

Heuristics to help you design, build and choose test tools



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Let me tell you a story...

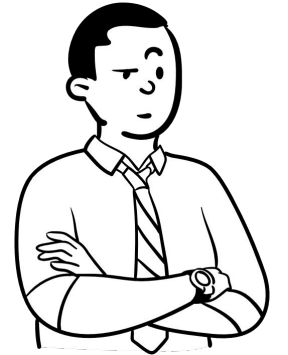
- A story about Anna

- She built a tool to use herself, and suddenly found she was supporting the tool for other people to use...



- A story about Bill

- He was using a vendor tool, and they offered an upgrade which would help solve that knotty problem he had with certain types of bugs...



- A story about Cam

- They were designing a new feature for their test tool, and knew exactly how users would apply it...



(Anna, Bill and Cam are personas built from interviews, survey responses, workshop output...)

A story about Isabel...

- A practitioner and consultant who ...
 - Has lots of experience
 - And wanted to solve a problem...
- Started into academic research about testers and their tools
- And found errors in all her hypotheses...
- Plus unexpected evidence
- The discipline of academic research is slow and very exacting...
 - and robust



Research Questions

(and papers...)

1. What are testers' experiences with tools?

- 2018-2020: Hypothesis building

"Stuck in Limbo with Magical Solutions"

"Scared, Frustrated and Quietly Proud"

"Test Tools: an illusion of usability?"

2. Who is testing?

- 2020-2023: Accumulating evidence

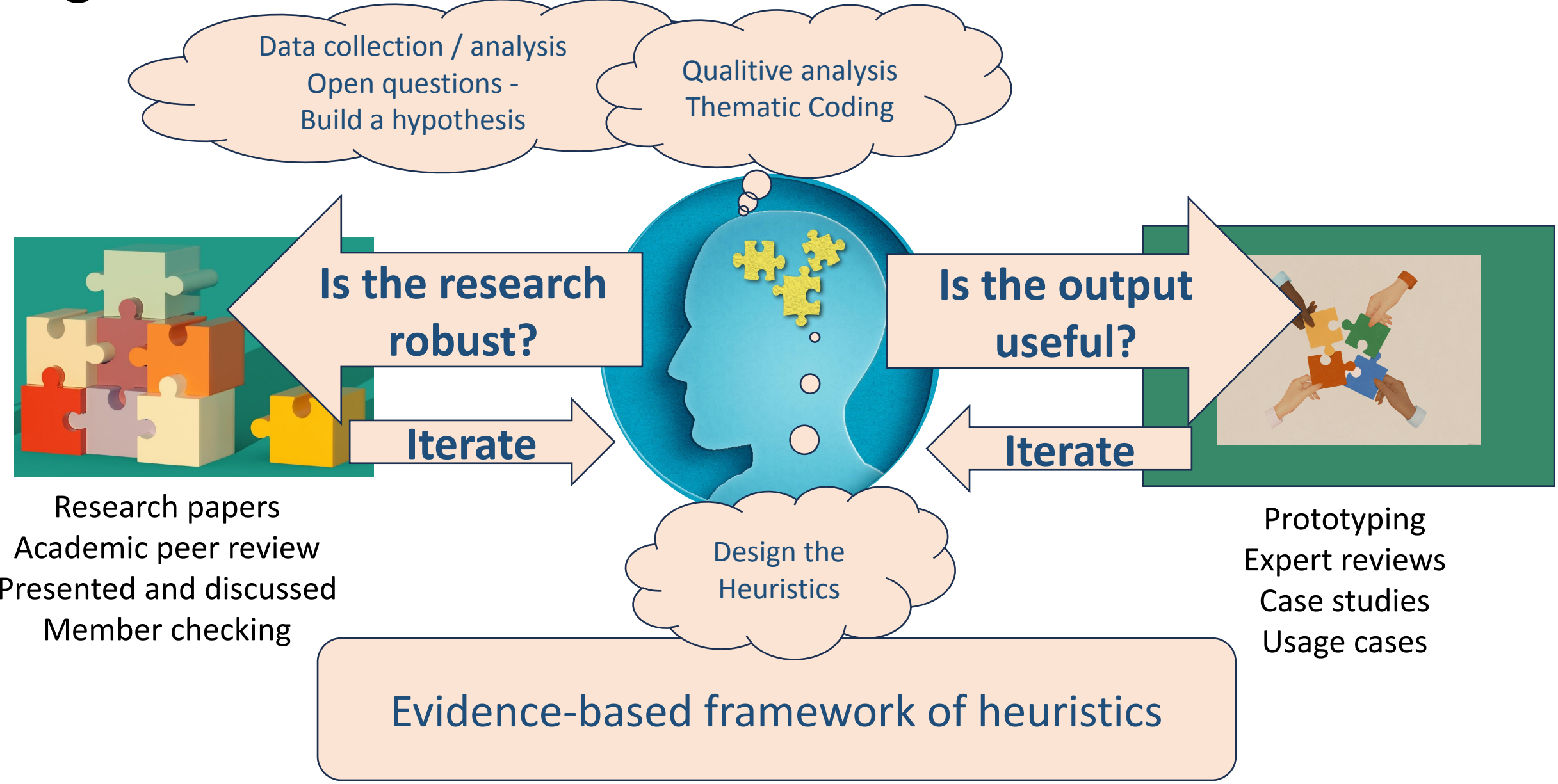
"Breaking testing stereotypes"

