More than a number

Making software estimates count

Questions?

Introductions...

Box UK specialises in the design, development and delivery of user-centred digital systems for ambitious, disruptive and innovative organisations worldwide

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The importance of estimates

Some reasons to estimate

- Budget setting

- Planning releases

- Stakeholder management

- Go/No-go decisions

Because organisations get value out of it.

What's the best way to find out how long something will take?

The only way to **know for sure** how long something will take, **is to do it**, and **measure** how long it took.

Everything else involves compromise.
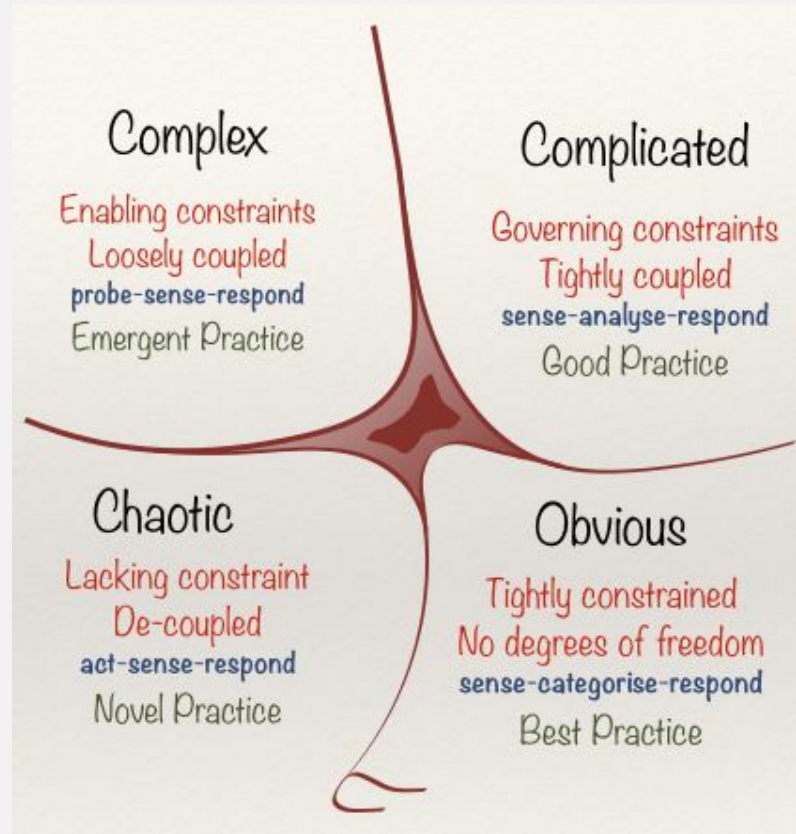
What's the *next* best way?

Do the same thing again and again.

Predictability vs Innovation

Predictability ————————————————————————————————— **Innovation**

Complex

Enabling constraints
Loosely coupled
probe-sense-respond
Emergent Practice

Complicated

Governing constraints
Tightly coupled
sense-analyse-respond
Good Practice

Chaotic

Lacking constraint
De-coupled
act-sense-respond
Novel Practice

Obvious

Tightly constrained
No degrees of freedom
sense-categorise-respond
Best Practice

What actually *is* an estimate?

"A good estimate is an estimate that provides a clear enough view of the project reality to allow the project owner to make good decisions about how to control the project to hit its targets."

Steve McConnell
"Software Estimation - Demystifying the Black Art"

What *we* mean by an "estimate"

✔ A characterisation of the work to be done

✔ An estimate *range*

✔ Your confidence in that estimate

✔ A list of factors that could affect either the estimate or your confidence level

***Not* a raw number!**

Estimate examples

"This is a minor update to an existing project, mostly small features and tweaks.

We estimate 12 to 15 days for a single dev who was involved in the initial build, with a high degree of confidence.

If we have to give the work to someone new to the project the estimate could double as there is a lot of context to absorb."

"This is a major new feature using technology we've got very little experience with.

It's between 4 and 6 sprints for a team that are already familiar with the client's previous projects.

Most of the work is actually fairly well understood, but a critical part involves the new tech.

We have a high degree of confidence that most of the work could be done in up to 3 sprints. We have a low degree of confidence that the novel parts could be done in 1 to 3 sprints. We can't be more accurate with our current understanding of the tech.

We could improve our confidence by spending a targeted 3 days doing a spike with the new tech."

The challenge?

Predicting the future is hard!

