Project management

Some Types of Project Management (Origins and styles)

The first modern methods:

— CPM (Critical Path Method) and

— PERT (Program Evaluation and Review Technique)

Different approaches:

— Phased (in sequential stages)

— Lean (as in slim)

— Iterative or Incremental (as in bit-by-bit)

Some types of project management
(aka 'the different religions')

Waterfall

PRiSM

PRINCE2

Agile (and Scrum, Kanban)

In project management ('PM') almost everything is an acronym

ACRONYM is short for "**A**lphanumeric **C**ode for **R**emembering **O**dd **N**ames **Y**ou **M**ake up"
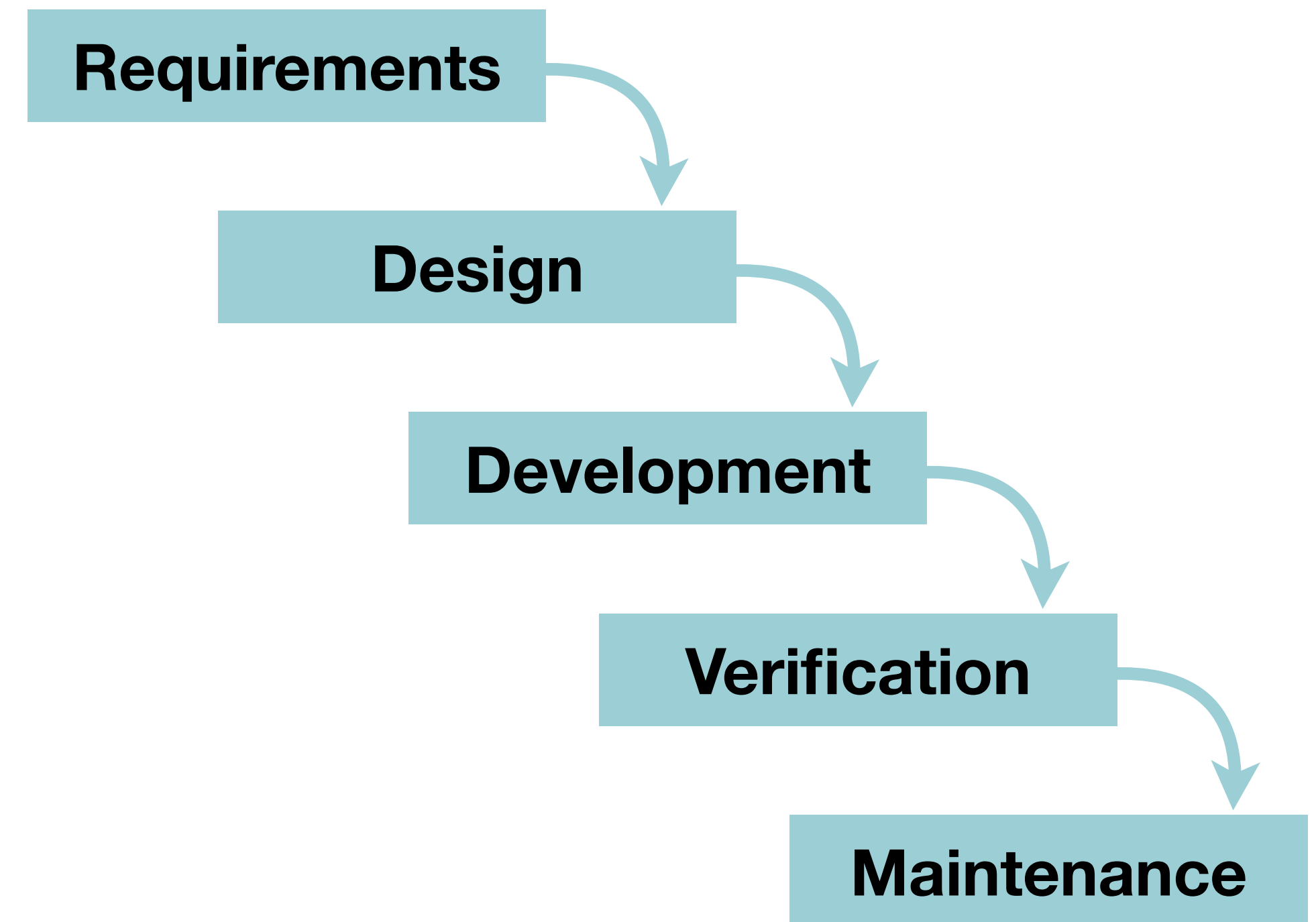
(not true)