3. Would people-focused approaches help?

- 2022-2024: Building and evaluating a set of heuristics

"Communicating Heuristics"

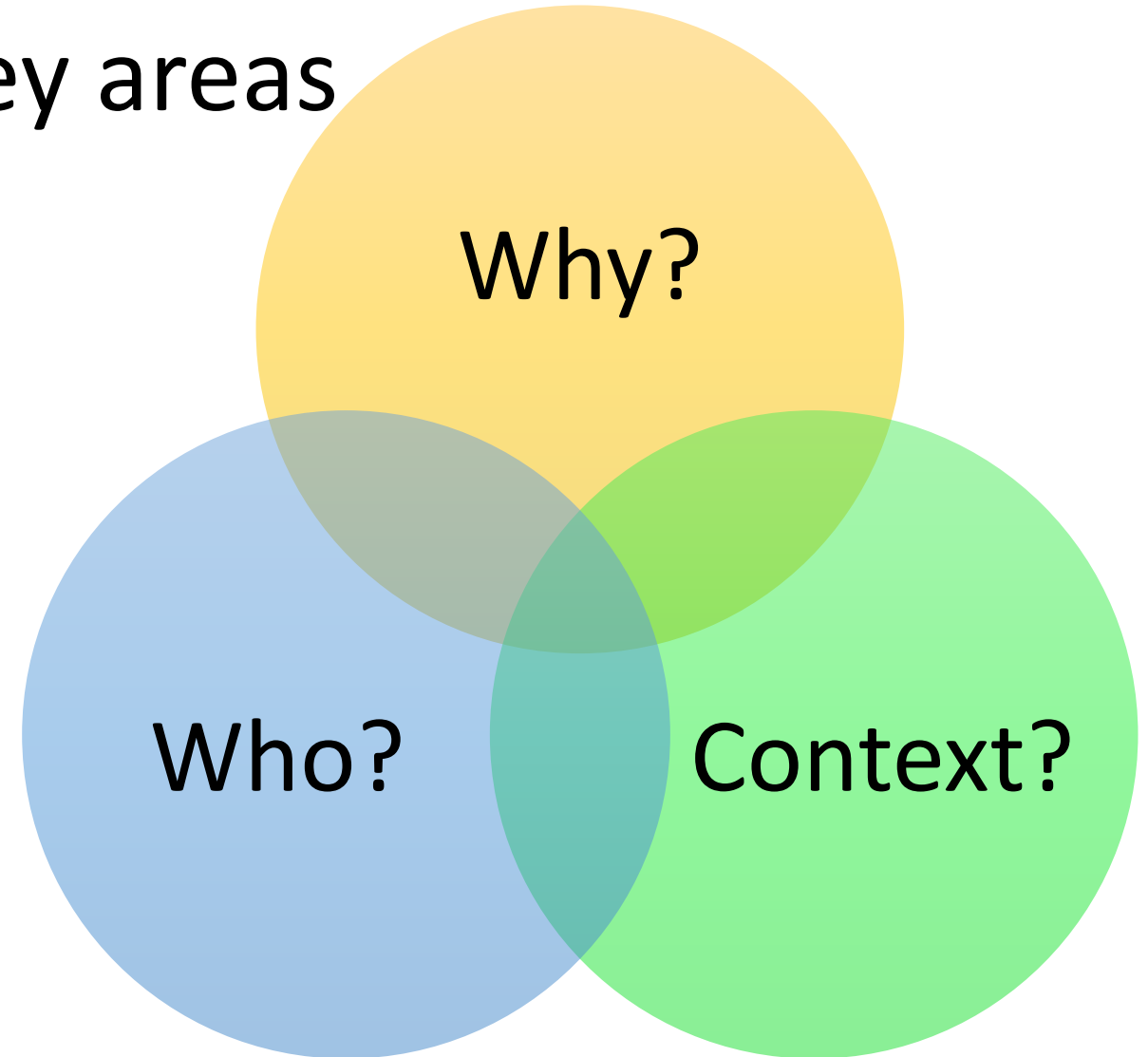
Stages to build the heuristics framework



