Building successful cross-functional development teams

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Agile development 'outside' the SCRUM team: integrating professional cultures

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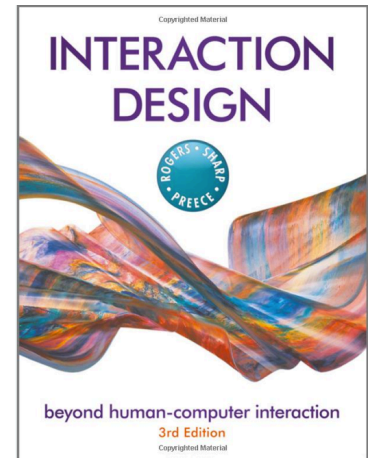helen.sharp@open.ac.uk

Overview

- Focus of my talk
  - Agile methods: not just SCRUM
  - How to integrate roles from 'outside' the SCRUM team
  - Software-focused professions, e.g. testers, database

- User Experience (UX) design as an example
  - What is UX design?
  - Integrating UX and agile

- Professional culture
  - What is it?
  - What are the cultural differences between the roles?

- Some challenges

My perspective

- Software practitioner
- Empirical studies of software practice
- Human and social aspects
- Agile studies since late 1990s

- Taught HCI/Interaction Design since 1990
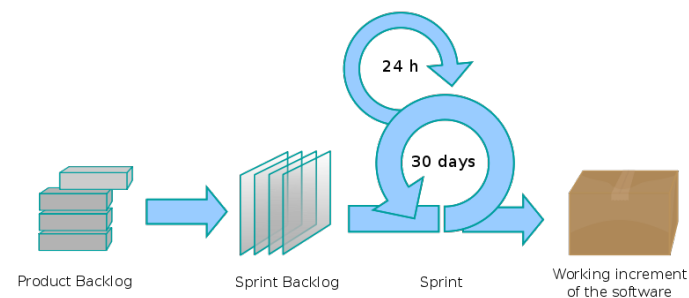- Interaction design textbook

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Agile methods: not just SCRUM

- In practice, several different agile methods are combined

- The work here covers a range including:
    - eXtreme Programming (XP)
    - SCRUM
    - DSDM
    - Kanban

Product Backlog   Sprint Backlog   Sprint   Working increment of the software

24 h

30 days

- Iterative and incremental, focused on delivering business value, usually using stories, stand-ups, continuous integration, product owner (or equivalent)

How to integrate concerns from 'outside' the SCRUM team

- Not enterprise agile (business needs to be agile)

- Not aimed at product owner/customer (particularly)

- 'Software-focused' roles such as database design, testing, user experience (UX) design, architecture

- How to make sure these concerns are addressed?

- XP's Whole Team practice: "What the whole team was missing was a sense that they were roped together"*

- Cross-functional teams -?

*Extreme Programming Explained (2nd edition), Beck and Andres (2005): p74

Doesn't "whole team" address the issue?

- Relying on cross-functional teams assumes that bringing people together leads to the integration of concerns, but does it?

- Bringing people together may not be achievable, or considered desirable:

  – Integration with 'business-as-usual' systems needs to be conducted according to organisational QA standards

  – UX designers work best when they are separated from the issues of software construction because these issues hamper creativity

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What is UX design?

- Designing "how the product behaves and is used in the real world... how it works on the outside, where a person comes into contact with it and has to work with it...
  every product that is used by someone has a user experience: newspapers, ketchup bottles, reclining armchairs, cardigan sweaters"*

- Wireframes, visual designs, interface widgets, user characterisations, user research, usability testing....
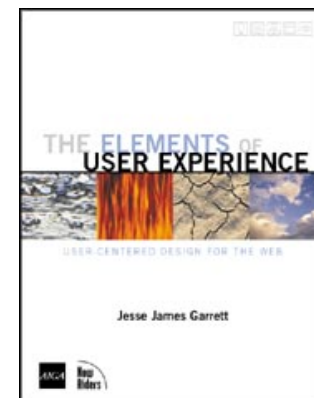
*Jesse James Garrett (2003) *The Elements of User Experience*, New Riders: p10

What is UX design?

