

COMP90018 – MOBILE COMP

EDUARDO VELLOSO

User Experience
RESEARCH

W2 LECTURE

**ILO 1
ILO 4**

ASSIGNMENT 1

ASSIGNMENT 2



UX *User Experience Design*



DON
NORMAN



What are the three levels of processing that Don Norman proposes?



The answer is in the video in the previous slide



Allow Single Choice Only Allow Multiple Choices

Shuffle Answers Allow Retry Limit Attempts

Visceral



Reactive



Functional



Reflective



Behavioural



+ Add another answer

Responses

**VISCERAL
BEHAVIOURAL
REFLECTIVE**

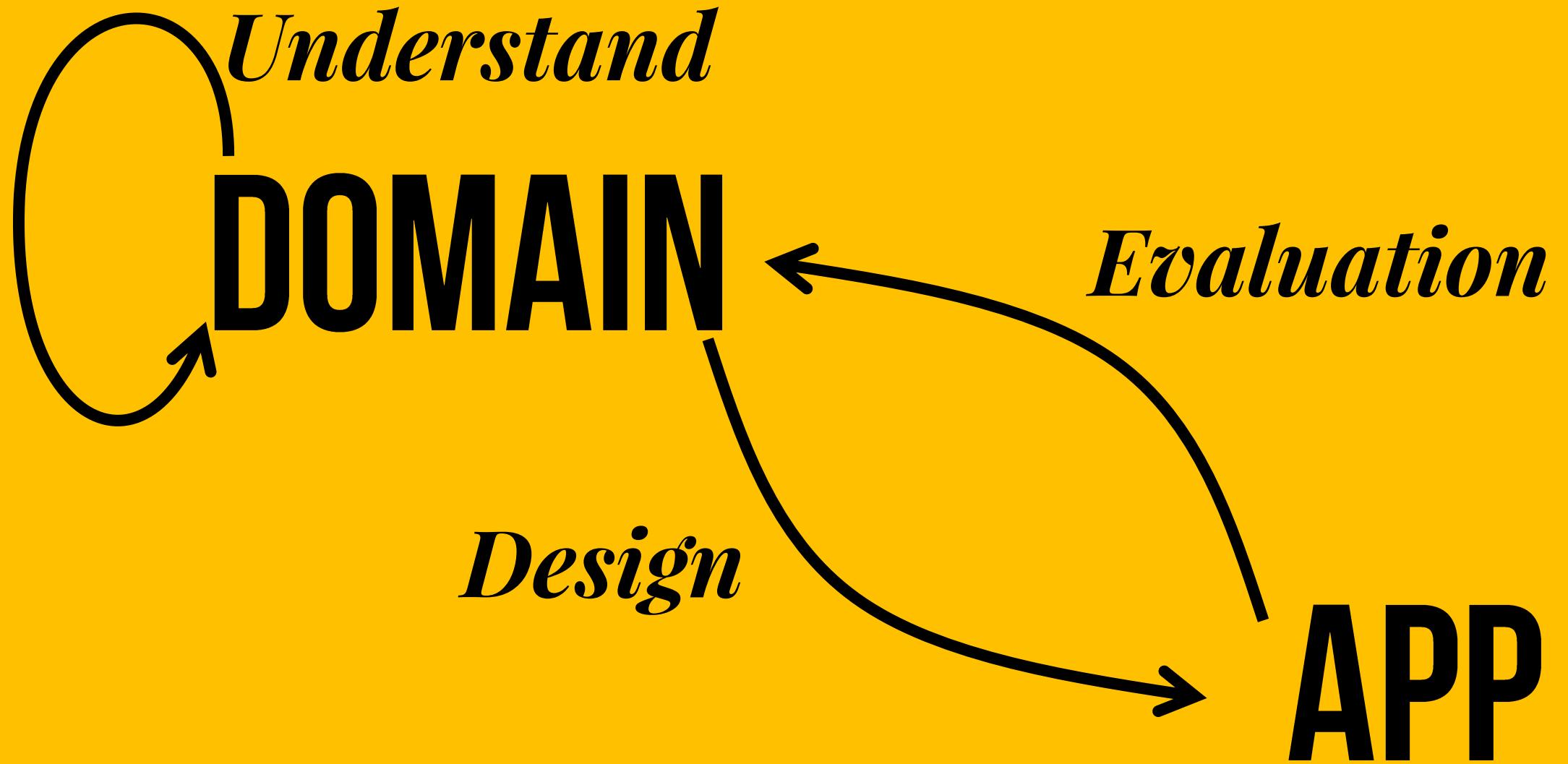


Let's put use Norman's responses as a lens to evaluate an app's experience. Describe what each of these three responses might be for the mobile game 'Angry Birds'.





*How do we know
what to build?*





HCD *Human
Centred
Design*

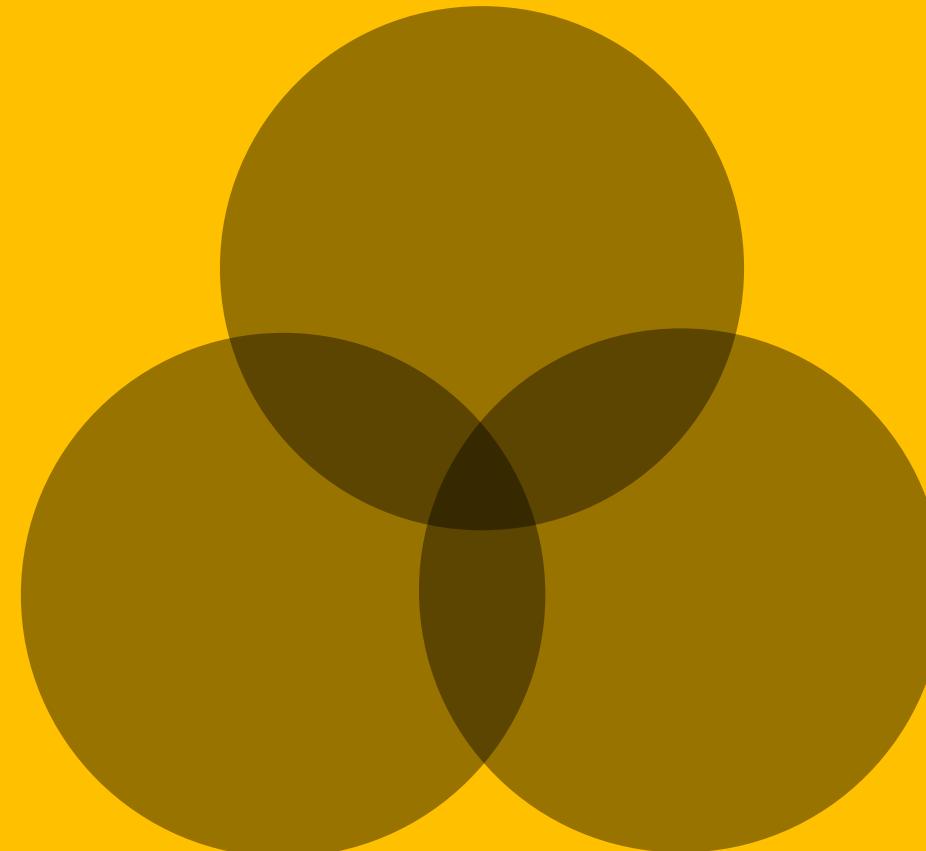




SHARED VALUE

Desirability

Feasibility



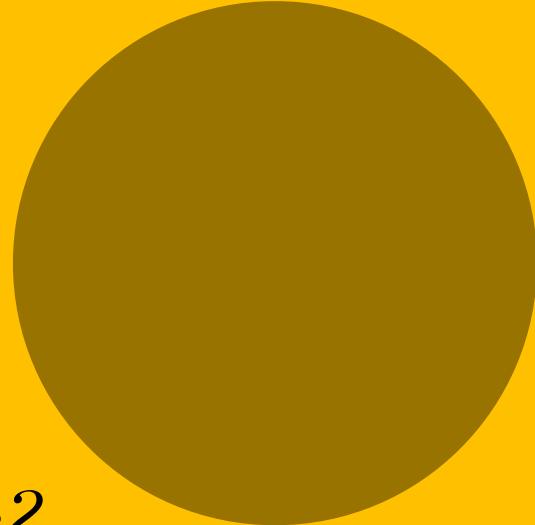
Viability



Desirability

Will this fill a need?