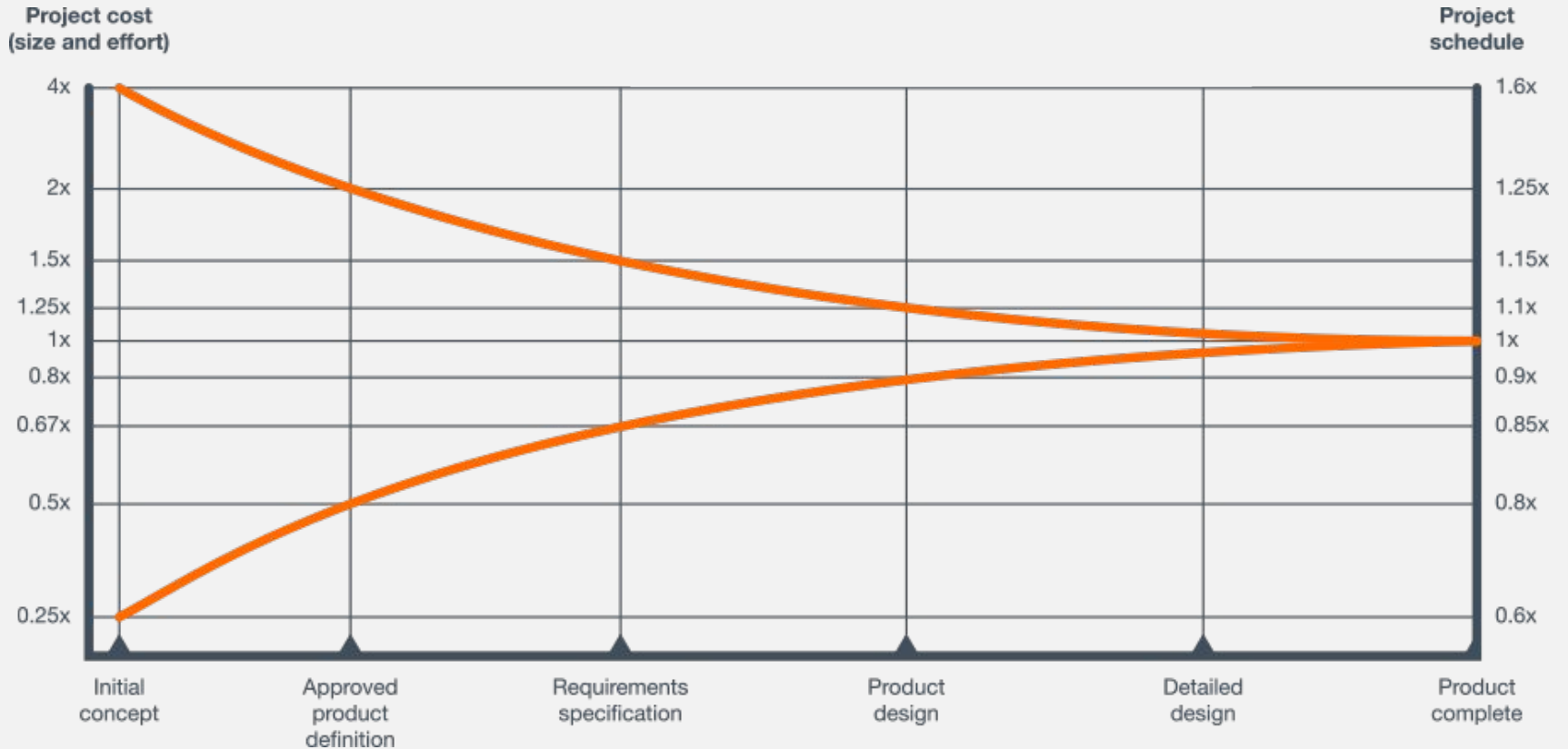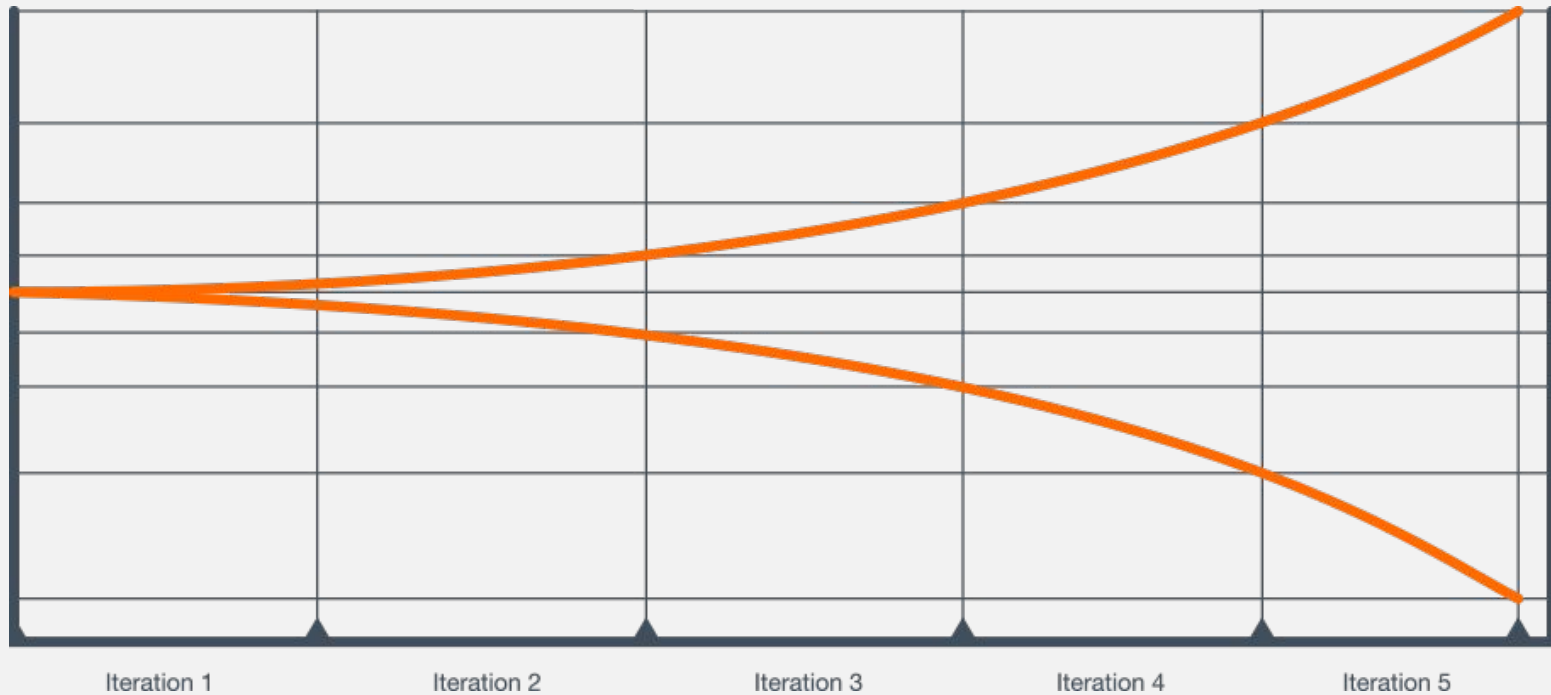The planning fallacy