Jesse James Garrett (2003) *The Elements of User Experience*, New Riders
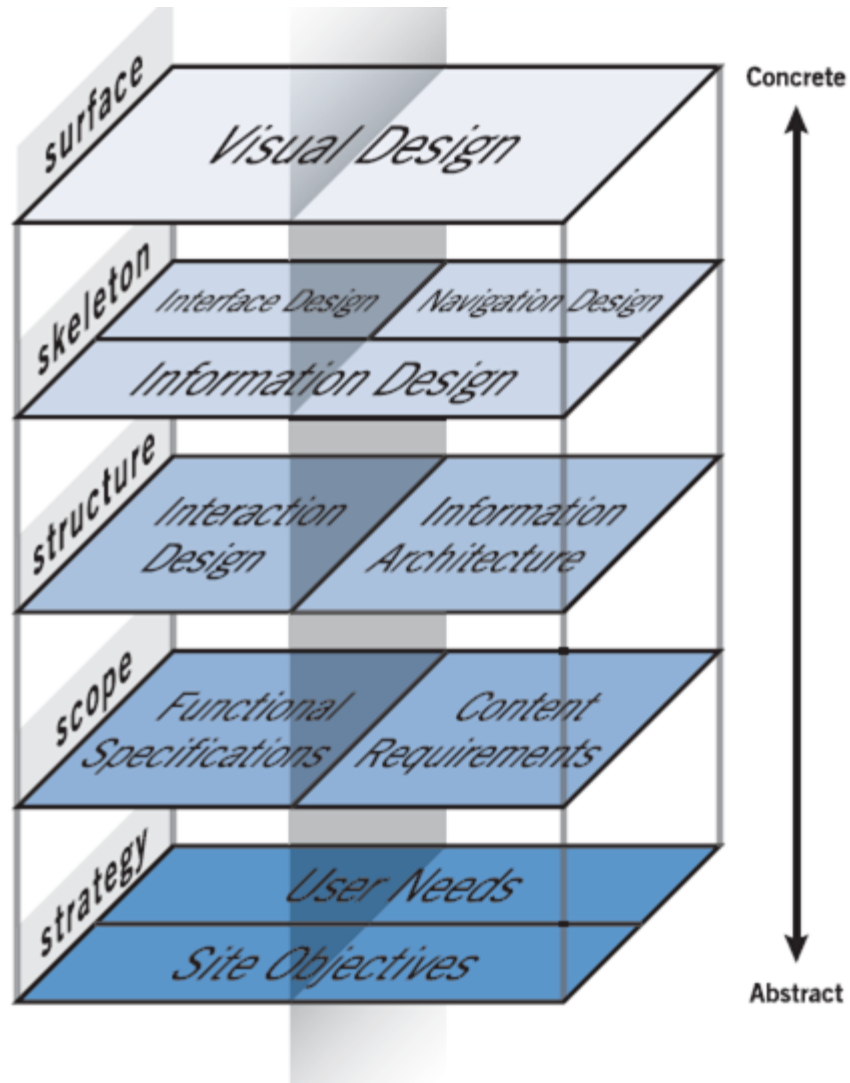
Integrating UX and agile

- Whole team practice (as discussed above)
- Techniques, e.g. personas, discount usability
- Processes, e.g. 'train tracks' integration, joint stand-ups, common demos
- Tools, e.g. common application framework makes sure User Interface is 'designed in'
- Recommendations or principles
- Articulation work, e.g. the need for detailed interaction between individuals

OOH NOOO! AGiLE UX!
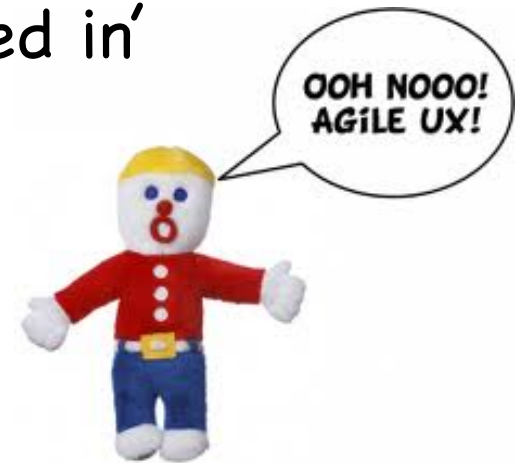
Integrating UX techniques: the persona

€ CAPLIN

Ginnie

BACKGROUND

- 15, Female
- Ongoing Private Education
- Ambitious
- Comfortable using technology to communicate

MOTIVATIONS

- Keeping in touch with her network
- Fashion/street cred
- Keeping up with peers.