Will this fit into their lives?



Will they actually want it?

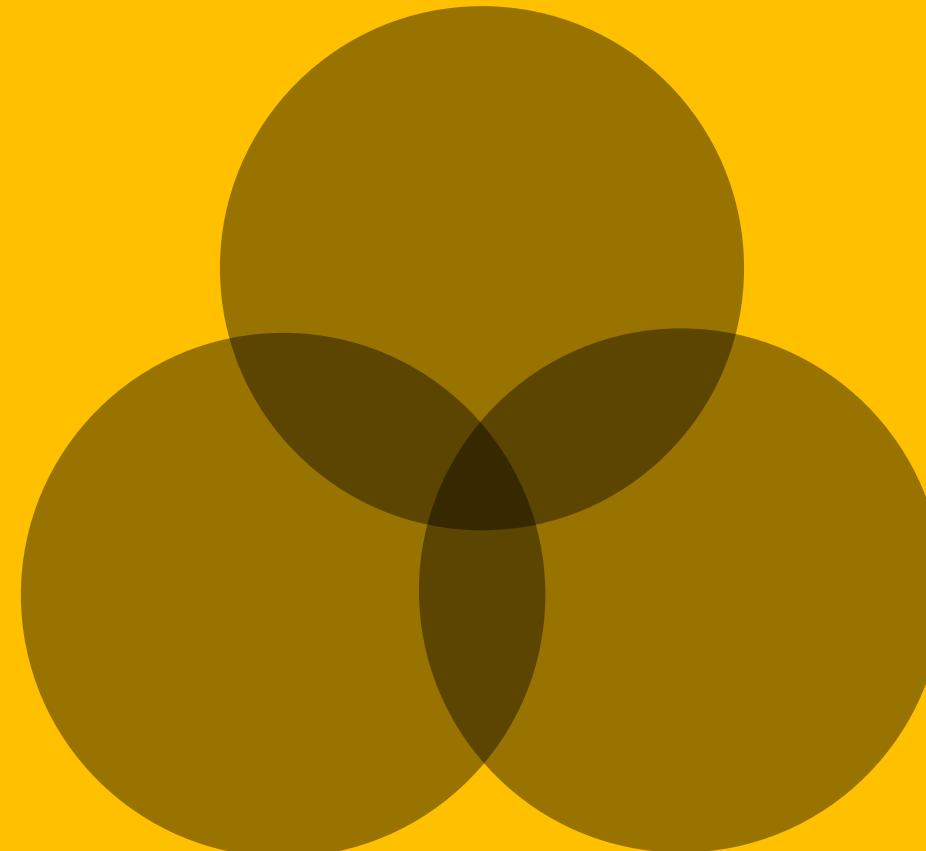
Will it appeal to them?



SHARED VALUE

Desirability

Feasibility

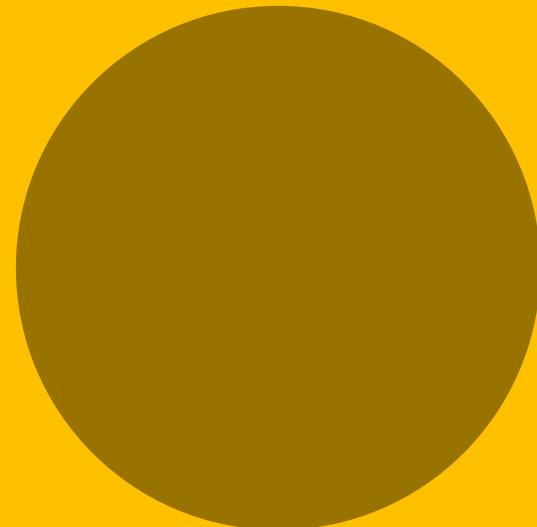


Viability



Feasibility

Is the tech within reach?



How long will this take?

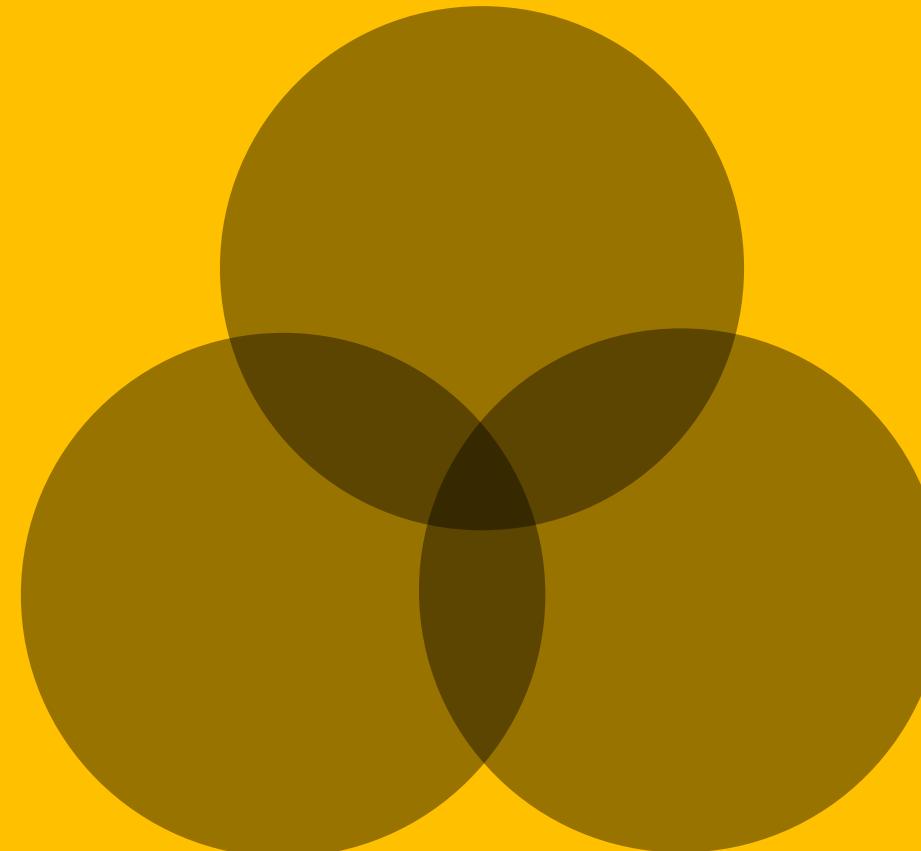
Can we make it happen?



SHARED VALUE

Desirability

Feasibility



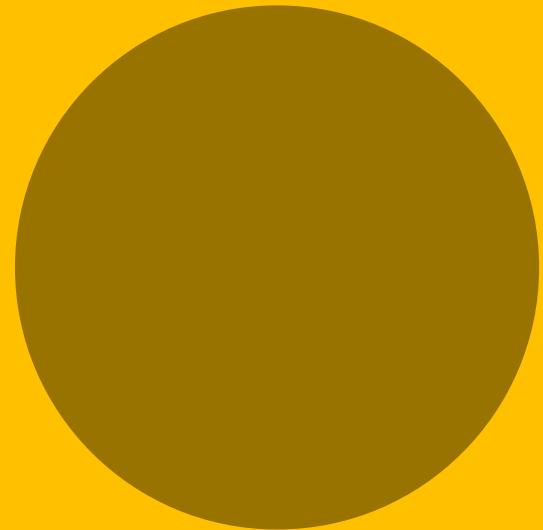
Viability



Will this align with business goals?