Waterfall

Comes from the manufacturing industry

A *sequential*, procedural, phased design process...
progress flows through key phases:

— Conception (idea)
— Initiation
— Analysis
— Design
— Construction (development)
— Testing
— Production/Implementation
— Maintenance

Requirements

Design

Development

Verification

Maintenance

Waterfall

Pros

—Time spent in designing is a worthwhile investment

—Less time & effort is spent by fixing bugs early on

Cons

—Poorly adaptable to changing requirements

—Assumes problems can be seen without extensive prototyping

—Requires a phase to be completely finished before the next phase can be started

PRiSM:
Projects Integrating Sustainable Methods

A traditional 'waterfall'-style approach

Identifies a sequence of steps:

—Initiation

—Planning & design

—Execution & construction

—Monitoring & controlling systems

—Completion
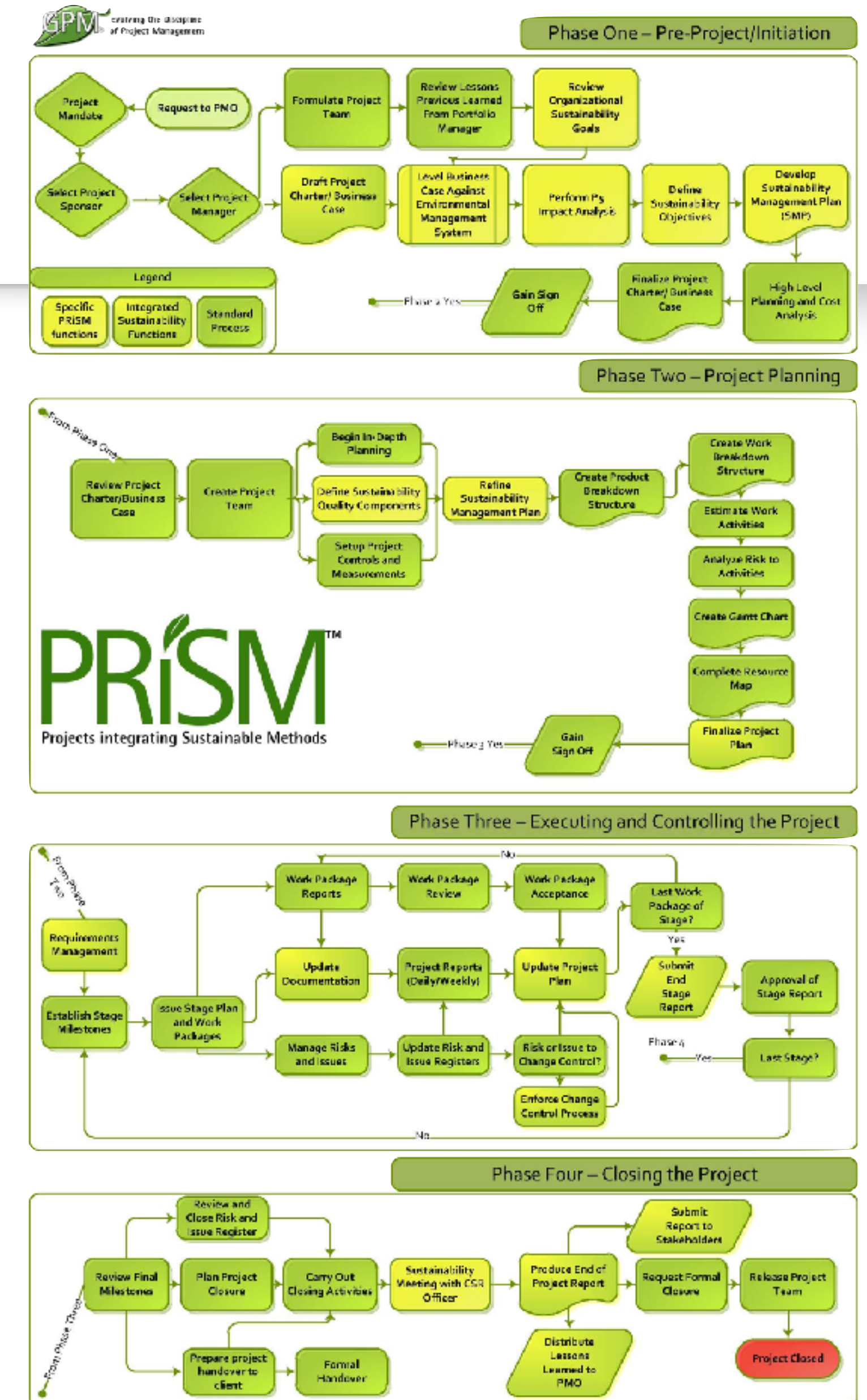
PRiSM:
Projects Integrating Sustainable Methods