FRUSTRATIONS

- Sad people trying to be 'friends' on Facebook
- Having to be in bed @ 11pm
- Being swamped in friends updates
- Missing important status updates

Receives private tutoring in Maths and English as these are not her strong subjects. Enjoys playing for the school's 2nd teams for netball and Lacrosse and is good at art.

She loves recording her favourite shows: ER and Sun Valley High on Sky+ and spends some of her time on her Laptop that Daddy bought her watching videos on YouTube, downloading music, keeping up to date with her friends on Facebook and chatting via MS IM to her cousin who is at University in Leeds.

She loves Ugg boots and Abercrombie & Fitch and uses the Internet to shop and find the cheapest prices.
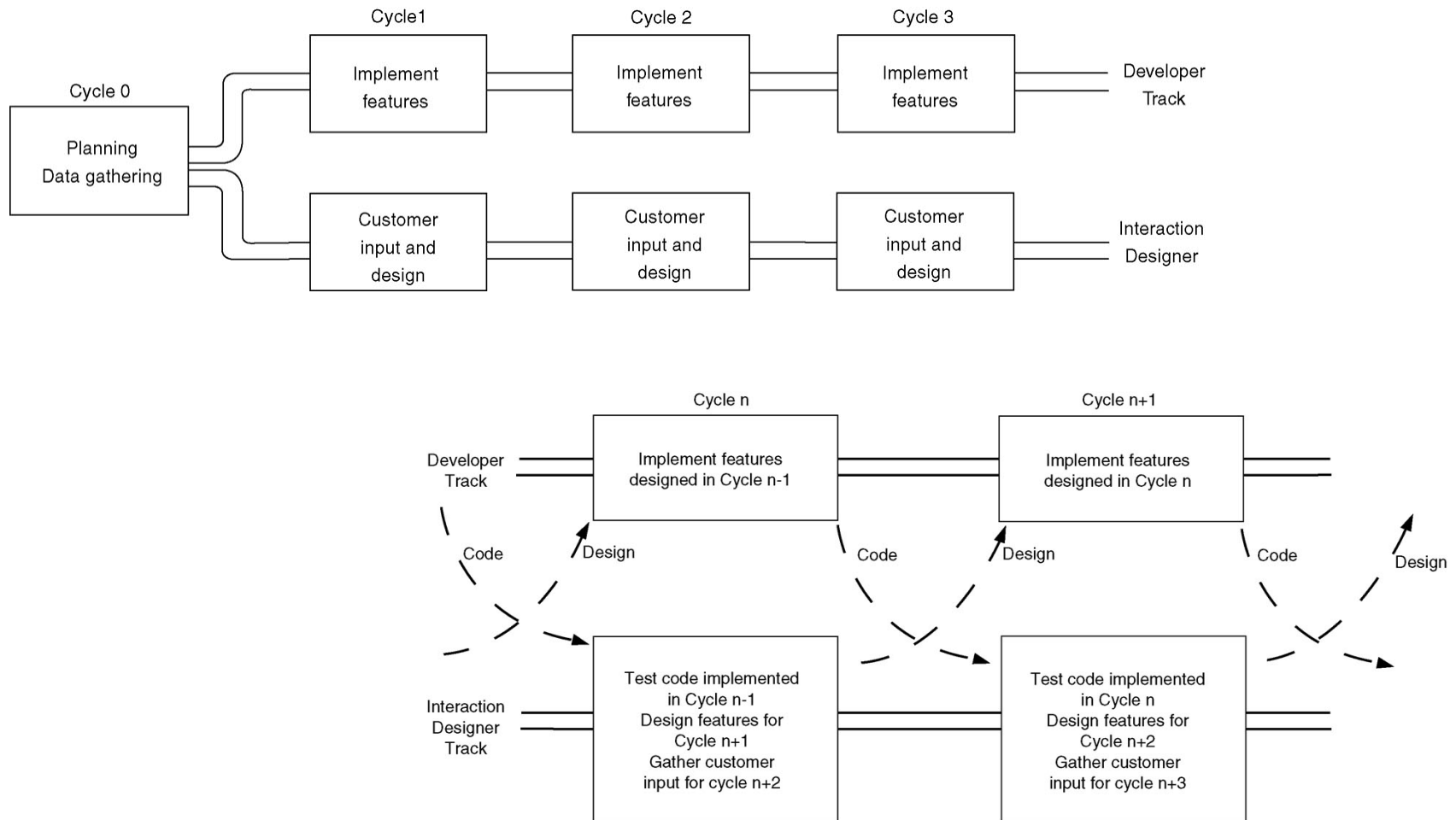
"I want to easily hook up with my friends whilst watching TV"