*Does it fit the
client's budget?*

*What is the ROI/
Opportunity cost?*



Viability



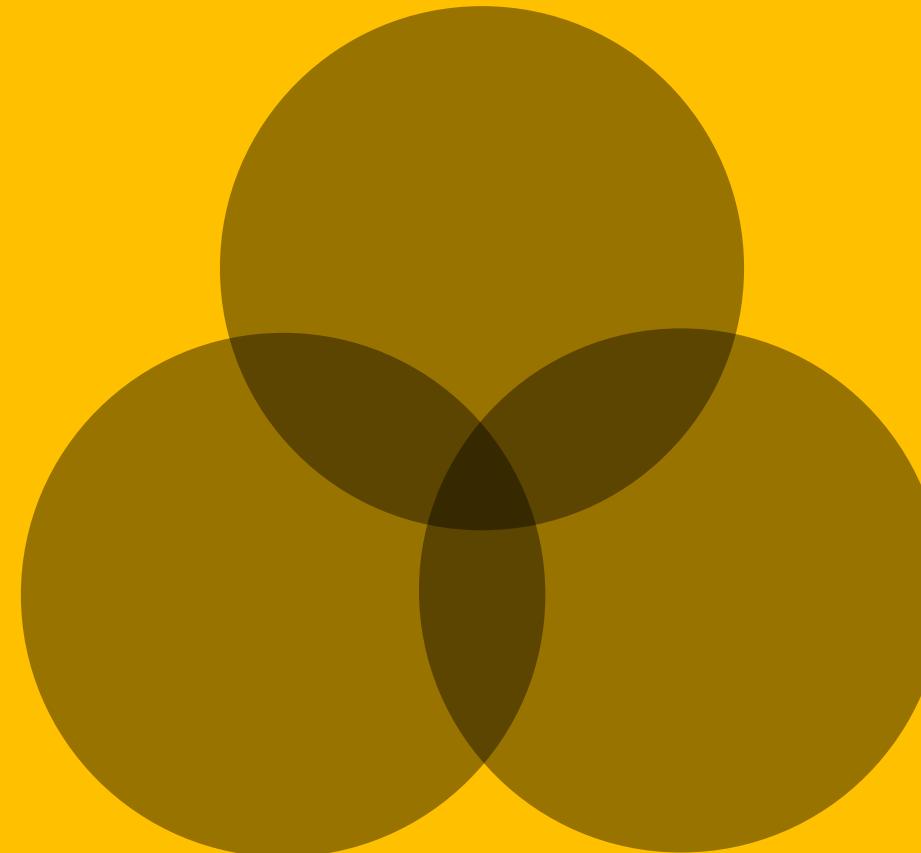
SHARED VALUE



Desirability

Feasibility

Viability



Imagine you were hired by a cinema chain to build a Hololens application to help customers find their cinemas as they walk around Melbourne. Assess whether this project creates shared value under the desirability, feasibility, and viability lenses.



Be candid and critical in your response.





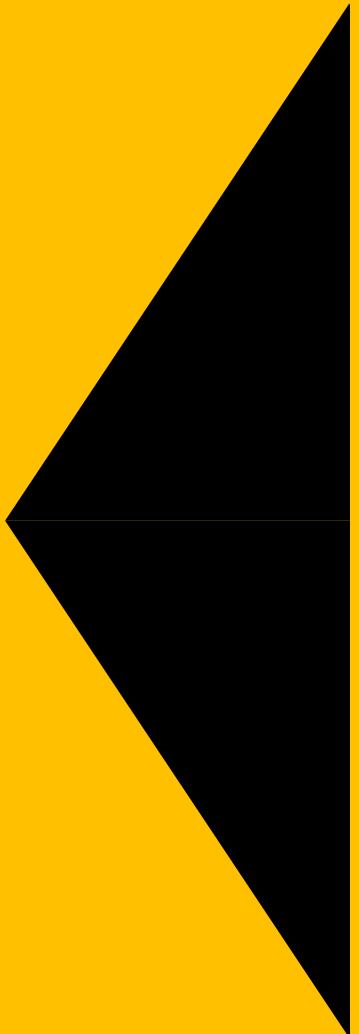
PROBLEM

SOLUTION



Discover

PROBLEM

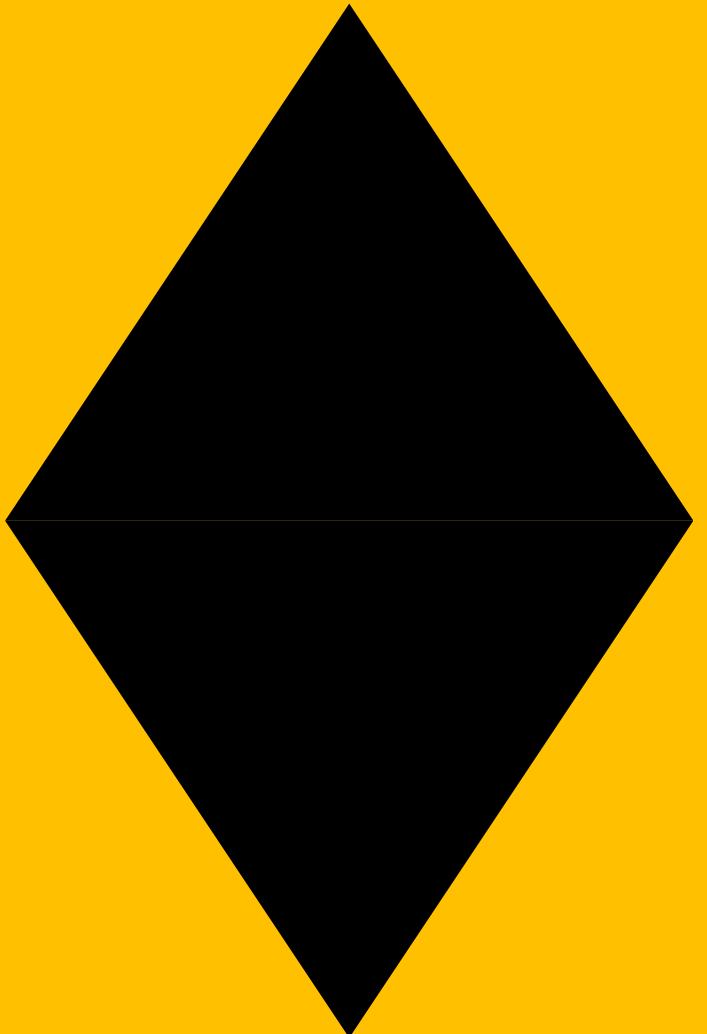


SOLUTION



Discover Define

PROBLEM



SOLUTION



REFINING THE PROBLEM STATEMENT



I want to make it easy for people to book a restaurant.

What does easy mean?

Who specifically you have in mind?

Is it about the booking or about the meal?



HOW MIGHT WE...

...SO THAT...