Pros

— Considers the long-term impacts of a project
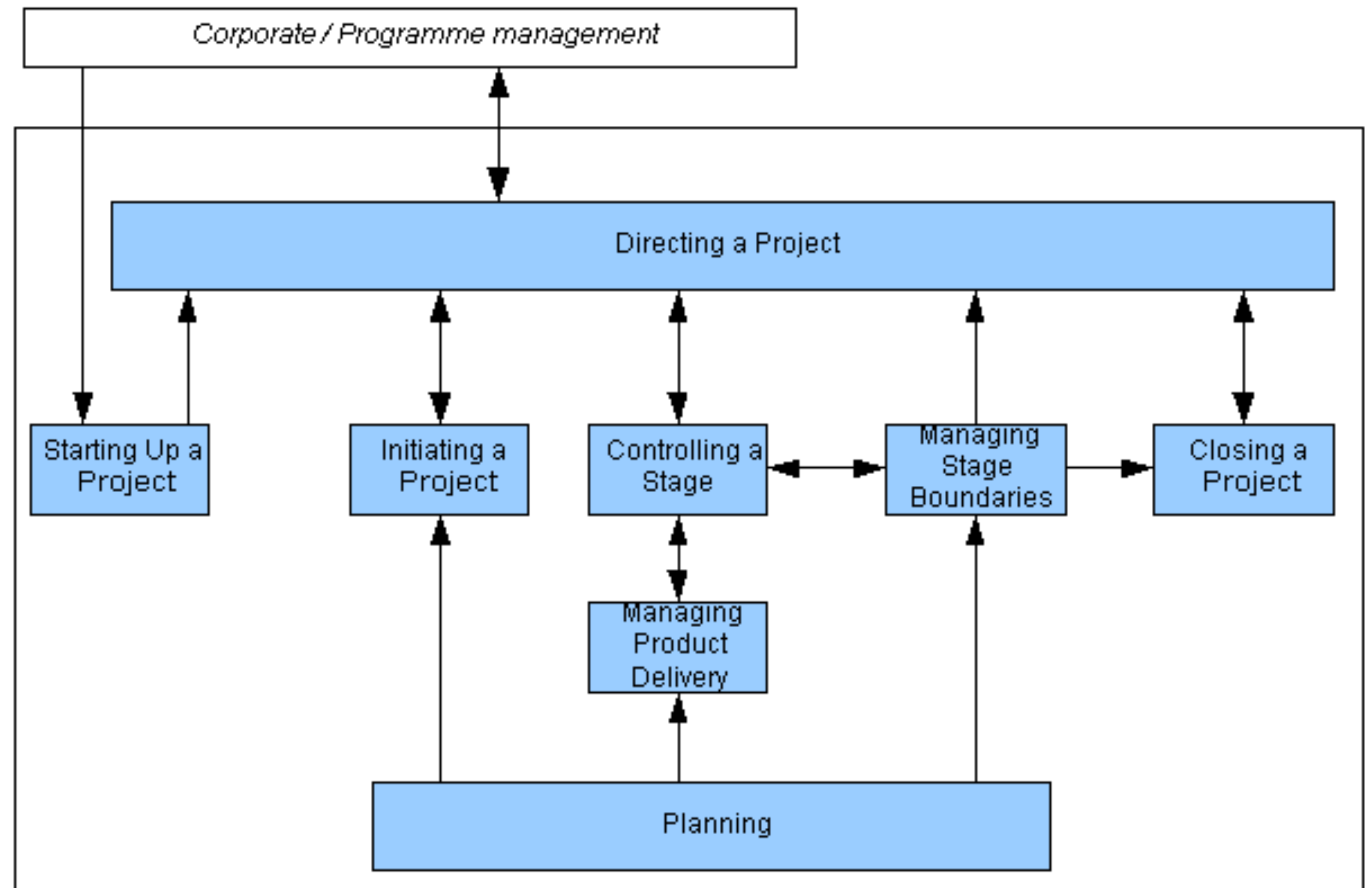
— Useful for massive, open-ended projects