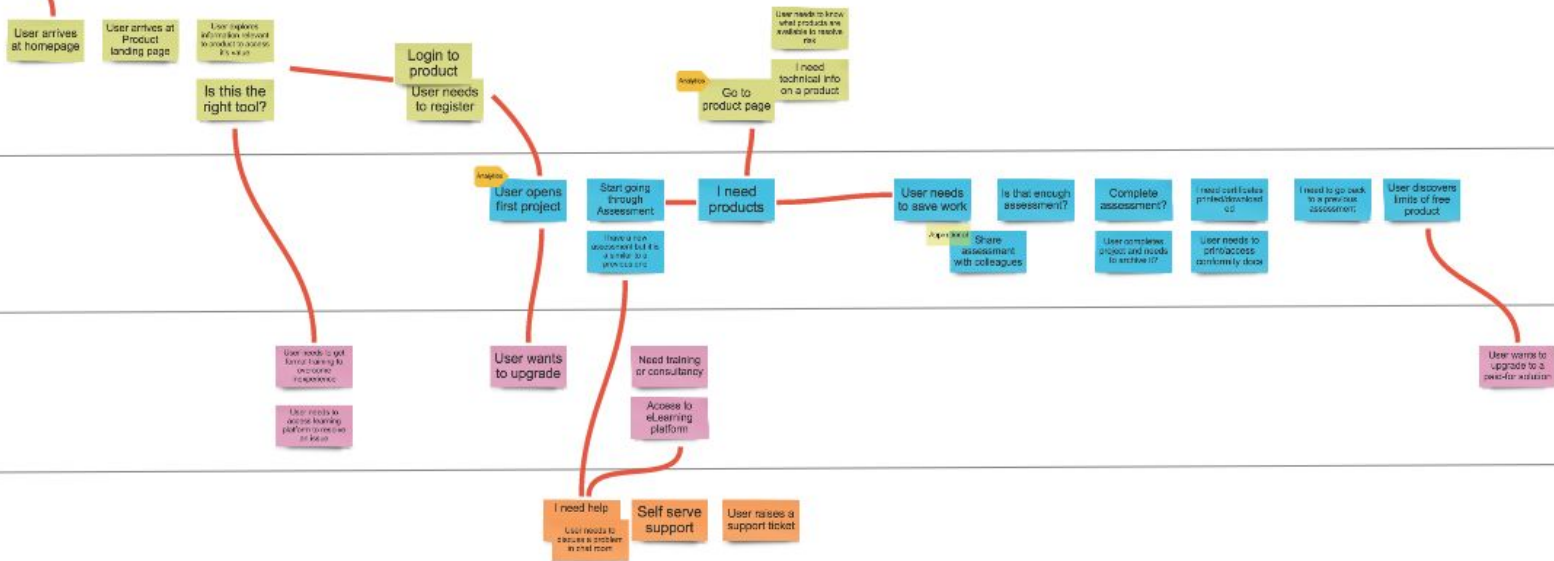# Specification problem/Heisenberg requirements

