
10

Plan to date	Actual to date	Accountants are saying	Gantt	Real situation
500	720	"Disaster!"		
500	650	"Over budget"		
500	550	"Slightly over budget"		
500	500	"Spot on"		
500	450	"Good"		
500	410	"Very good!"		

Using a Gantt chart to forecast spend



Suppose you receive stage payments after tasks 1 and 3, and at completion, then your cash flow forecast look be like this:



Monitoring progress and costs in order to forecast finish date and final cost at completion

Task	Planned cost	Planned time
A	70	5 weeks
B	30	6
C	100	3
D	160	8

Tasks are done in order A - B - C - D

It is week 16
A and B are completed
C and D are not started yet

We have spent £150 so far

How is it going?

- How much are the accountants expecting to have been spent on the project to date?
- Are they happy?
- Should they be?
- **Forecast the finish date and the final cost at completion, both as an optimist and a pessimist.**

Your answers:

The money

The time

Answers: CPI and SPI *(cost and schedule performance index)*

The money

Optimist:
A and B should have cost £100. We've spent £150. We're over by £50.
Assuming we get back onto plan we'll spend another £260 on C & D, ending up at **£410**

Pessimist: we've been spending at a rate of 1.5 times the plan. (Cost Performance Index, CPI = 1.5)
1.5 x 360 = **£540**

The time

Optimist: A and B should have taken 11. We've taken 16. We're late by 5.
Assuming we get back onto plan we'll take another 11 weeks on C & D, ending up at **27.**

Pessimist: we've been progressing at a rate of 11/16 compared to the plan (Schedule Performance Index, SPI = 11/16).
The whole job should have taken 22,
so at this rate it will take 22 x 16/11 = **32 weeks**

(Note: many books calculate SPI by value done rather than weeks done
so SPI would be £100 done / £240 should have been done = 100/240
which gives the stupid answer of 22 x 240/100 = 52.8 weeks.
This method only works when hourly rates are roughly constant)

Only knowledge of what went wrong with A and B will tell you which of the two views to take for the rest of the project.