Cons

— Encourages bureaucratic approach to management

— Doesn't provide real-world testing until late in the project lifecycle

— Can lead to lengthy project phases and increased project costs

PRINCE2:
(PRojects IN Controlled Environments 2)

A process-driven method:

1. Starting up the project

2. Initiating the project

3. Directing the project

4. Controlling a stage within the project

5. Managing 'stage boundaries'

6. Managing project delivery

7. Closing the project

PRINCE2:
(PRojects IN Controlled Environments 2)

Pros

— Practical, process-based methodology

— Provides clear processes, steps and templates

Cons

— Encourages bureaucratic management

— Doesn't provide real-world testing until late in the project lifecycle

— Can lead to lengthy project phases and increased project costs

Agile

Also known as Extreme Programming, or XP

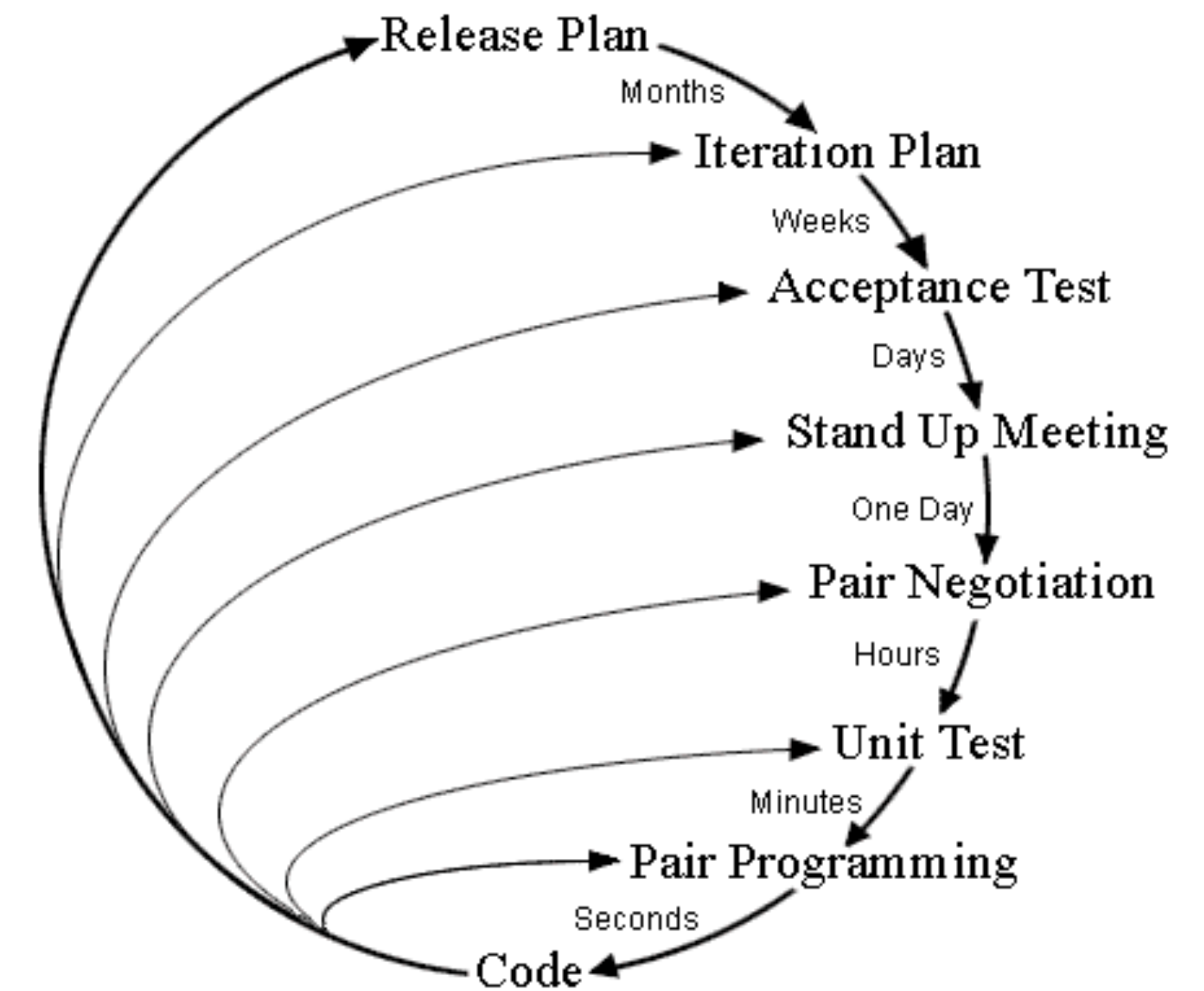Comes from the software development industry