12 Heuristics: three key areas

Heuristics
communicated
as questions

Questions we
forget to
discuss...



Why?

H01 Why is this tool needed?

Why else?

Money?

Time?

Goals?

Quality?

Problems to solve?

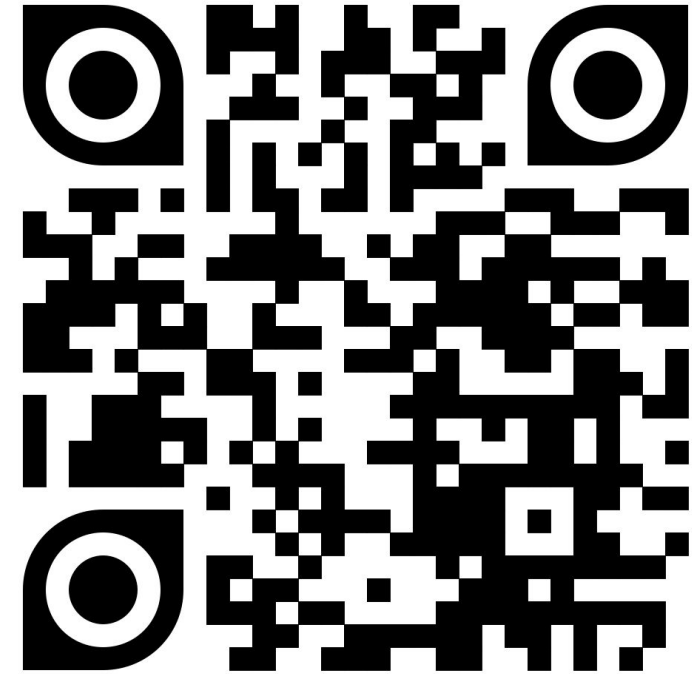
Is there a problem?

Will a tool help?