Project Control Document

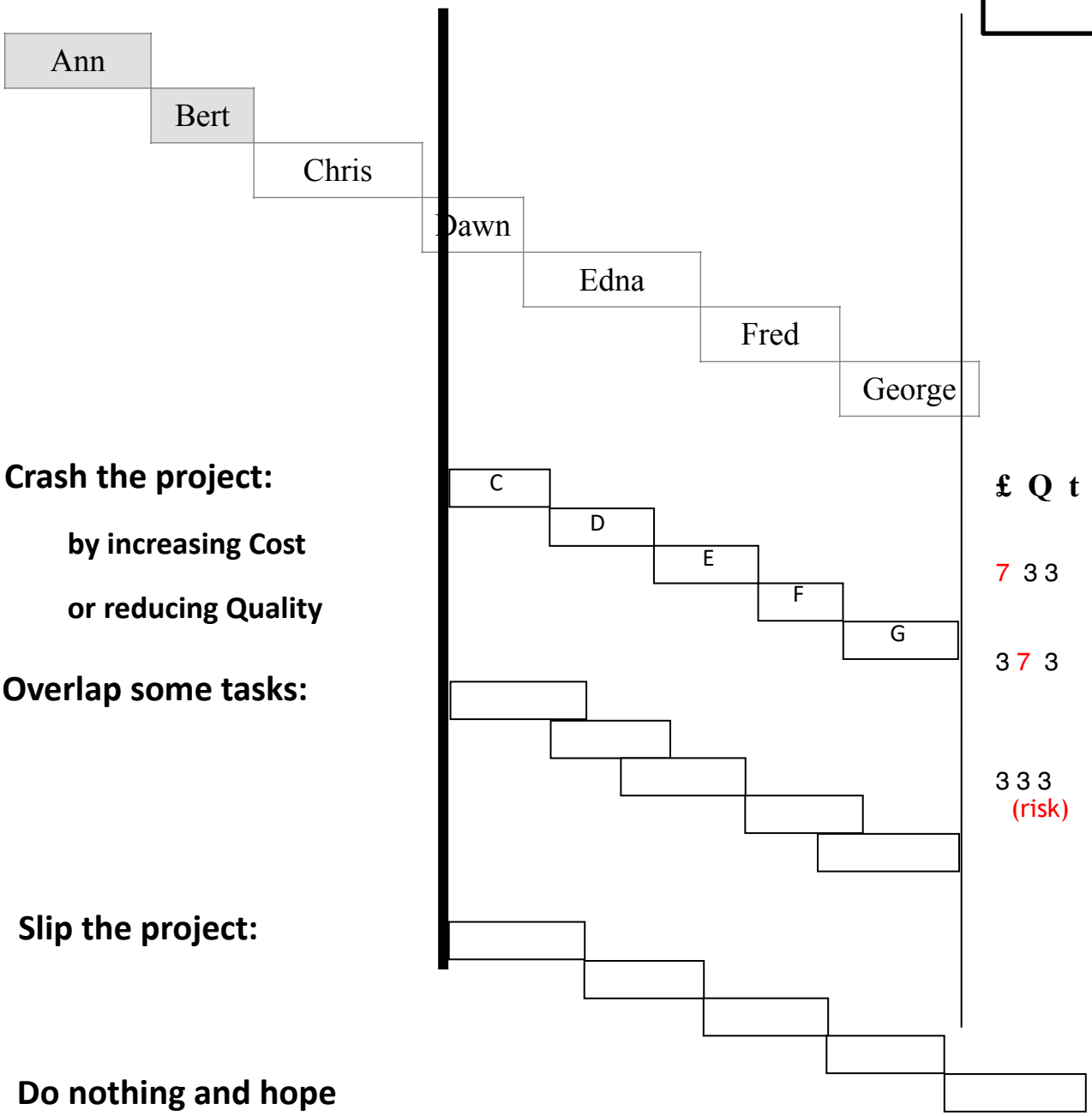
Name of project	Project Manager	At Start		Current Status		Analysis		Forecast Finish	
		t	£	t	£	t	£	t	£
		Original due date	Planned total cost	% complete	Spend to date	SPI (% late)	CPI (% overspent per task)	Estimated completion date	Estimated cost at completion

To be completed for all projects, once a month

Info comes from:	Plan/ proposal	Gantt	Cost system	Gantt	Gantt + Plan + Cost system	Judgement based on knowledge of the real nature of the problems encountered so far

Note – look for changes in forecasts month on month – either sudden surprises or gradual creep…

Rescheduling



Crash the project:

by increasing Cost

or reducing Quality

Overlap some tasks:

Slip the project:

Do nothing and hope

(= slip the project but don't tell anyone)

In all of the above you will have to tell the customer / stakeholders, and also the people who are working on the project. Tell them sooner rather than later!

The three crimes of rescheduling:

too early… too late… twice…

Avoid rescheduling twice by forecasting / asking for "double and add a bit"

So if you are on 56 instead of 50 at half way, you need to predict 114.

Review: the only way an organisation can learn

Individuals learn from their mistakes (hopefully!), but organisations find it much more difficult; how many of the mistakes made have been made before? How many of the problems have happened before?

The only way that a person or an organisation can learn from experience is to review:

- What went well, that we can use again next time?
- What went wrong, and how can we prevent a repeat?
- What could we have done *even better*?

The organisation then needs to find a way to make sure that everyone who needs this information can get access to it the next time that it is relevant.

During step 2 (list the tasks): look at previous "went well" & "could have done better"
During step 8 (risk analysis): look at what went wrong for others.

It's easy to think:

- No need for review since project went well
- It's best to quickly forget a project that was a disaster
- Having a witch-hunt will prevent repeats of mistakes
- No time for review
- Can't do reviews because client won't pay for them
- "Nothing in it for me" "only others benefit", and "I'll look bad when I publish my mistakes", "…so why should I bother?"
  (Individuals won't want to do it, therefore it's management's job to make sure it happens)

Actions:

- Keep a folder of brief project reviews: good ideas / pitfalls / pointers to remember
- Refer to this folder when listing the tasks for your next project, and when doing your risk analysis for your next project
- Ask the customer how they felt the project went, and what they would like to be different next time.
- Opportunity to praise: always find something good done by each person.
- You'll need to try and get rid of any blame culture, because otherwise people won't want to admit mistakes, and nobody else will be able to learn from them.
- The team leader stays in the group and selects one of the team members to chair the discussion - this prevents the leader from stifling ideas, and allows their decisions to be criticised.