Integrating UX techniques: the persona

Integrating UX and agile processes

Desirée Sy and Lynn Miller, Autodesk

Integrating UX: tools

- Application framework to bring interface and interaction design consistency
- Interface/interaction design plus code

Integrating UX: principles

- Jeff Patton's 12 patterns of common behaviours:
  - Research, model and design up front, but only just enough
  - Buy design time with complex technical stories

- Neilsen Norman group report recommend:
  - Development and design in different tracks
  - Maintain a coherent vision

- UX practitioner advice
  - Professional communities, e.g. UX magazine, balancedteam.org
  - Experience reports, e.g. at CHI and Agile conferences

Integrating UX: day-to-day

- Integration is contingent on the context
- Day-to-day achievement
- Timing and scheduling issues
- Visibility issues
- Four themes:
  - Integration as mutual awareness
  - Integration as negotiating progress
  - Integration as engaging with each other
  - Integration as expectations about acceptable behaviour

Ferreira, J., Sharp, H. and Robinson. H. (2012) 'Agile Development and User Experience Design Integration as an Ongoing Achievement in Practice', Agile 2012

Integrating UX and agile

- Techniques
- Processes
- Tools
- Recommendations or principles

Aligning behaviour

- Whole team
- Articulation work
- (Professional communities)

Integrating people

Problems persist

- Misunderstandings
- Unexplored assumptions
- Boundaries and responsibilities

- "lack of communication" but what to communicate, how and when?

- Maybe it's time to take a different perspective:

- Professional cultures

People and behaviours

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- **Professional culture**
  - **What is it?**
  - **What are the cultural differences between the roles?**
- Some challenges

What do I mean by 'culture'?

- "Culture consists of the values the members of a given group hold, the norms they follow, and the material goods they create"*

- "A pattern of basic assumptions … that has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think and feel in relation to those problems" **

- Culture is learnt, in the sense that it is not genetically determined

* Giddens, A. (1993) *Sociology*, Polity Press, Cambridge.
** Schein, E. H. (1992) *Organizational culture and leadership*, Jossey-Bass, San Francisco.