THE RIGHT SCOPE



HMW

ST

Redesign the dessert experience

People are happy

Create an ice cream holder

It is portable

Create a cone

It doesn't drip



Discover Define Develop

PROBLEM



SOLUTION



Discover

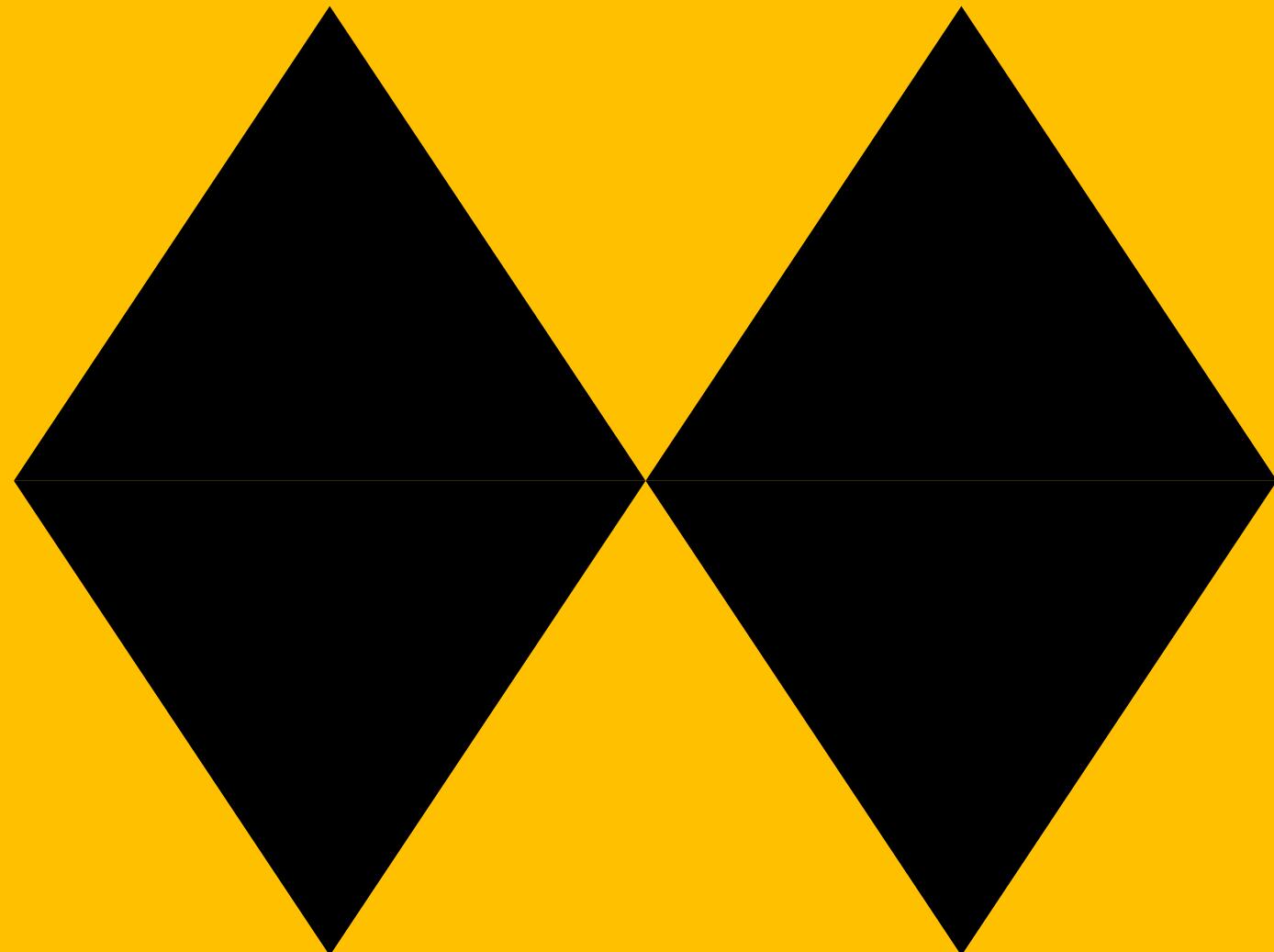
Define

Develop

Deliver



PROBLEM



SOLUTION

Brainstorming is a technique that involves divergent thinking



Allow Retry

True



That is right. Brainstorming is all about generating as many ideas as possible, expanding the design space.

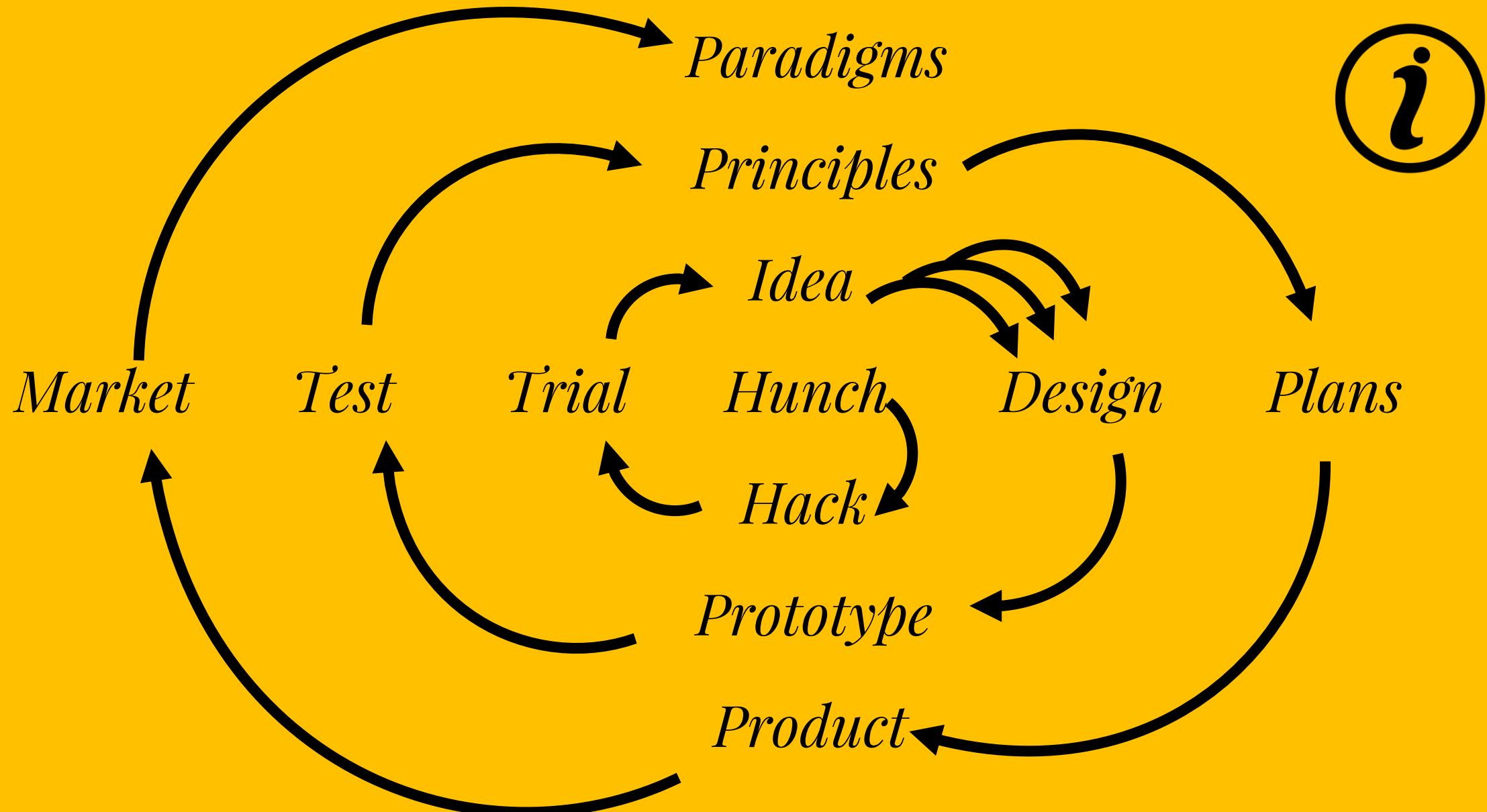


False



Not quite. Brainstorming is all about generating as many ideas as possible, expanding the design space, which relates to divergent thinking





THE METHODS

*Looking
Learning
Asking
Prototyping
Testing*





LOOKING

*Observational
Methods*



CONTEXT IS KING



ETHNOGRAPHY





SHADOWING





VIDEO DIARY





CASE STUDY

Ferdous et al. 2016



What were the goals of this project?



Good papers often state their goals in the introduction



Summarise the method that the authors used to collect and analyse the data



Skim the paper looking for headings such as 'Study', 'Experiment', 'Participants', etc.



What conclusions did they get to based on this research?