Project Management Forms

Essentials

- **Project Brief**
- **Gantt Chart before starting**
- **Coloured in Gantt chart**
- **Review**

Good idea

- PID (or parts of) *
- Monthly reports
- Change requests
- Rough Gantt of Gantts
- Post Project Review
- Project Progress Overview form
- Risk Register
- Issues Log

Possibly

- Communication plan
- Approval route
- Escalation rules
- 'What is a project?' rules
- Sizes of project
- Detailed resource plan
- Progress visibility for all

* The PID would include detailed plans on:

- What, and why now
- Options appraisal
- Exclusions
- Assumptions and deal-breakers
- Costs and sources of money
- Spend over time
- Resources required (people and equipment), from who, with signed commitment
- Risks (to project and company) and mitigations, with exposure remaining after mitigations

Gantt Charts - why they are essential:

Communication: everyone can see the whole project and where their part fits in, with real dates. Keep it on the wall for all to see.

Fixed events: things like holidays, key meetings, deadlines and milestones etc can be seen relative to the project plan and the project's actual position.

Float: because you can see the critical path and, below it, the floating tasks, you can see what to focus on and how much the non-critical tasks can slip without affecting the delivery date.

Resource planning: by looking vertically you can make sure that you can cope with any tasks than are going to happen at the same time, whether it is just you doing the project, or a number of people. You can even combine a number of Gantt charts to see whether a department can cope with a number of projects at once. (and if it can't, then you have proof that you need either more people or more time).

Monitoring progress: if the project manager or the subcontractors colour in what they have completed, you can immediately see whether they are keeping up with the Now Line. A Gantt chart is the quickest way to see if a project is going OK or not. In fact it is probably the ONLY way!.

Recovery: the Gantt chart allows you to see what can be done if you are running late. How many tasks are left, which ones are on the critical path, and which ones can be speeded up?

Finance 1: Gantt charts enable you to draw up expected spend rates (cashflow forecasts), since they show what you'll be doing when – whether it is people or purchasing.

Finance 2: Gantt charts also help you to make sense of financial information each month (e.g. are we underspent or just running late?)

Customers: Showing them why they have to wait as long as they do, why the project costs what it does, when they have to do their bits and what happens if they go late

But what's wrong with a list of tasks, each one having a start and a finish date? Well, first, where will you get this list from? A Gantt chart! And the list is much less instantly visible: how late are we, what's still to come, which tasks are longest, and how much float is there on some of them? The list won't give you a proper feel for the issues.

Complexity: if you have more than about 30 tasks you may want a high level overview Gantt chart – and the people who are doing the details within each work package can have their own detail plan. All you need is the instant big picture.

The 12 Step Process

From a hundred years of research and experience the APM and PMI invented the ultimate Project Management process. From that I've distilled their research into a simple and practical 12 Step Process. This will work for every project, regardless of size, industry or timeframe.

- Step 1 - Define the project
- Step 2 - List the tasks
- Step 3 - Establishing task order
- Step 4 - Estimating time
- Step 5 - Margin check & reality check
- Step 6 - Gantt Chart
- Step 7 - Resource allocation
- Step 8 - Predicting & reducing risk
- Step 9 - Monitoring progress
- Step 10 - Monitoring cost
- Step 11 - Adjusting the plan
- Step 12 - Review & lessons

Keep this as a "cheat sheet" for the 12 Step Process which we will be covering in detail during this course. By the end you'll be a pro at using all 12 Steps to plan your projects.