Lilypond model of culture
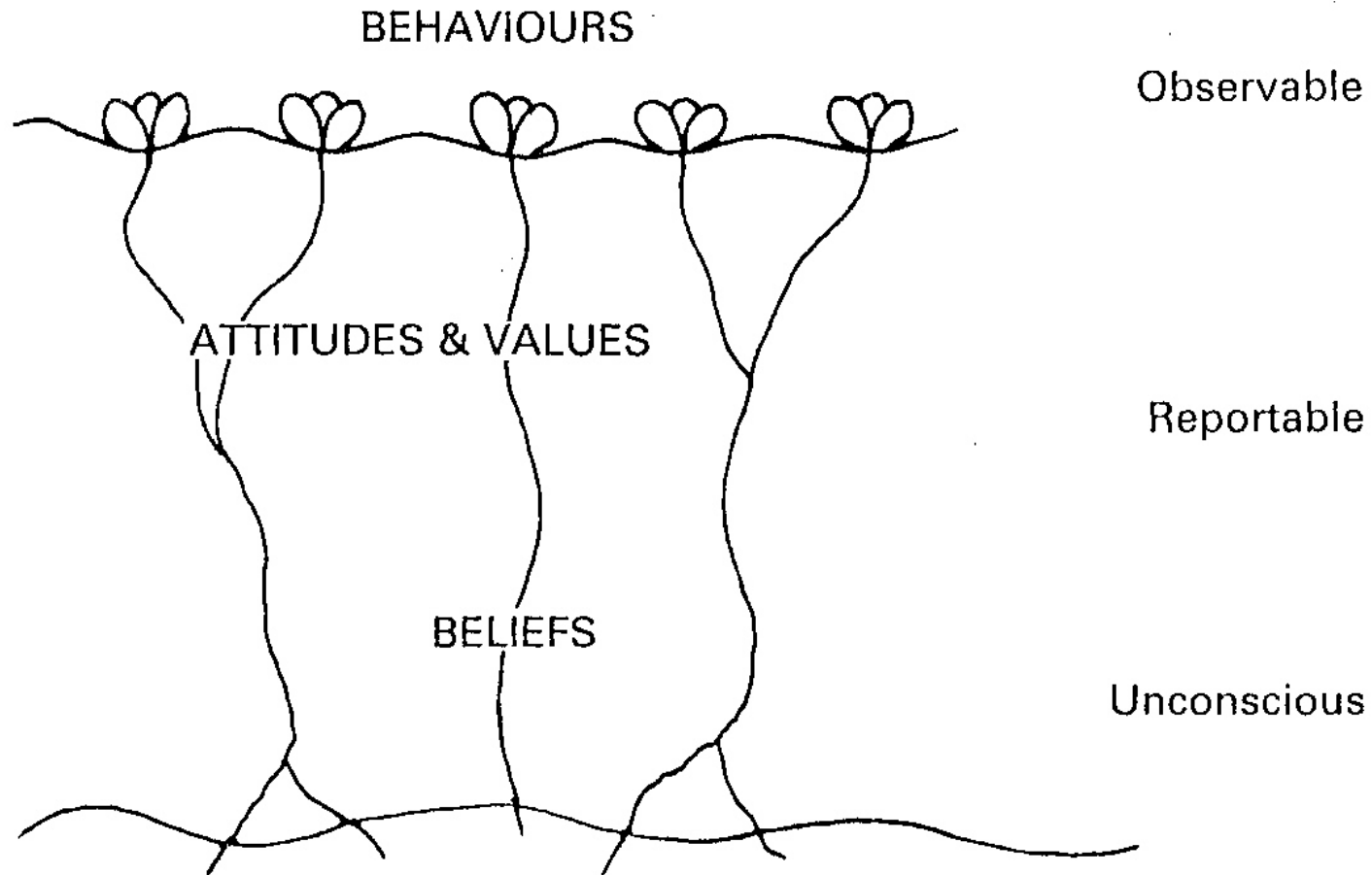
Williams, A., Dobson, P. and Walters, M. (1993) *Changing Culture: new organisational approaches (2nd edition),* Institute of Personnel Management, London.

Different 'types' of culture

- National culture, e.g. between different societies or geographical areas
  - Hoftede's dimensions [1], such as uncertainty avoidance
  - GLOBE project's [2] nine dimensions of culture that differentiate societies and organizations
  - Aaron Marcus web user interface guidelines [3]

- Organisational culture
  - Deal and Kennedy's four generic cultures [4]: tough guy macho, work hard/play hard, bet-your-company, process

- Professional culture
  - Little work here, except in medicine, e.g. Hall (2005) [5]

[1] http://geert-hofstede.com/dimensions.html

[2] http://business.nmsu.edu/programs-centers/globe/

[3] Marcus, A. and Gould, E.W. (2000) 'Crosscurrents: Cultural Dimensions and Global Web User-Interface Design' *Interactions,* 7(4), 32-46

[4] Deal, T. and Kennedy, A. (1988) *Corporate Cultures,* Penguin

[5] Hall, P. (2005) 'Interprofessional teamwork: Professional cultures as barriers', *Journal of Interprofessional Care*, Supplement 1: 188–196