The main insights from the paper are often scattered between the abstract, the introduction, the discussion, and the conclusion





CASE STUDY

Ferdous et al. 2016

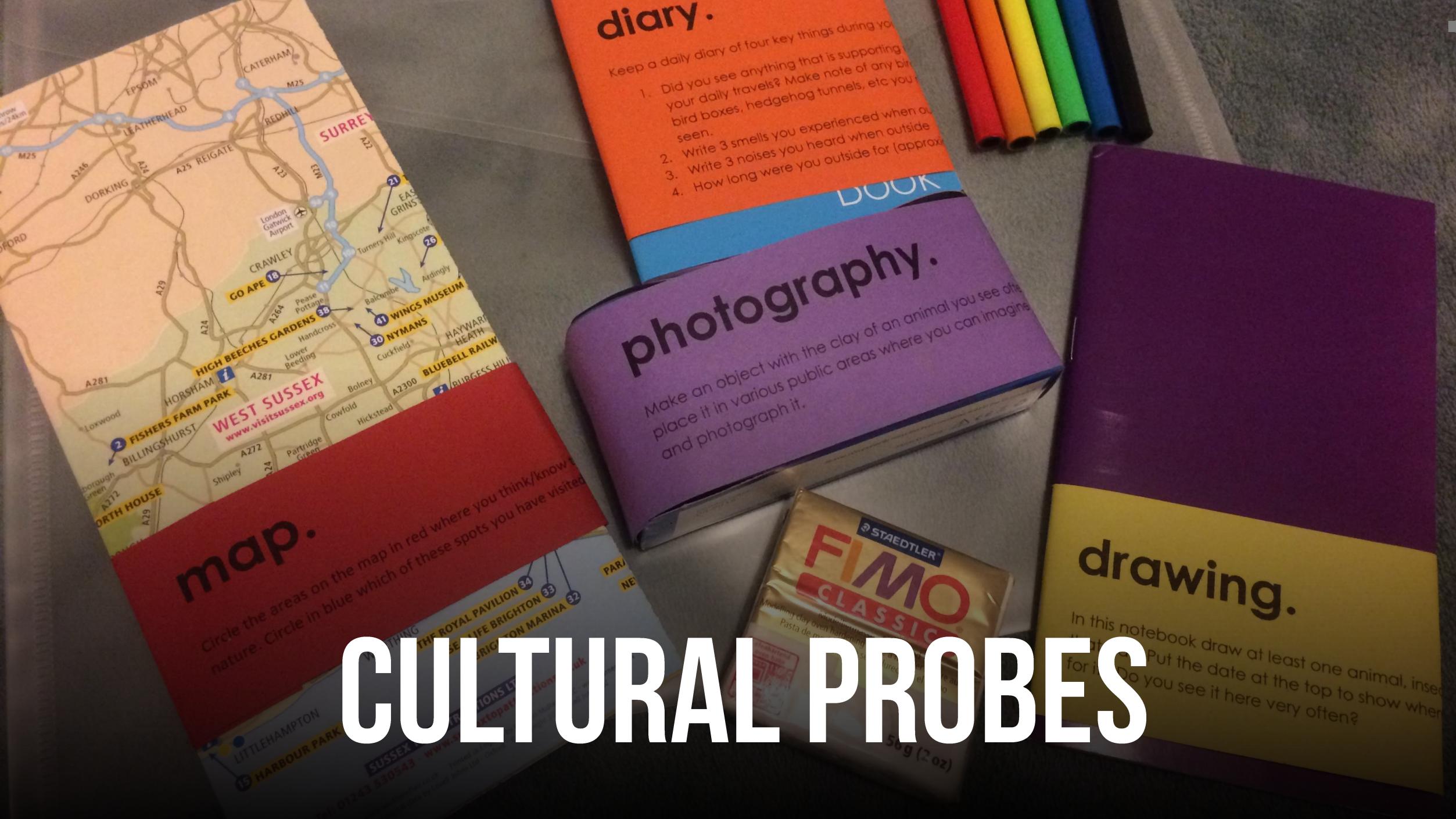
Chorus

Engaging Everyone in the
Family at Mealtimes



LEARNING
Information gathering

CULTURAL PROBES





CASE STUDY

Gaver et al. 1999



Which are true about Gaver's Cultural Probes?



Allow Single Choice Only Allow Multiple Choices

Shuffle Answers Allow Retry Limit Attempts

They are meant to encourage formal data recording by the participants



They are meant to be informal, friendly and casual



It is an artist-designer approach, rather than a science-engineering approach



They are meant to be speculative rather than objective



They are meant to reach universal theories about how people use devices



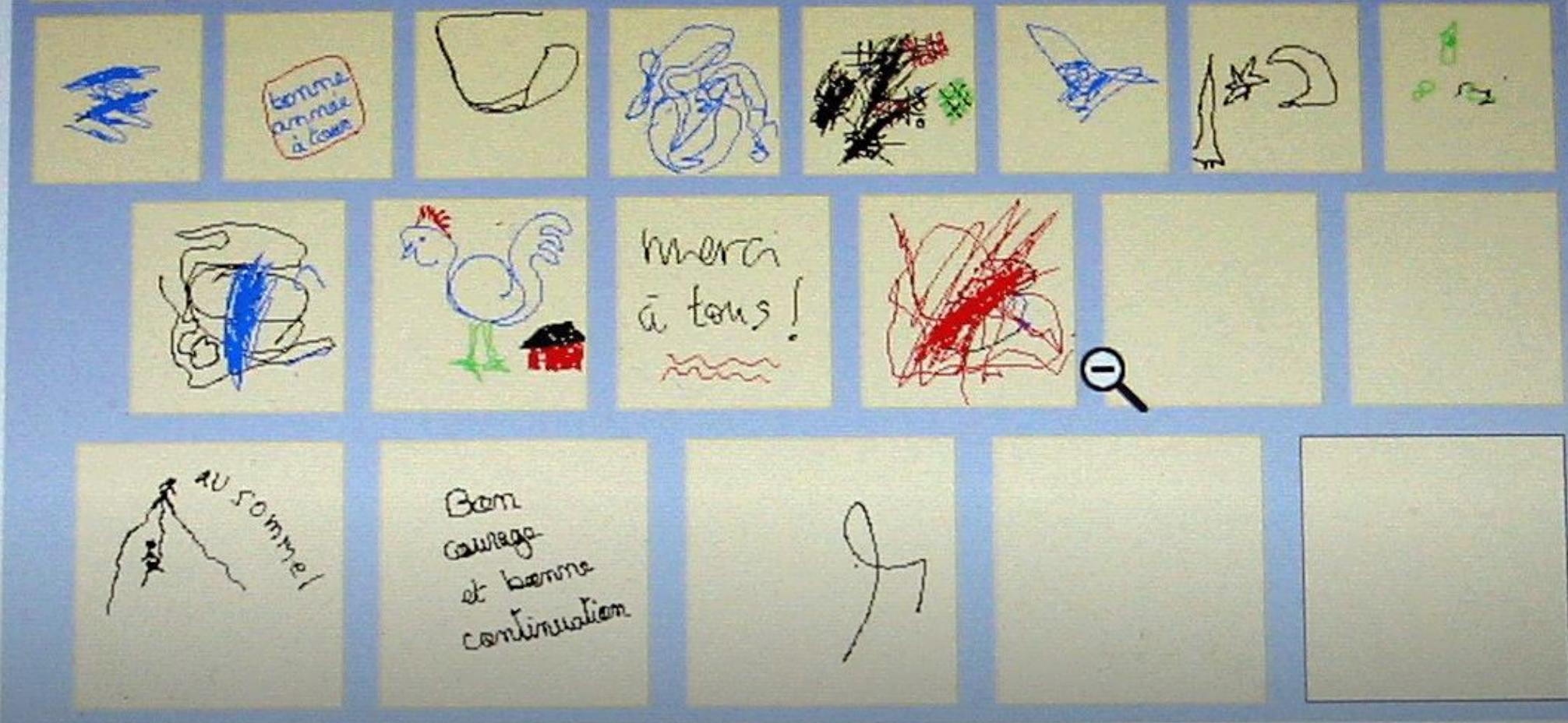
They are meant to inspire new designs



Insert option here



+ Add another answer



TECHNOLOGY PROBES

BONNE
ANNÉE
2002.
JB



CASE STUDY

Hutchinson et al. 2003



How do the authors define a "technology probe"?



Highlight the distinction between a technology probe and other kinds of probes



From which disciplines do tech probes draw from?



