Project Methodologies & Approaches

S1 2015

AUT UNIVERSITY COMPUTER + MATHEMATICAL SCIENCES

Topics for Today

- *What is a project methodology ? Why do you need one?*
- *How do you choose?*

What is a project methodology?

Alistair Cockburn(2003)

Methodology is how an organisation repeatedly produces and delivers systems.

Method

– Process, instructions, rules, plan

Methodology

– Methods + Ideology

A methodology can be seen as set of practices and a ‘philosophy’ and a philosophy that underlies there choice and application.

Why a project methodology?

- Project methodologies are a way for those who have done this before to share their experience and wisdom with us. They enable us to avoid repeating the same mistakes!
- A methodology should provide Systematic, Repeatable, Tested, Justifiable, Defendable and Auditable practices to support our work.

Why a project methodology?

Collection of practices influenced by the grounding beliefs of originators.

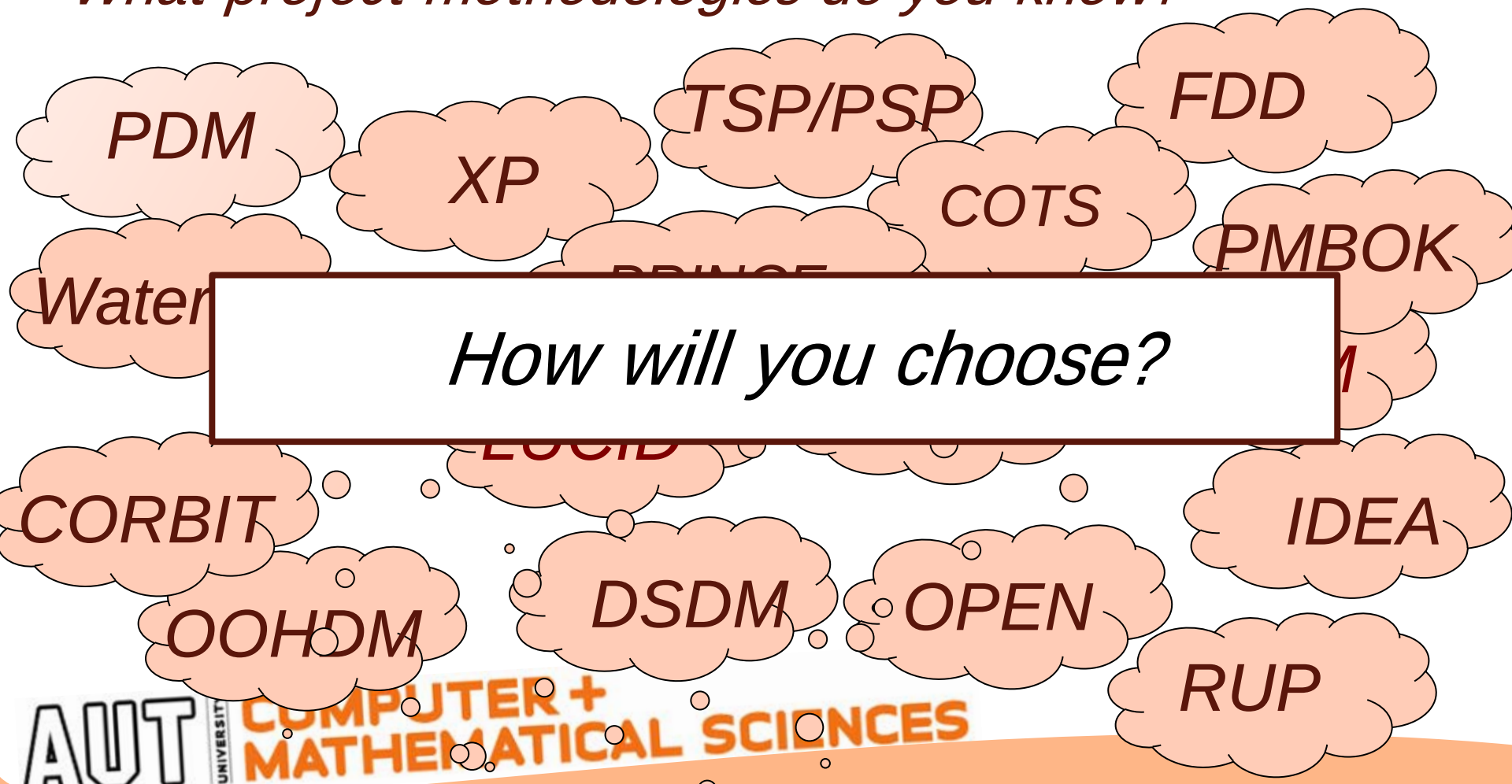
All methodology is based on fears. (Beck 1999)

Examining the methodology from this perspective, one can almost guess at the past experiences the methodology author has had. Each element in the methodology is a stop against a bad experience some project has had. Afraid that programmers make silly little mistakes? - Hold code reviews. Afraid that users don't know what they really want? - Create prototypes. Afraid that designers will leave in the middle of the project? - Have them write extensive design documentation as they go.