Iterative and incremental development

Requirements and products or services are evolved
collaboratively by self-organising, cross-functional teams

Breaks tasks into small parts with minimal planning,
doesn't directly involve long-term planning

Meant to minimise overall risk & adapt to changes quickly

Planning/Feedback Loops

- Release Plan — Months
- Iteration Plan — Weeks
- Acceptance Test — Days
- Stand Up Meeting — One Day
- Pair Negotiation — Hours
- Unit Test — Minutes
- Pair Programming — Seconds
- Code

Agile

Some of the Agile Manifesto principles, or preferences, stress:

— **Individuals and interactions** over processes and tools

— **Working software** over comprehensive documentation

— **Customer collaboration** over contract negotiations

— **Responding to change** over following a plan

www.agilemanifesto.org

Agile

Pros

—Suitable when future planning is difficult

—Emphasises teamwork and constant communication

Cons

—Requires constant communication

—Less suitable for non-software projects

—Can encourage 'feature creep'

Scrum and Kanban (evolved variants of Agile)

Scrum is based on Agile but emphasises more team collaboration instead of 'baton passing'

Kanban includes visual representations of workflows and attempts to balance workloads

www.pivotaltracker.com/agile/scrum-vs-agile

www.answers.com/search?q=scrum-development

blog.hubstaff.com/kanban-project-management/

Extreme Programming in action
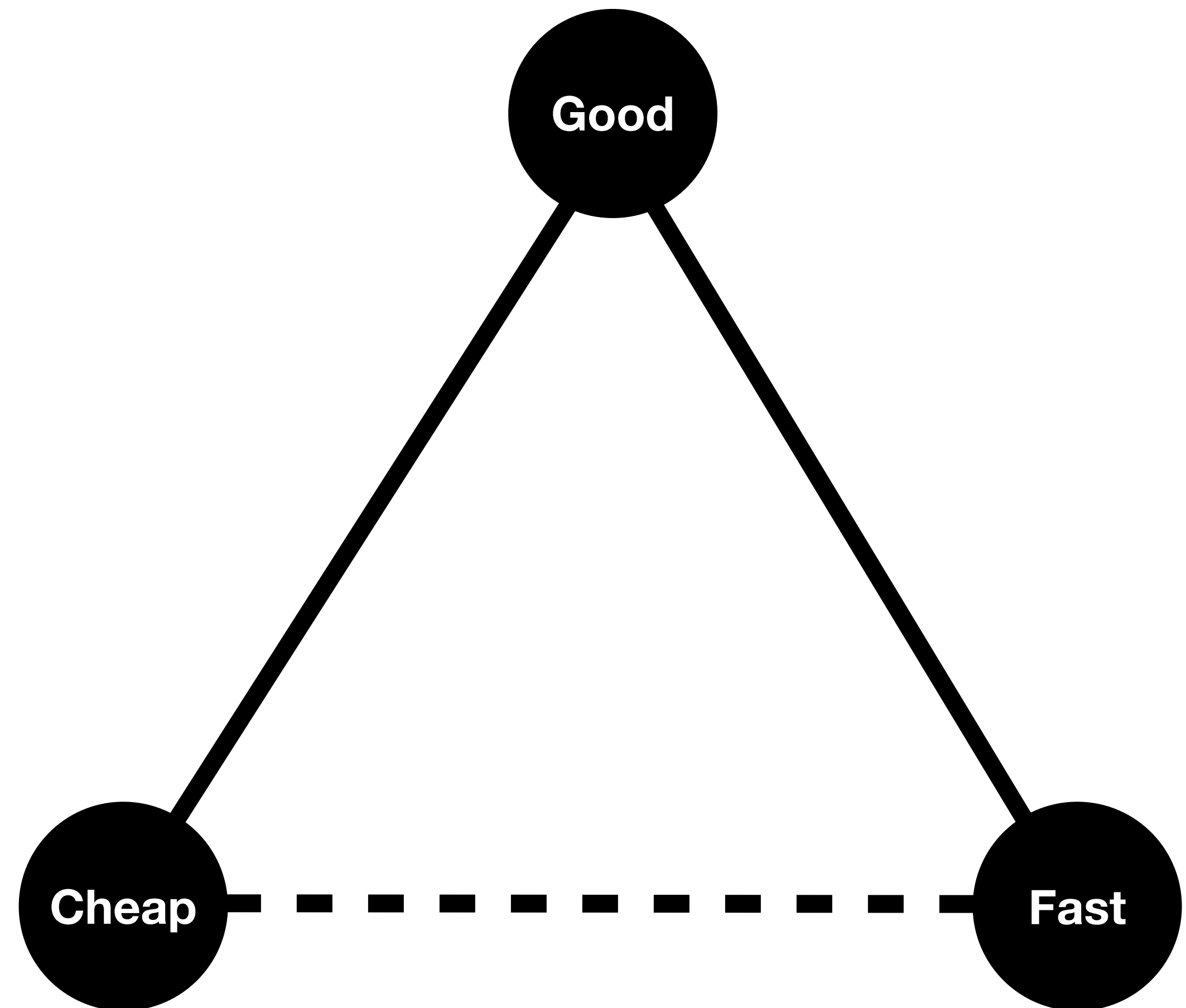## (try not to laugh)