Professional culture

"each profession has a different "cognitive map" .... The cognitive map develops as a consequence of the educational and socialization experiences of the students of each profession, built on each student's own unique cognitive and constitutional make-up. This map is a major component of the culture of each profession. A major challenge facing proponents of effective inter-professional teamwork is to provide opportunities for team members to understand each other's cognitive maps"

Hall, P. (2005) 'Inter-professional teamwork: Professional cultures as barriers', *Journal of Inter-professional Care*, Supplement 1: 188–196

Professional culture

- Education/apprenticeship: how to do things
- Tools of the trade: what is important
- Boundaries: what's in my responsibility/ competence
- Identity and socialisation: what does it mean to be a 'designer', a 'tester', a 'developer' etc

- Misunderstandings
- Unexplored assumptions
- Boundaries and responsibilities

What does culture affect?

- (Techniques, processes, tools, recommendations)
- Terminology:
  'sketch', 'prototype', 'design'
- Assumptions:
  "I assumed it would work *this* way", timeframe, what is important
- Priorities:
  work from user side, working code
- Approach/philosophy:
  consider many alternatives, find one that works well
- Expectations:
  re-work, stability, level of detail

Re-casting the question

How to integrate concerns from 'outside' the SCRUM team

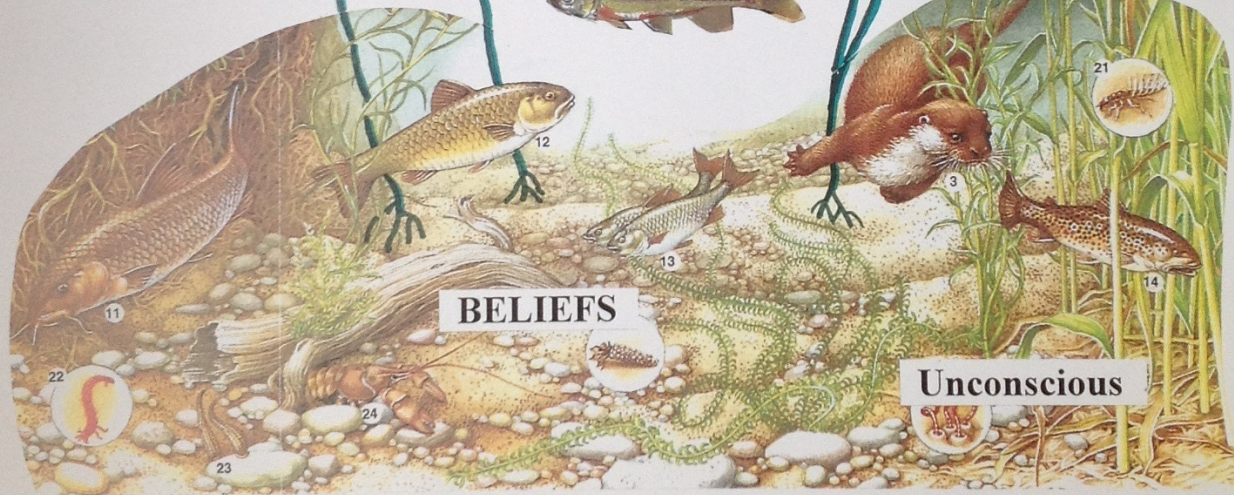How to surface and accommodate cultural differences between the roles?

BEHAVIOURS

Observable

ATTITUDES
AND VALUES

Reportable

BELIEFS

Unconscious

Richer picture

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Some challenges

- Challenges for agile:
  - Reality of cross-functional teams: is it enough?
  - Balance between generalists and specialists?
  - How to be sure assumptions are exposed?
- Challenges for researchers:
  - How to characterise different professional (sub-)cultures
  - How to identify and track dependencies between different functions/cultures
- Challenges for educators
  - How to expose students to a range of disciplines to foster an open mind

Closing remarks

- These observations arise from practice
  - Recent experiences of mis-communication/friction: UX design, database designers, testers

- Maybe focusing on professional cultures will help to understand what to communicate, when and in what form?

Any questions?