The cone of uncertainty
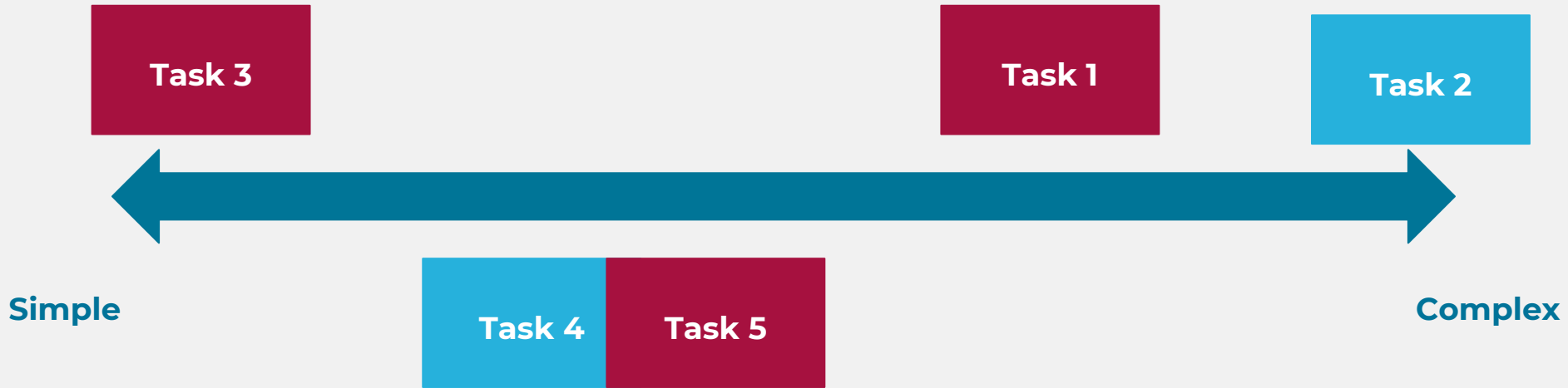
Mitigating uncertainty

Flip that cone around!

Iteration 1   Iteration 2   Iteration 3   Iteration 4   Iteration 5

User seeks help on Risk Assessment process

User becomes aware of product

I've made a change to my machine - what now?

Marketing material

Requirement for a new machine

Search Engine

Find DSS
- search
- pushed

I need inspiration

Do I need to do a risk assessment?

User arrives at homepage

User arrives at Product landing page

User explores information relevant to product to access it's value

Is this the right tool?

Login to product

User needs to register

User needs to know what products are available to resolve risk

I need technical info on a product

Analytics

Go to product page

User opens first project

Start going through Assessment

I need products

User needs to save work

Is that enough assessment?

Complete assessment?

need cert/notice printed/download ed

I need to go back to a previous assessment

User discovers limits of free product

There's a new assessment but it's similar to a previous one

Share assessment with colleagues

User completes project and needs to archive it?

User needs to print/access commonly docs

User needs to get formal training to overcome inexperience

User wants to upgrade

Need training or consultancy

User needs to access learning platform to resolve an issue

Access to eLearning platform

User wants to upgrade to a paid-for solution

I need help

Self serve support

User raises a support ticket

User needs to discuss a problem in chat room

Compare with historical data

Buckets/Affinity estimation

Task 3

Task 1

Task 2

Task 4 Task 5

Simple

Complex

Bracketing to estimate

- One day?

- One year?

- One week?

- Six months?

- One month?

- Three months?

Key takeaways

✔ Some things are more predictable than others.

✔ You can't get rid of uncertainty completely.

✔ But... you can work with it, rather than ignoring it.

✔ A broad estimate isn't necessarily a bad estimate.

✔ Validate your estimates.

✔ And you *can* learn to produce better estimates.

www.boxuk.com/making-software-estimates-count

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simply brilliant thinkers
making software brilliantly simple