Project Management triangle

Two out of three ain't bad (It's also the limit)
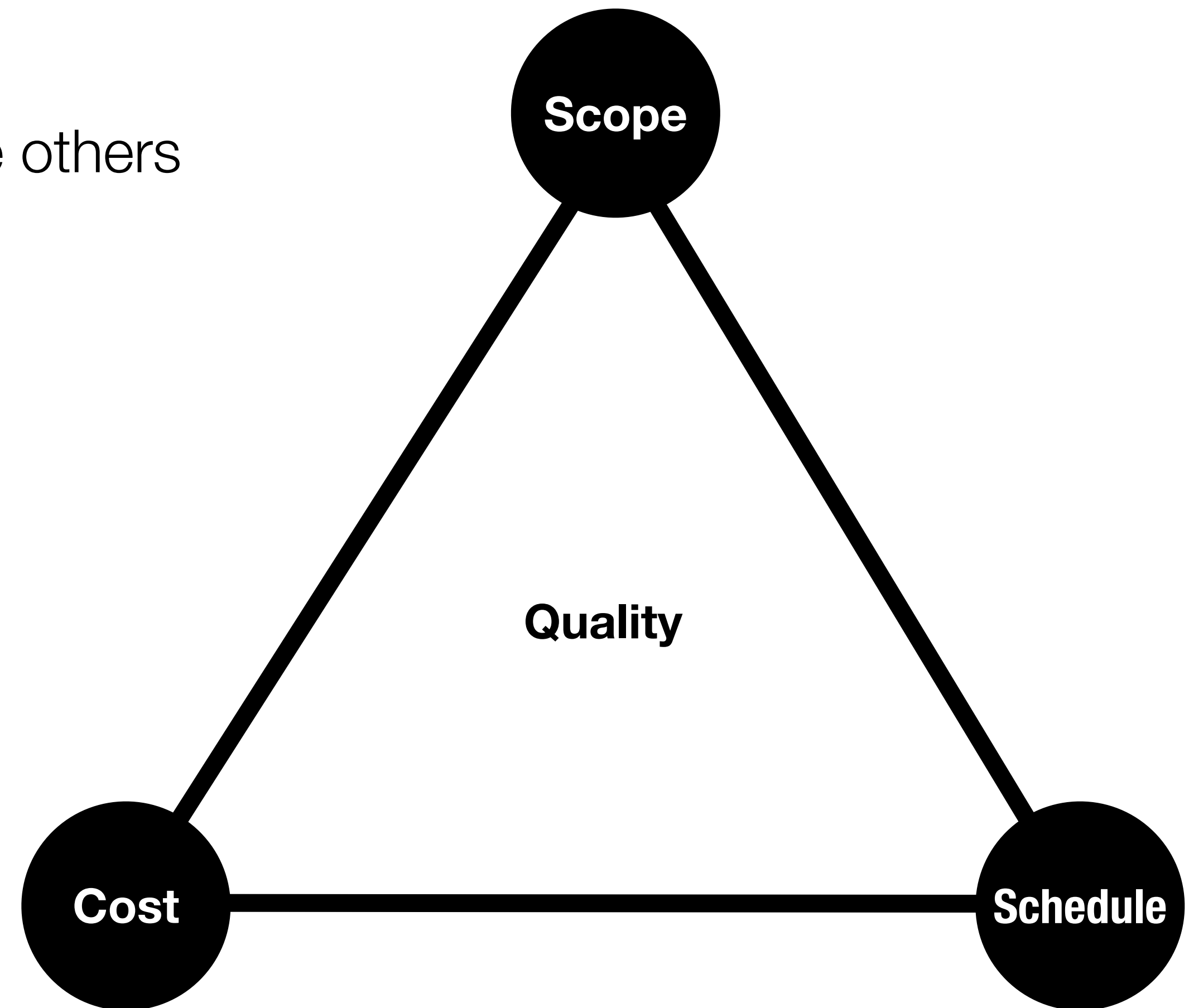
Choose which two you want

Walk away from the wrong combination

Project management triangle
(another view of the same thing)