Select all that apply



Allow Single Choice Only Allow Multiple Choices

Shuffle Answers Allow Retry Limit Attempts



Social Science



Great!



Psychology



That is not one the disciplines listed in the paper. Check the 'Definition' section



Design



Great!



Neuroscience

How are tech probes different to other prototypes or products?

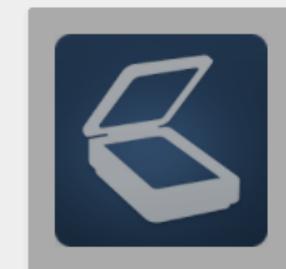
Select one or more answers

- They should only contain a handful of functions
- They should be instrumented to collect data from users
- Their focus is on usability
- They should be open for interpretation
- They are used for summative evaluations



TECH PROBES





Tiny Scanner - PDF Scan
Appxy

★★★★★



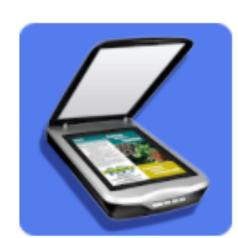
QR & Barcode Scanner
Gamma Play

★★★★★



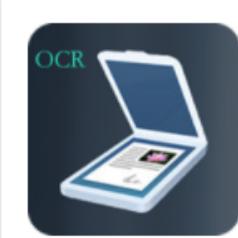
Free QR Scanner: Easy Scan
© Honestly App

★★★★★



Fast Scanner : Free
CoolMobileSolution

★★★★★



Simple Scan - PDF Scan
Easy Inc.

★★★★★



CamScanner - Phone Scanner
INTSIG Information Co.

★★★★★



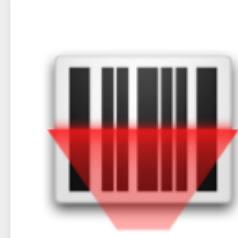
Barcode Scanner
Barcode Scanner

★★★★★



Office Lens
Microsoft Corporation

★★★★★



Barcode Scanner
ZXing Team

★★★★★



Clear Scanner: Free
Indy Mobile App

★★★★★



Easy Scanner - Camera
Easy4u

★★★★★



Tiny Scanner Pro: PDF Scan
Appxy

★★★★★

£4.99



Scanner Radio
GordonEdwards.net LLC

★★★★★



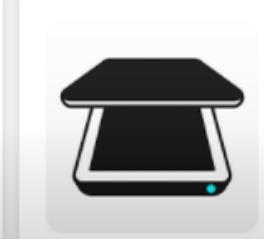
Scanbot - PDF Document Scanner
Application4u

★★★★★



Lightning QRcode Scanner
Application4u

★★★★★



iScanner: PDF Scan
BPMobile

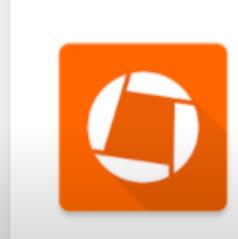
★★★★★



TurboScan: scan documents
Piksoft Inc.

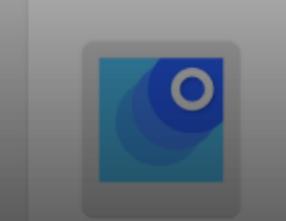
★★★★★

£3.00



Genius Scan - PDF Scan
The Grizzly Labs

★★★★★



PhotoScan by Google
Google Inc.

★★★★★



Barcode Scanner
Geeks.Labs

★★★★★



CamScanner
STOIK Soft

★★★★★



QR Code Scanner & Barcode Reader
STOIK Soft

★★★★★



Mobile Doc Scanner
STOIK Soft

★★★★★



CamScanner Lite
STOIK Soft

★★★★★



ShopSavvy Barcode Scanner
Savvy Inc.

★★★★★



Simply Scan - Best PDF Scanner
STOIK Soft

★★★★★



Mobile Doc Scanner
STOIK Soft

★★★★★

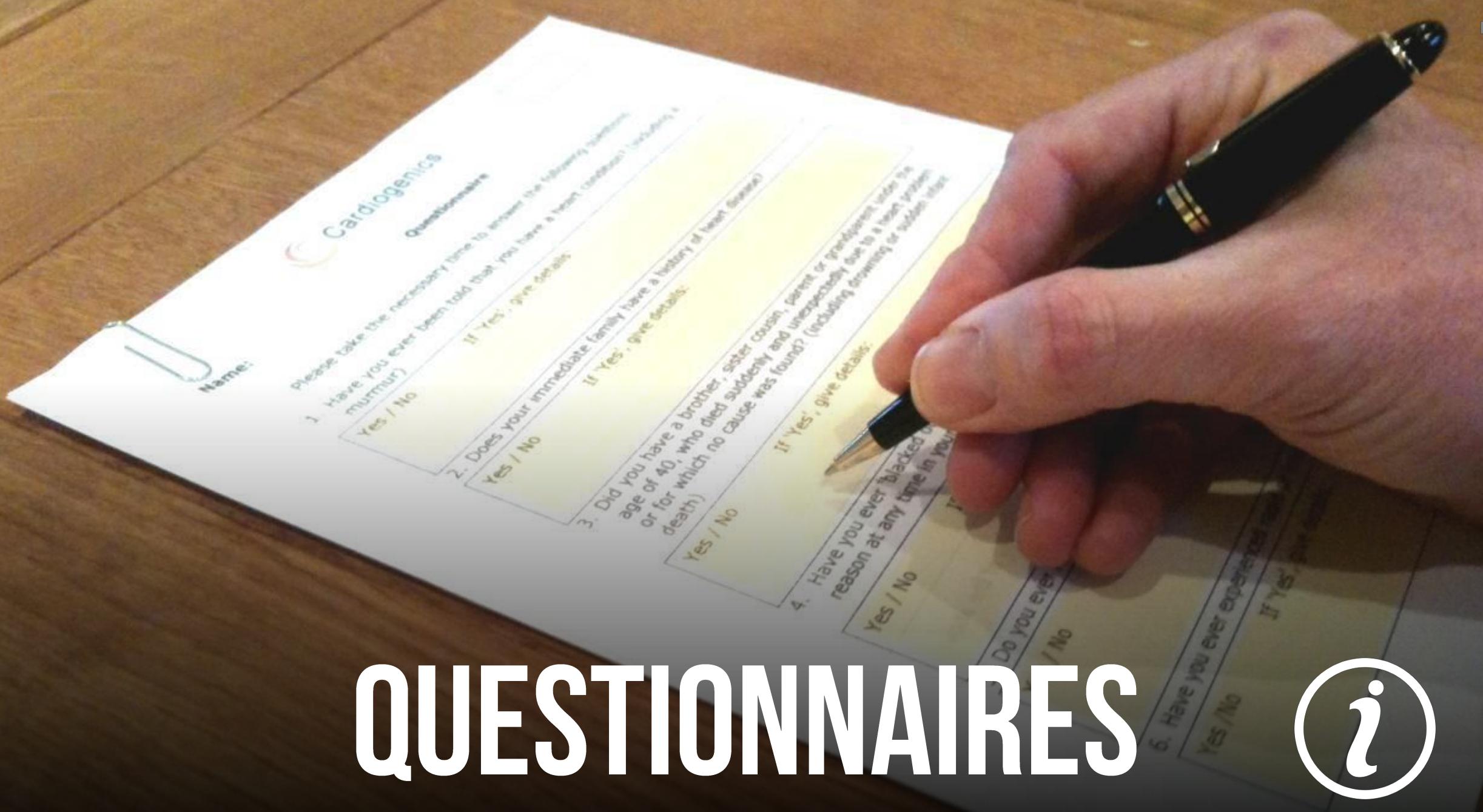
£3.99

COMPETITOR ANALYSIS



ASKING

Talking to people



QUESTIONNAIRES





INTERVIEWS





CONTEXTUAL INQUIRY





CASE STUDY

Chong and Gellersen 2012



For which devices did the authors create acrylic prototypes

 Allow Single Choice Only Allow Multiple Choices Shuffle Answers Allow Retry Limit Attempts

Phone



Tablet



Handheld projector



Wireless mouse



Wireless keyboard



AR headset

+ Add another answer

What did the authors expect to get from this study?