PROJECT INITIATION DOCUMENT

PROJECT NAME:
PROJECT NUMBER:
PROJECT RISK LEVEL: H/M/L

Prepared by:
Date:
Persons consulted:

1. BUSINESS CASE

<Insert the Business Case if you have one. >

- Why this project
- Why now?
- Options considered
- What if we don't do it?
- Benefits
- Payback period

2. PROJECT SCOPE

2.1. In Scope / Included in the Project

2.2. Out of Scope / Excluded from the Project

2.3. Dependencies

<Describe how the project impacts or will be impacted by other projects or programmes >

2.4. Constraints

<Describe any constraints within which the project must be delivered, e.g. government deadlines; budget limits; resource limitations. >

2.5. Assumptions

< Describe any assumptions that are being worked from at this point (for example, that you will get planning permission). >

2.6 – What's the key driver of your project, and why do you think that?
< Cost, Quality or Time? >

3. KEY ACTIONS PROPOSED TO DELIVER THE PROJECT

You MUST Include a high-level or detailed Gantt chart

Communications Plan				
What	**How**	**Who**	**When**	**Cost**

3.1. Quality Plan

<Describe how it is intended to meet, and shown to meet, the customer's quality expectations >

Task	Acceptance Criteria

4. PROJECT CONTROLS AND REPORTING

< Describe how progress will be reported to the Project Board if there is one. >

Frequency / timing (monthly, stage end, etc)	How will the Control be reported	Responsibility for production

5. RISK CONTROL

<Attach a risk chart, or for small, low-risk projects, insert below in this document. >

Project Risk	Containment Measures

6. FINANCIAL IMPLICATIONS

	Q1	Q2	Q3	Q4	Total
Amount Year 1					
Amount Year 2					
Amount Year 3					
Amount Year 4					
Amount Year 5					

I have considered the benefits against the project costs and assessed the project plan and I confirm that this project should be progressed.

Signed: _____ Dated: _____

Work Breakdown Structure for my new shed project

Planning				
	Check can I get planning?			
	Apply for and get planning permission			
Prepare site				
	Demolish old shed			
	Cut back all the foliage			
	Tree surgeon to trim branches above area			
	Put a power wire down the garden			
	Connect power			
Buying				
	Check funds			
	Shed			
		Research - talk to friends		
		Find shed suppliers		
		Get quotes		
		See a finished one		
		Choose - place the order		
		Wait for delivery		
	Other stuff			
		Buy furniture		
Foundations				
	Hire Digger			
	Dig foundation trenches			
	Fill with concrete			
	Level the base			
Assembly of structure				
	Delivery			
	Assembly			
	Painting			
		Inside		
		External		
Installing stuff				
	Install Furniture			
	Set up computers			
	Set up music system			

List out all the tasks in your project	No need to worry about the task order, or the cost, or time! Just write down all the tasks you can think of, and if you find it helpful you can also group them into areas or phases.		

Building a shed in my garden

Clear the space in the garden	
Demolish old shed	
Cut foliage back	
Tree surgeon	
Foundations	
Dig trench	
Hire digger	
Fill with concrete	
Level the base	
Buy the shed	
Find suppliers	
Ask friends	
Get quotes	
See a finished one	
Choose (event)	
Delivery time	
Install shed	
Delivery (event)	
Wire down the garden	
Connect power (event)	
Assembly of structure	
Put in the furniture	
Set up computers	
Install music system	
Painting outside	
Painting inside	
Legal	
Check if I need planning permission	
Wait for planning permission	
Check I’ve got enough money	

WBS – My man cave / office	My hours	my cost?	s/c cost	purchase £	total
my hourly rate?		£50			
Clear the space in the garden					
demolish old shed	6	£300			£300
Cut foliage back	10	£500			£500
Tree surgeon (can't do it afterwards!)			£300		£300
Foundations					
Dig trench - myself!	4	£200			£200
Hire little digger				£150	£150
Fill with concrete	2	£100	£300	£300	£700
Level			£100		£100
Buy the shed					
find suppliers	3	£150			£150
Ask friends	3	£150			£150
Get quotes	1	£50			£50
See a finished one	3	£150			£150
Choose (event)	0			£8,000	£8,000
Lead time (no resource)	0				
Install shed					
delivery	0				
Assembly of structure (not me)			£500		£500
Put in the furniture	20	£1,000			£1,000
...Buy furniture! Desk, chair, s	10	£500		£3,000	£3,500
Set up computers in there	4	£200		£2,000	£2,200
...Wiring down the garden	8	£400			£400
...power - electrician to connect it up			£150		£150
Music system				£300	£300
Painting			£300	£200	£500
Legal					£0
check if I need planning permi	5	£250			£250
Check I've got enough money	1	£50			£50
	80	£4,000	£1,650	£13,950	£19,600

Project Review

Project Description:

Project Period (start & end date):

GOOD

What went well that others should repeat?