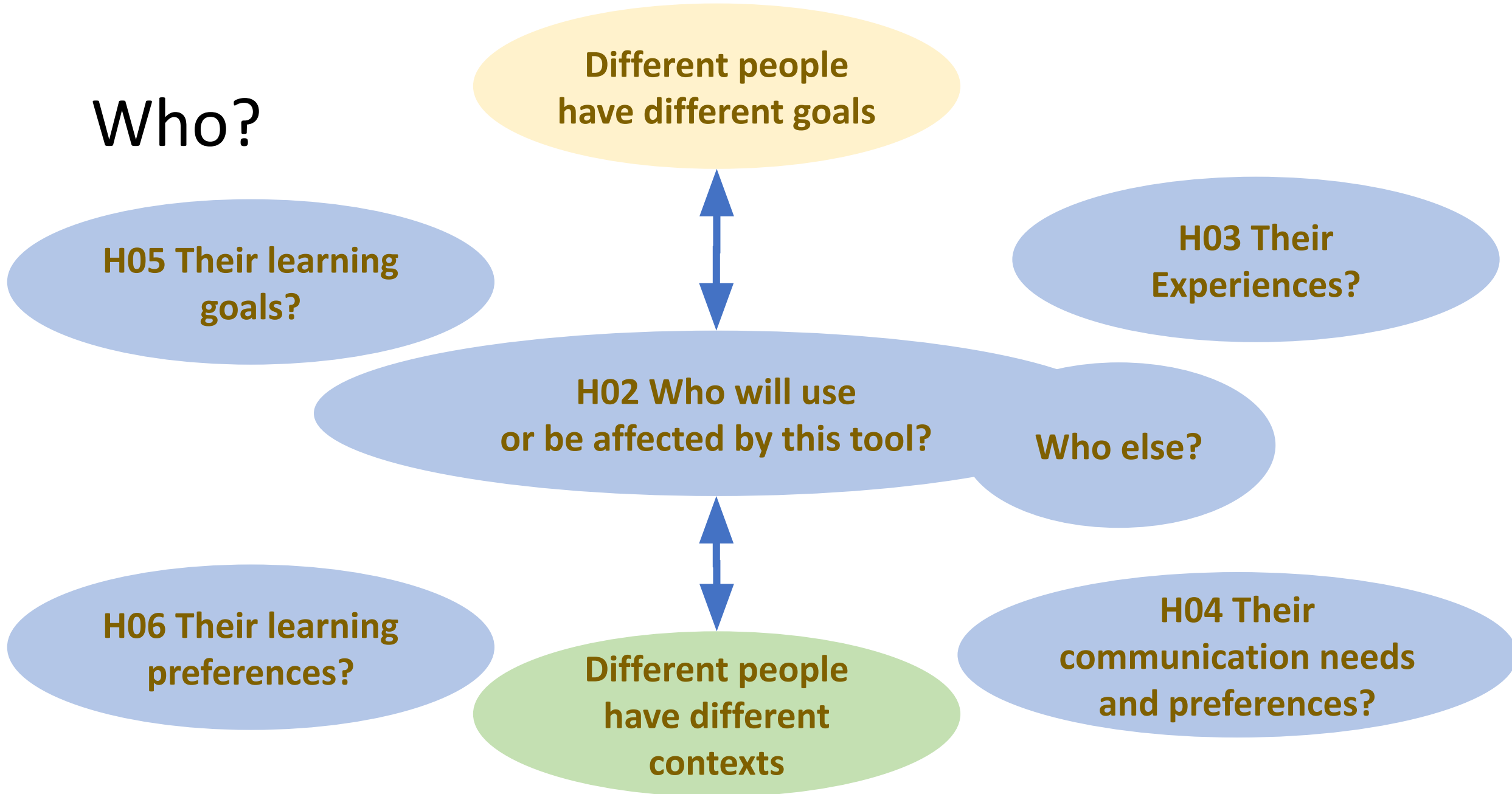
Different people have different goals and different problems

H01 Why is this tool needed?

- Nearly 30% of challenges with implementing tools were management/organizational in origin
- Conflicting goals: *“There may be several organizations - even within one organization ... Audit versus Dev may have different views ...” (Bill)*
- Activities: ROI/cost benefit; SWOT; Gap analysis...