Summarise the methodology employed by the authors to elicit gestures



Focus your answer on the tasks that the users were asked to complete

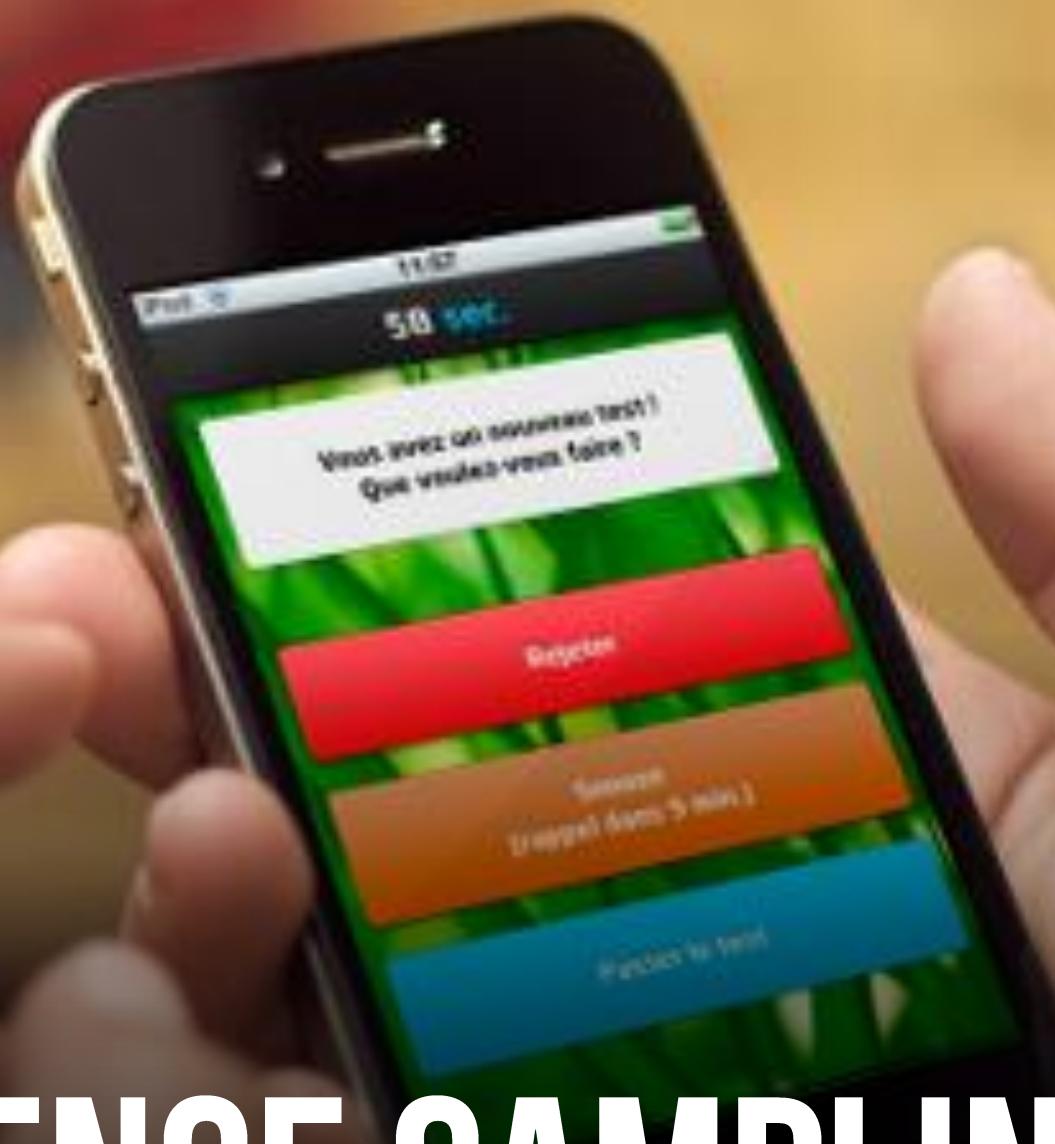




GUESSABILITY



EXPERIENCE SAMPLING



Choose the correct types of experience sampling alerts



Allow Single Choice Only Allow Multiple Choices

Shuffle Answers Allow Retry Limit Attempts

Random



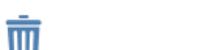
That's right!



Scheduled



That's right!



Event-based



That's right!

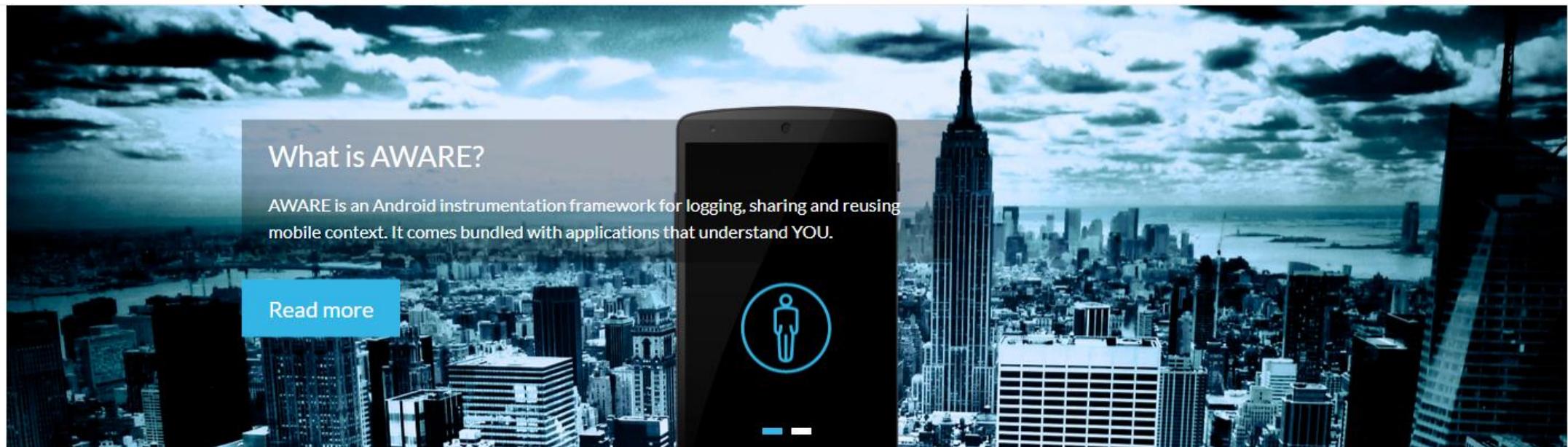


Object-oriented



This is a programming paradigm, not a type of alert





What is AWARE?

AWARE is an Android instrumentation framework for logging, sharing and reusing mobile context. It comes bundled with applications that understand YOU.