BAD

What mistakes were made? Or unexpected issues?

BETTER

What could be have been improved for future?

When to use Agile	When to use waterfall / Gantt / APM / PMP
Spec is unclear	Fairly or very clear spec at the start
Customer won't know spec till after one or more phases – iterative design process	Spec can be agreed at the start with only small changes, or definite separate initial scoping phase or definite second 'final adjustments' phase
Task times or costs cannot be listed or estimated	Times and costs estimate-able within a range
Budget and timescale are not strongly defined	Fixed budget and or fixed timescale must be achieved
Tasks / deliverables are parallel – minimal dependencies	Most parts of the project depend on others so HAS to be done in the right order
Plan is going to change a lot	Plan is going to change only by small amounts in a controlled way (signed for)
Customer accepts the risk and is prepared to pay for it	PM is taking the risk – price is fixed, or increases will have to be negotiated
Cost is low – doubling it won't be significant	Large projects where cost forecasting is vital
Software projects where fundamental changes can be made at any time	Projects which have to be done correctly from the start – later changes are much more expensive
When you need to get a first prototype out quickly	When you don't want a poor first prototype to tarnish your reputation

Project Management methodologies compared

	About	Pros	Cons
PRINCE2	Invented by the UK government in 1985 for large IT projects (and look at them!) Broadened out to all projects in 1995: PRINCE '2' Very popular since then In decline now Product extension called MSP Has a multiple choice test at the end which is a sort of qualification	Gives an overview of all projects Gives control of projects – they can't be started or progress to next stages without sign off Forces management to engage with the PM process Great if you are doing one big project and you a full time PM	Expensive to learn and to implement Too complicated (just google it and see for yourself) Doesn't tell you HOW to do anything e.g. how to estimate tasks. Not even how to use Gantt charts. Just certifies that there is a plan, signed off by the board. Too boring for normal staff to engage with I've never seen it work successfully
APM	Association of Project Management Been around for 100 years, it's the combined experience of 1000s of real Project Managers All their knowledge is in an ever increasing tome called the PMBOK (Body of Knowledge) Has a qualification called PMP (Project Management Professional) which is well respected	Very practical Tells the PM everything they need to do in the process of planning and implementing a project Allows you to forecast finish time and cost at any point during your project Recognised in USA as well – they call it PMI over there.	The PMBOK can be too complicated – needs to be boiled down and just the good bits used, (which is what my course does) Does require a list of all tasks, and estimates of all tasks, at the start – though risk planning recognises that some of these will change during the project.
Agile / Scrum	The latest trendy thing being pushed by consultants Based on remaining flexible when there is uncertainty in the project, e.g. software design Contains terms like "Sprints", "Burndown charts", and "Scrum masters".	Acknowledges the risk involved in creative processes. Sounds fun and exciting. Great if you're not sure what you want yet.	Not able to predict finish time or total cost, unless these are fixed and the deliverables are allowed to be completely flexible. So not really a plan at all, more a weekly time management meeting. (Those are good, but not enough!) All the risk is with the customer