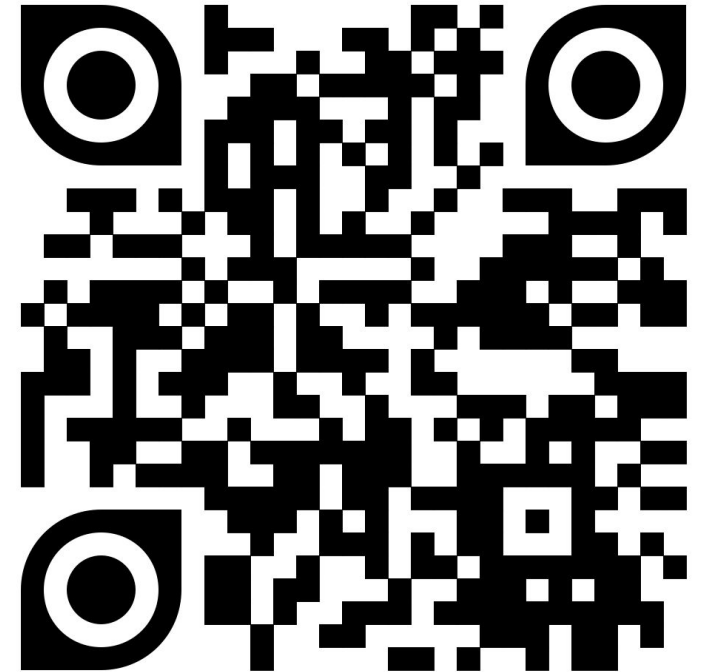


Who?



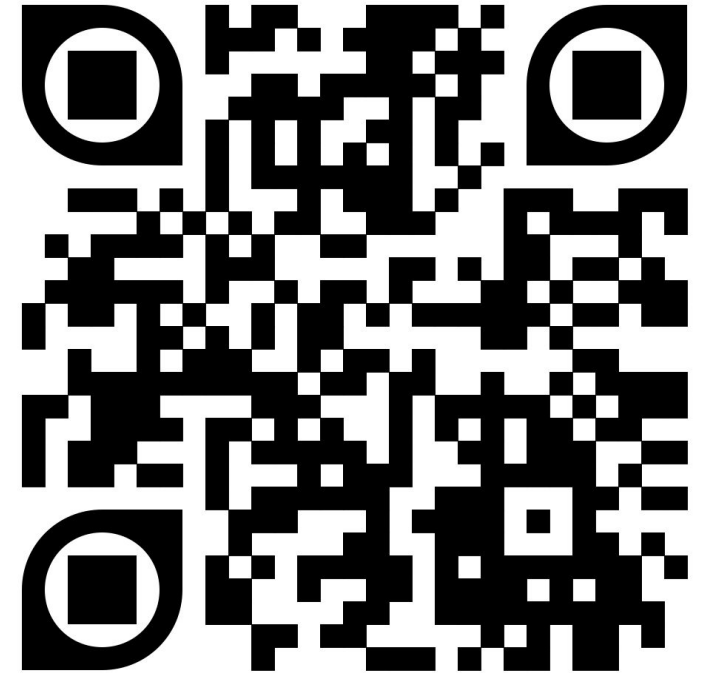
H02 Who will use or be affected by this tool?

- A wider range of people may use the tool than you expect...
 - Only 6% of the Testers participating conformed to IT stereotypes – only 6%!
 - People may be affected without directly using the tool
- Conflicting usages: *“I wanted to solve this one problem for myself ... As I shared it with people ... they had exactly the opposite ideas about ... how it should it be used ... Completely different audience” (Anna)*
- Activities: Stakeholder mapping; Personas and Archetypes



H04 What communication needs and preferences do those people have?