(Cockburn 2003)

Project Methodologies?

What project methodologies do you know?

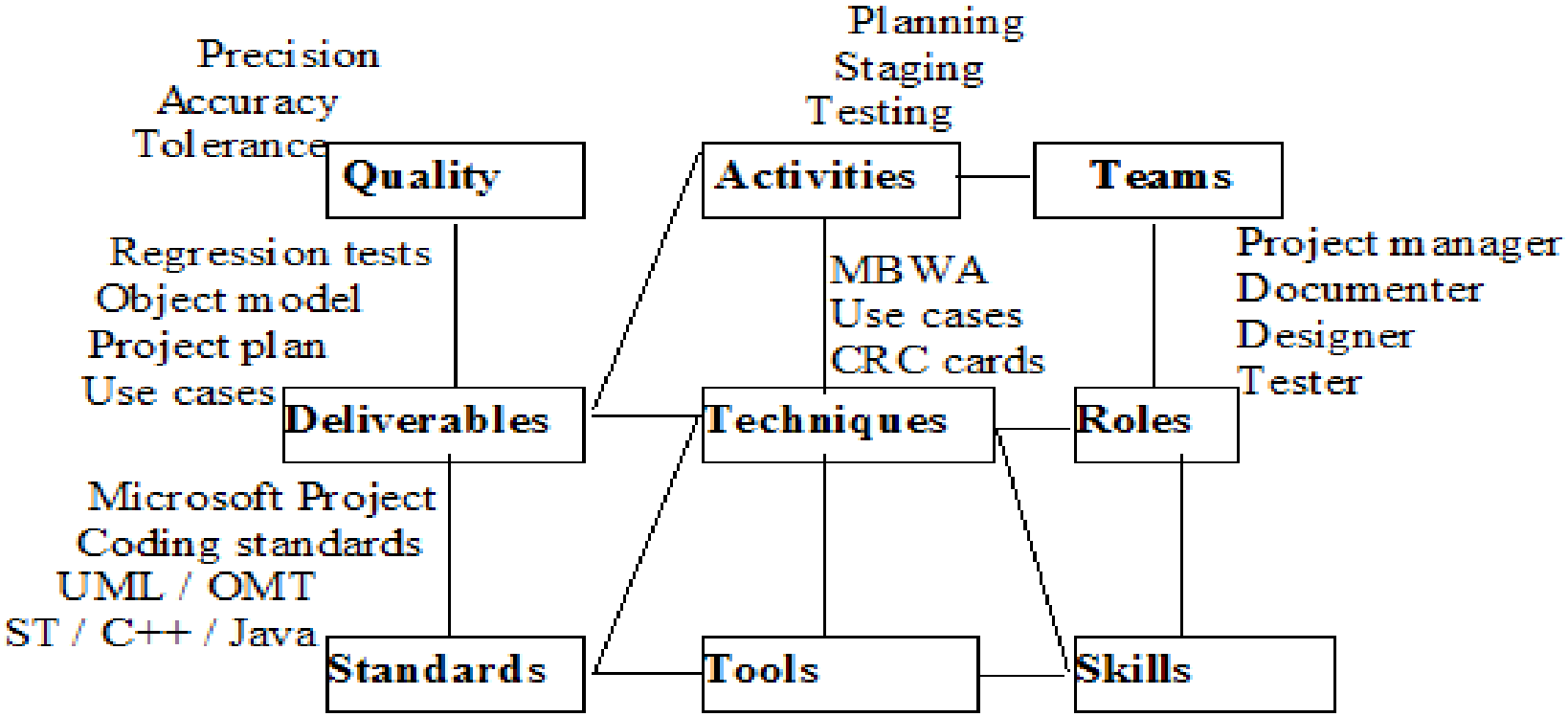


Good News

- Generally there is good agreement about what activities/processes involved in projects.
- Most agree that you need to
  - Define
  - Plan, estimate, scope, schedule & track
  - Communicate & Collaborate
  - Check
- The contrasting views are often about