How Most Projects are Planned

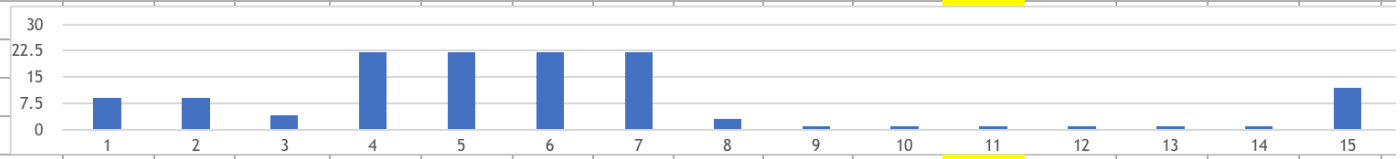
20%	No plan at all	Just doing the tasks as they come up, lots of stress, probably increased costs (overtime and panic) and increased time (forget things and then realize you have to wait for them).
25%	Plan in one person's head	(probably wrong and nobody else knows it)
25%	Plan is in the form of a list of tasks, maybe with dates	Dates guessed, not able to see dependencies or what's critical. Can't even see what's large or small. Can't add up vertically to see resources required.
10%	Gantt chart!	But no critical path shown – just a bunch of tasks put onto a time line. Not possible to see what's critical, how much float tasks have, what depends on what, etc
10%	Gantt chart has critical path but…	But wasn't based on post-its so is probably not correct. Often all in series or all in parallel. MSProject encourages this.
10%	Yay! Gantt chart based on critical path diagram = correct!	Post-its only take 20 minutes, involve team, verging on fun, then it's easy to make it into a Gantt chart, another 10 minutes, total of 30.