- Media, speed, level of detail, and other factors change:
 - Receiving versus imparting information;
 - Specific accessibility requirements;
 - Not a binary choice! Changes in different situations and over time.
- Conflicting communication needs: *“It’s been... there’s no source of truth – if you want to know how projects are doing you have to look in 4 or 5 places” (Bill)*
- Activities: personas with DISC profiles; MS Inclusive Design Methodology; Accessible Reality Pirates Workshop



Context?

Different people
have different
contexts

Different contexts
mean different
goals



H07
Where will this tool be used?

Where else?

H12 How long for?

H08 What Workflows?

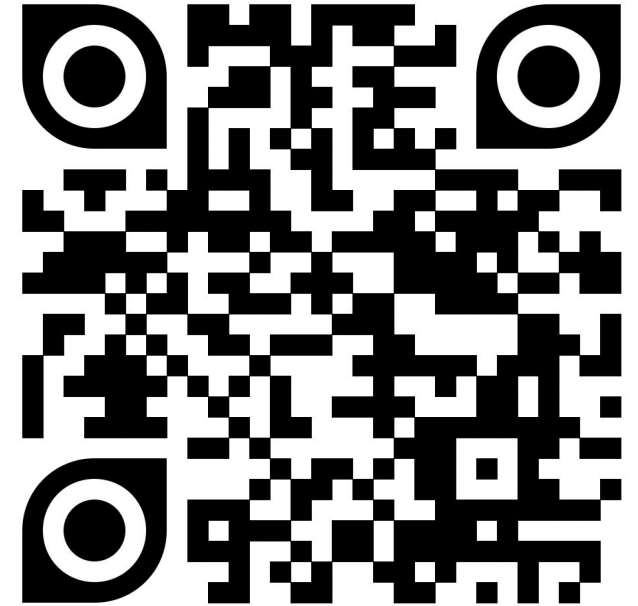
H11 When will it be used?

H10 What
Autonomy and
Work Styles?

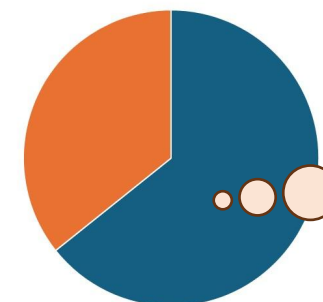
H09 What Risks?

H07: Where will the tool be used?

- People were mandated to use tools that were not available to them because of their location ... We also found that tools might be available, but not be findable... or were used outside offices and in noisy stressful environments...
- *“stuck in limbo...” (Bill)*
- *“in a hospital ... in a warehouse” “... in a field...” (Cam)*
- Activities: think about geography, technical environment and physical environment



Good versus poor connectivity to internet and mobile

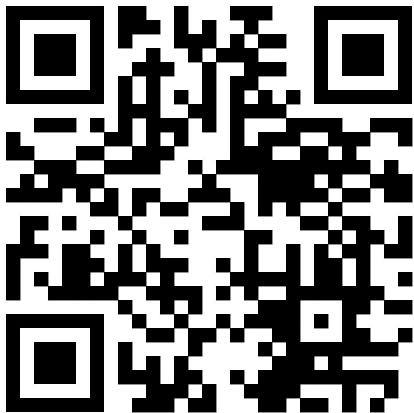


■ good connectivity ■ poor connectivity

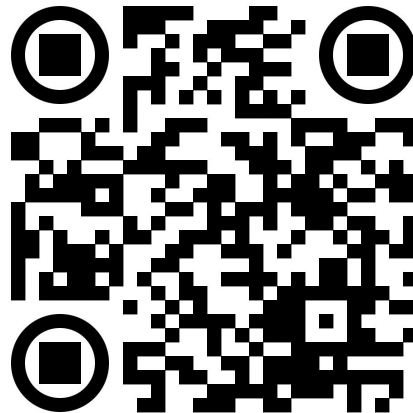
1/3 with poor connectivity (Cam)