Competing constraints

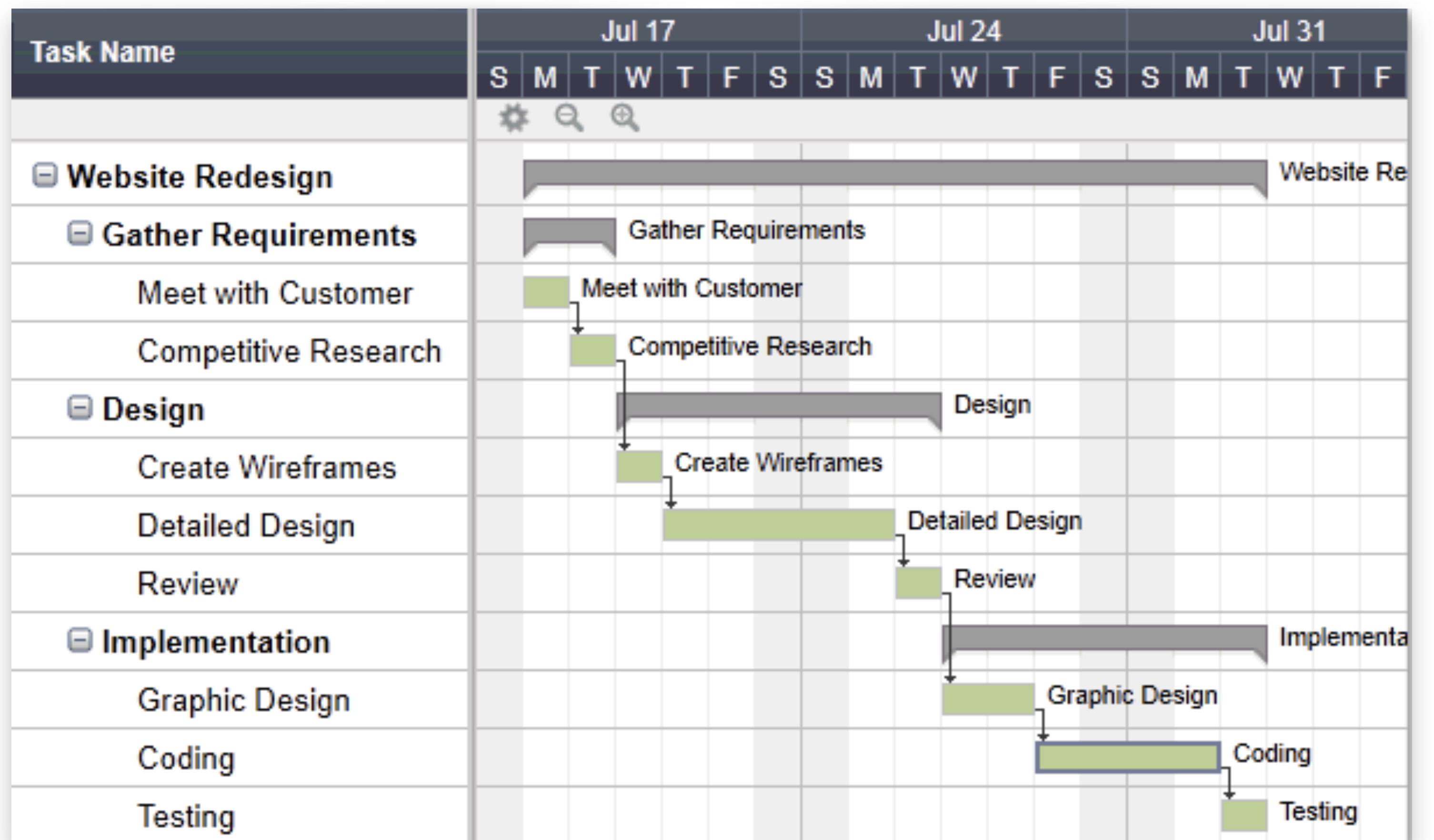One point can't be changed without affecting the others

Gantt chart
(*not* an acronym!)

Developed by Henry Gantt to illustrate project schedules

The primary focus of a Gantt chart is schedule management (*not* cost or scope)

Plots task schedules and dependencies

Task Name	Jul 17	Jul 24	Jul 31
	S M T W T F S	S M T W T F S	S M T W T F
⊟ Website Redesign			Website Re
⊟ Gather Requirements	Gather Requirements		
Meet with Customer	Meet with Customer		
Competitive Research	Competitive Research		
⊟ Design		Design	
Create Wireframes		Create Wireframes	
Detailed Design		Detailed Design	
Review		Review	
⊟ Implementation			Implementa
Graphic Design			Graphic Design
Coding			Coding
Testing			Testing

Gantt chart
(*not* an acronym!)

Some free Gantt software options:

macupdate.com/app/mac/16647/ganttproject

getapp.com/p/sem/project-management-software/

(Or use a spreadsheet)

In-depth discussion on Edward Tufte's site about Gantt chart benefits, limitations and alternatives:

https://www.edwardtufte.com/notebook/project-management-graphics-or-gantt-charts/

An old MacUser column of mine on project management:

thatkeith.com/articles/keep-managing-the-projects/

SMART Objectives
(*Is* an acronym!)

These guide people when setting objectives, or

— Key Performance Indicators (KPIs)

Always ask: is what we're about to do SMART?

— **S**pecific,
  Measurable,
  Attainable,
  Realistic,
  Time-specific

Additions?

— **E**valuate, **R**eevaluate

— **A**ssessable, **S**urveyable, **S**igned-off

Why bother?