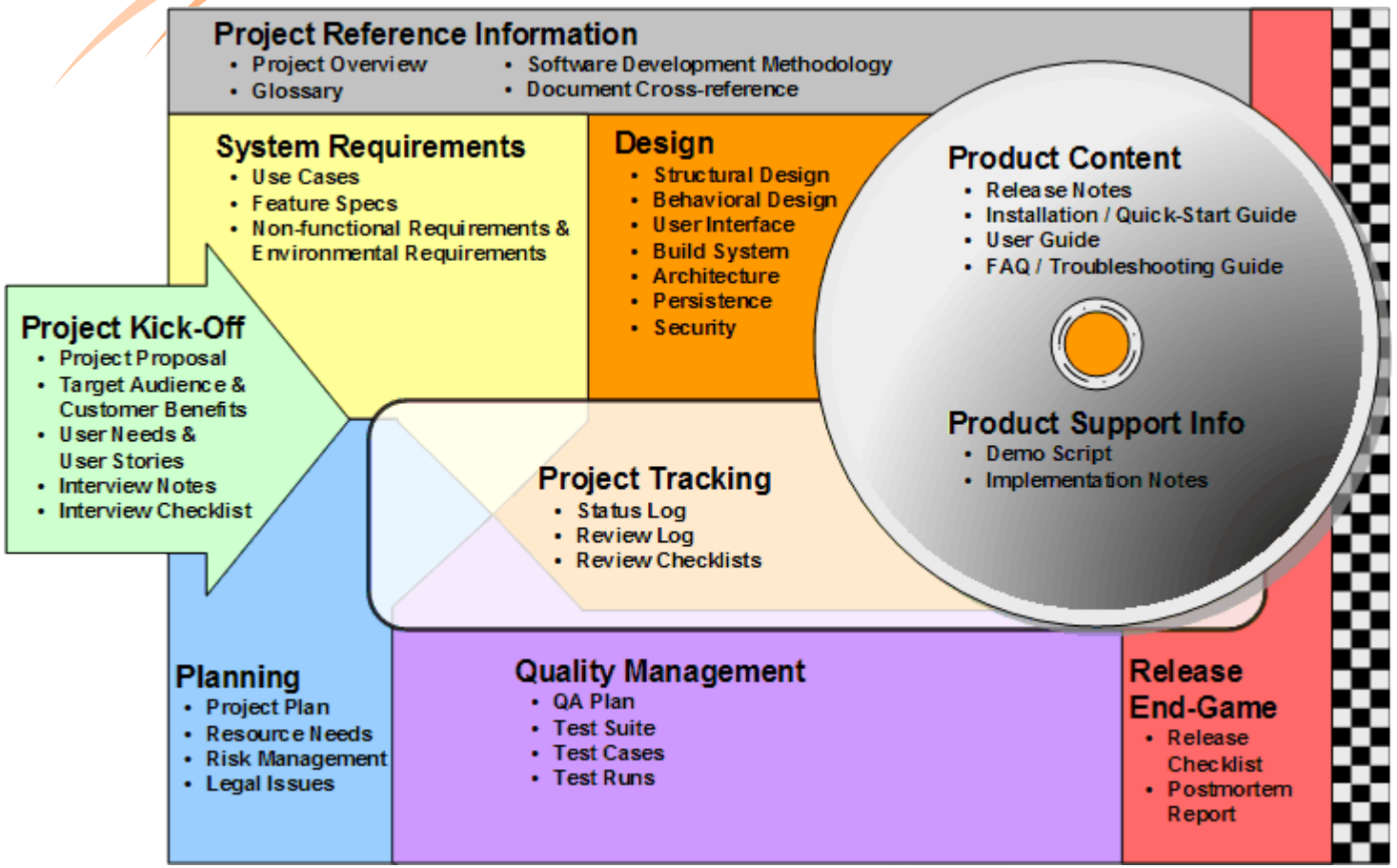
How..? When..? How often...? How much...?

What a methodology covers.



(Cockburn 2003)

Another Perspective -Set of Outputs



(http://www.readysetpro.com/)

Choosing a methodology

- You could choose a prepackaged methodology if one suits your project & client

OR

- You could build a tailored one from parts of others.

What is important?

- Even with an ‘off the shelf’ methodology, you must be clear which parts you are adopting. Be specific!
- *Does it cover everything you need? Gaps?*
- *Are there aspects that are not relevant to your project? Your context? Your skill set?*

What is important?

- *If you are choosing components, what do you need to cover?.*

Areas to be covered

- Define
- Plan, estimate, scope, schedule & track
- Communicate & Collaborate
- Check

Define

- *What is the project about?*
  - Proposal
  - Feasibility study
  - Proof of concept.
- *Requirements?*
  - *How will you discover them? Refine them?*
  - *How will you record them?*
  - *How will you confirm they are correct? Not missing anything?*
  - *How ill you know when they are done?*

Plan & track

- *How will you organise the process?*
  - *Activities? Phases? Iterations? Increments? Timeboxed?*
- *How will you estimate task duration?*
  - Formulas? Adaptive techniques? Guesswork?
- *How will you decide on the scope?*
  - Tendency to overpromise.
- *How will you decide what to do first?*
  - What is most important? Who decides?

Plan & track

- *How will you track what is done and what is still to be done?*
  - *Day by day? Month by month?*
  - Tools and methods. Shared responsibility.
- *What happens when you get it wrong?*
  - Changing plans. Learning as you go.
- *How do you decide when you are done?*
  - *Who decides?*

Communicate & Collaborate

- Team compact covered in earlier classes.
- Decide on responsibilities.
- Decide how tasks will be shared and who gets to do what.
- Next class session looks at collaboration in more detail.

Check

- Specifying requirements well helps you to do the RIGHT thing. *How do you make sure you do it RIGHT?*
- You cannot test quality into a system. You must plan to build it in from the start.
- Quality cake example. Project equivalents of:
  - Use a recommended recipe
  - Buy good ingredients
  - Measure carefully
  - Follow a tried and tested method
  - Keep track of state as it cooks.