Top Ten Project Mistakes

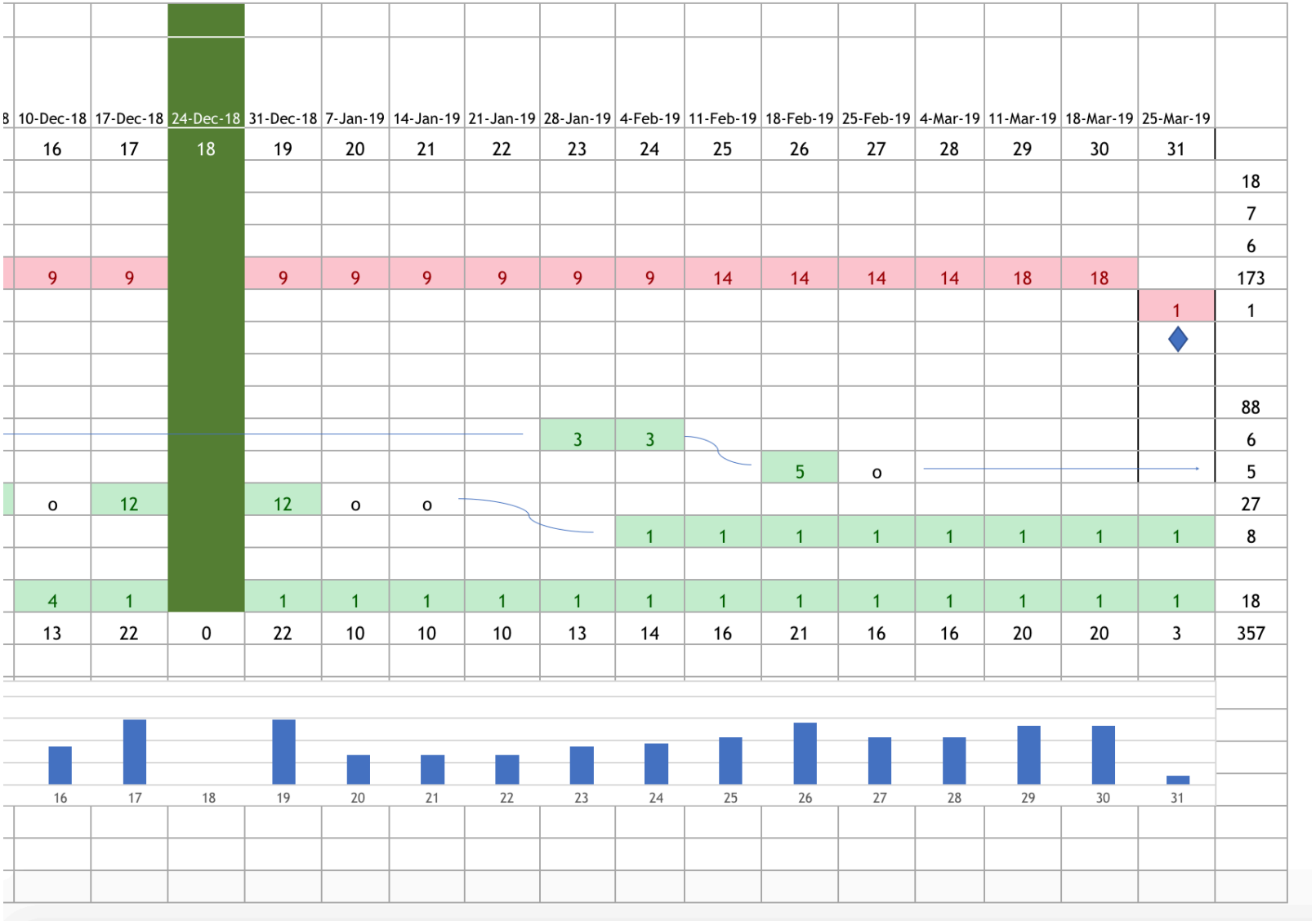
By Chris Croft

1. Having your plan in your head
2. Saying Maybe or “I’ll try”
3. Answering the question “What’s the best you can do if it all goes really well”
4. Not involving team enough in listing / network / risk / rescheduling
5. List of tasks (with dates) rather than a Gantt chart
6. Not planning for resources of other (all) projects
7. Stories rather than a coloured-in Gantt chart
8. Thinking underspend is OK
9. Rescheduling too late
10. Not reviewing

												NOW					
		27-Aug-18	3-Sep-18	10-Sep-18	17-Sep-18	24-Sep-18	1-Oct-18	8-Oct-18	15-Oct-18	22-Oct-18	29-Oct-18	5-Nov-18	12-Nov-18	19-Nov-18	26-Nov-18	3-Dec-18	1
	w/c	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
ID country	Tok	9	9														
permit	Sue			4	-	-	-	-	3								
purchase site	Luke									1	1	1	1	1	1		
Modify B	Luke															9	
Install F&F	Luke																
Open	Luke																
find site	Miles			←	22	22	22	22	→								
find LSF	Luke															←	
Purchase F&F	Luke																
manager	Sally															3	
staff	Luke																
advertise	Becky									←							
		9	9	4	22	22	22	22	3	1	1	1	1	1	1	12	



		Yellow:		Progress coloured in, and NOW line													
		Green:		Closed for Christmas													


10-Dec-18
17-Dec-18
24-Dec-18
31-Dec-18
7-Jan-19
14-Jan-19
21-Jan-19
28-Jan-19
4-Feb-19
11-Feb-19
18-Feb-19
25-Feb-19
4-Mar-19
11-Mar-19
18-Mar-19
25-Mar-19
16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
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13 22 0 22 10 10 10 13 14 16 21 16 16 20 20 3 357
16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

Project Management on one page!

Success criteria: find the key driver	♦ Why that date? ♦ What if we go late? ♦ How about pay more for extra features?
List the tasks, including "wait for…" and "decide"	♦ Brainstorm ♦ Structured breakdown ♦ Look at history
Times and contingency	♦ Get contingency in cost/quality/time ♦ Spread the contingency in small bits ♦ Don't promise the "average"
Draw the network diagram	♦ Post-its on a whiteboard ♦ Connecting arrows and then times on each task ♦ If the critical path is too long, consider crashing or overlapping
Crashing	♦ You may not get the full saving if another task becomes critical ♦ Usually costs more ♦ May affect quality adversely
Gantt (bar) chart	♦ Shows people what they must do when ♦ Can be used to calculate labour levels required at any one time, and can combine all for Gantt of Gantts ♦ Use Now Line & colour in to assess progress to plan
Float	♦ Start early to be safe if exact time is hard to forecast ♦ Start late if expensive materials needed ♦ Use float to level out the labour load
Assess risk	♦ How likely? How serious? ♦ How to make it less likely to happen? ♦ How to make it less serious if it does happen?
Monitor progress and cost	♦ Colour in Gantt to assess progress, ♦ Keep a graph of planned cost vs. actual spend so far ♦ Are you under-budget or behind? Ahead or over-budget? ♦ Beware of 'late + overspending' looking OK!
Re-plan if necessary	♦ If time is critical: crash or overlap ♦ If cost or quality are critical: slip ♦ Never "do nothing and hope"
Review	♦ What was good that we should keep? ♦ What did we learn to avoid next time? ♦ What could we have done even better - do next time?