Resources

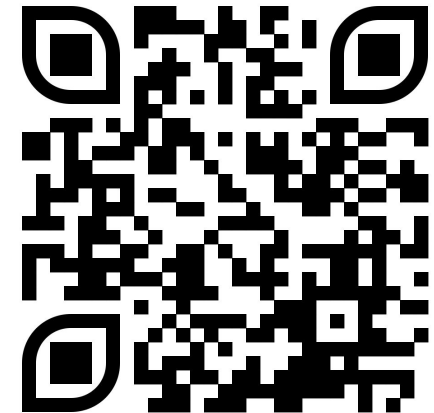
The repository:



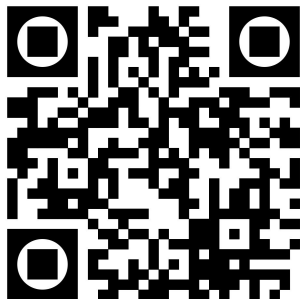
Quick heuristics list:



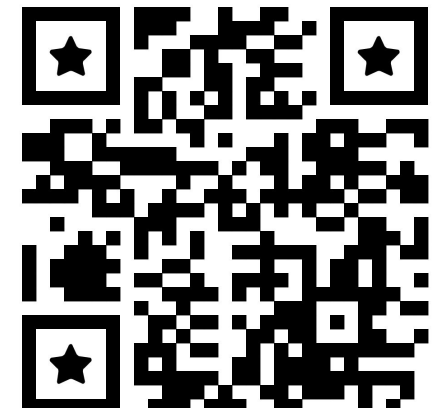
How to use the heuristics:



More about the research



Evidence about quality attributes:



Using the heuristics - options

I'm choosing a tool...



Why?
Who for?
Context?

I'm setting a tool strategy...

Where are the heuristics?

What is my route through the heuristics?

I'm designing a tool...



Who for?
Why?
Context?

I'm building test automation

Let's catch up with...

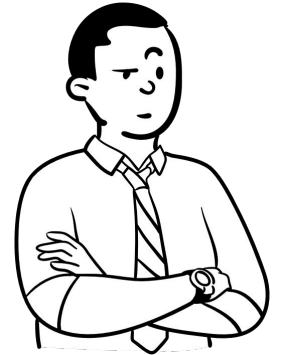
- Anna

- She built a tool to use herself, and when she saw the heuristics she said...



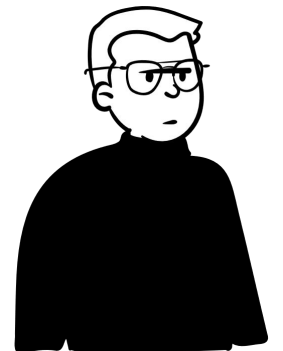
- A story about Bill

- He used the heuristics to evaluate the vendor tool and found that...



- A story about Cam

- They used the heuristics to evaluate the prototype for the new feature and realized that...



Next steps

For me...

Complete the Repository of Heuristics

Complete Case Studies, Final Expert Reviews

Write up Thesis, Submit, Viva... and then, I hope.... Graduation...

Infographic? Book? Website? Podcasts?....

What's
next?

Use the Heuristics

For you...

Talk to me...

Send me comments!

Via my website comment page



Formats: Infographic? Book? Website? Podcasts?....

Expert reviewers?

Mistakes...

So many acknowledgements and thank yous!

HUSTEF

Nordic Testing Days

EuroSTAR UKSTAR

STAREast STARWestSTARCanada

UCAAT Accelq WIT

ANZTB PSTQB

agilitest test:fest lamdatest

BCS HCI SICSA

HUCCAP TAICPART ECCE

Testersuite

And others...

- 2 long-suffering supervisors...
- 12 hours of expert interviews
- 300+ person-hours of workshops
- 230+ survey participants
- 20+ expert reviews of prototypes
- 5+ mini-usage cases
- 5 industry case studies
- Over 3000 data points collected
- Multiple colleagues and friends...
- More expert reviews to come

TESTERSUITE®
TESTING & CHECKING MADE EASY

Thank you! Questions?