[Read more](#)

AWARE is available for



Android 2.3.x+
[Download](#)
[Source](#)



iOS 8+
[Download](#)
[Source](#)



OSX 10.8+
[Download](#)
[Source](#)



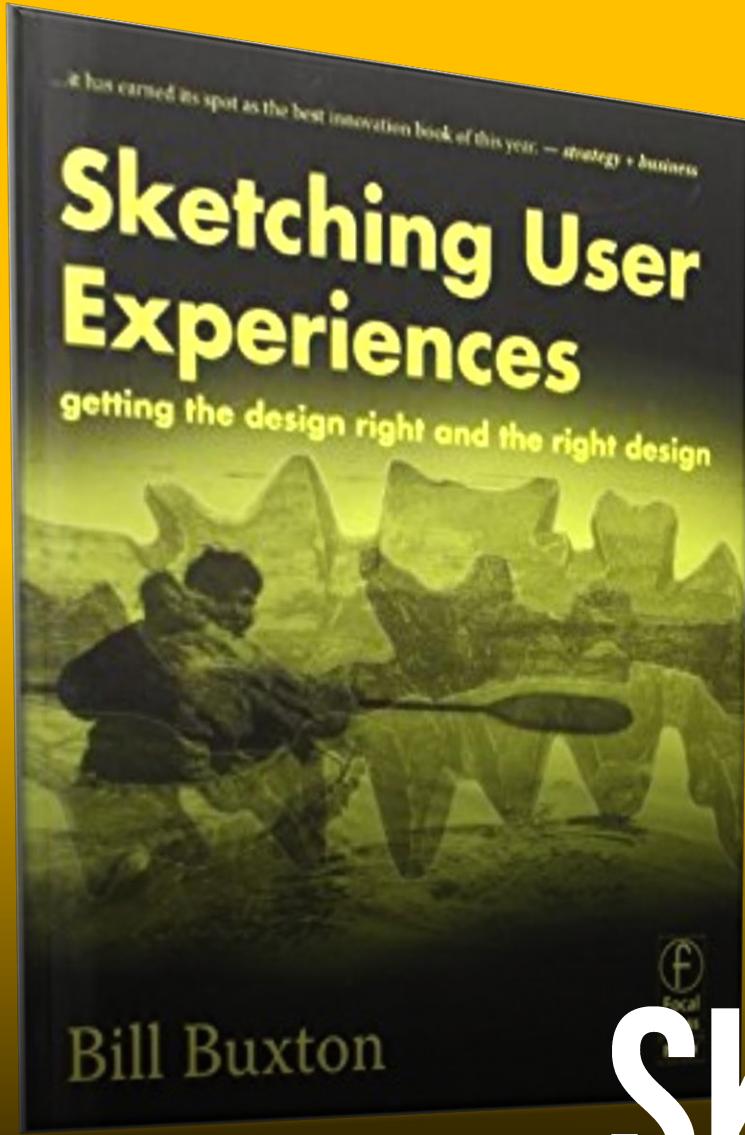
Server
[Download](#)
[Source](#)



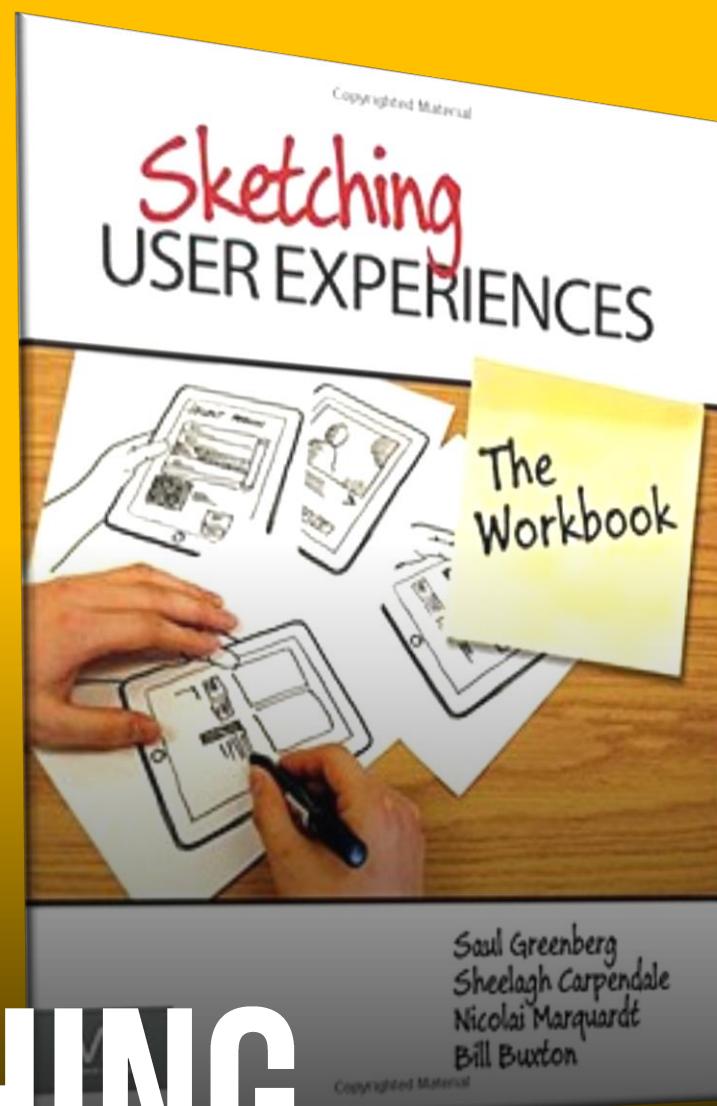


PROTOTYPING

Learning by building



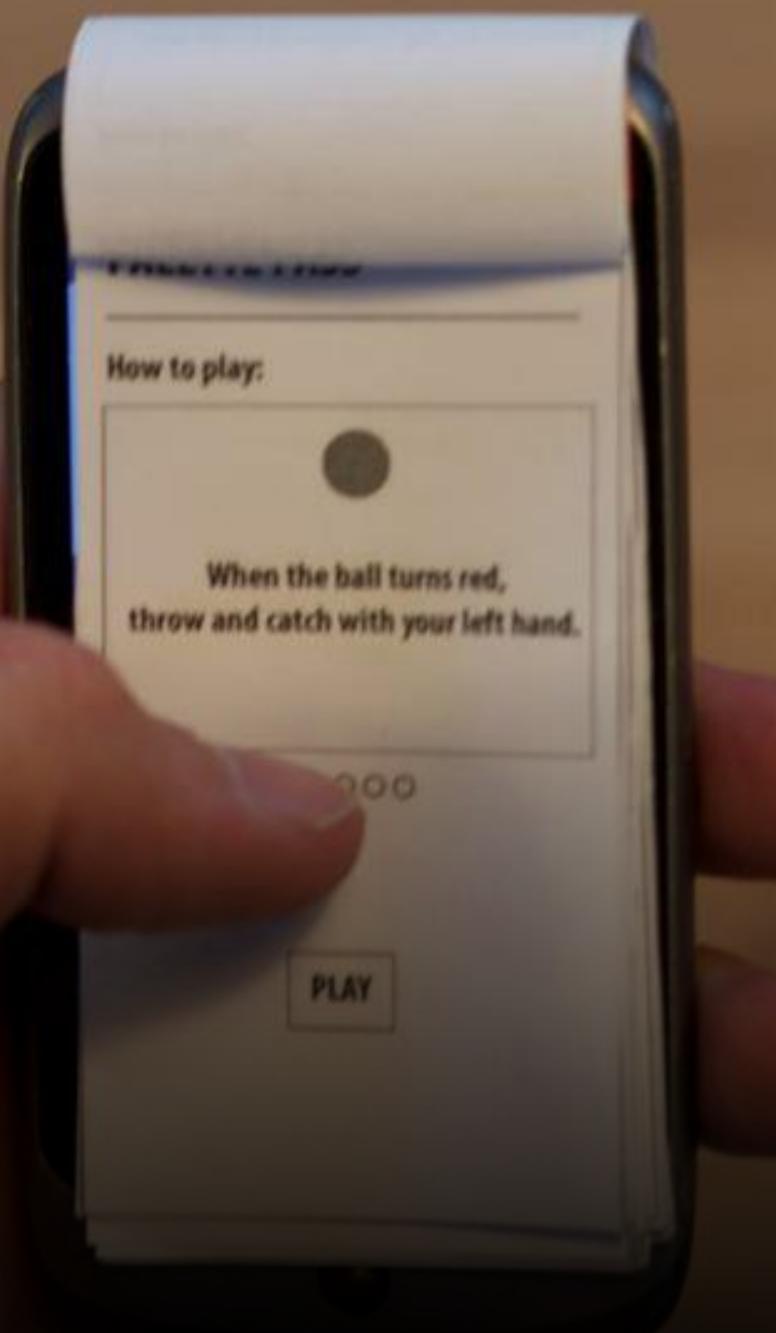
SKETCHING





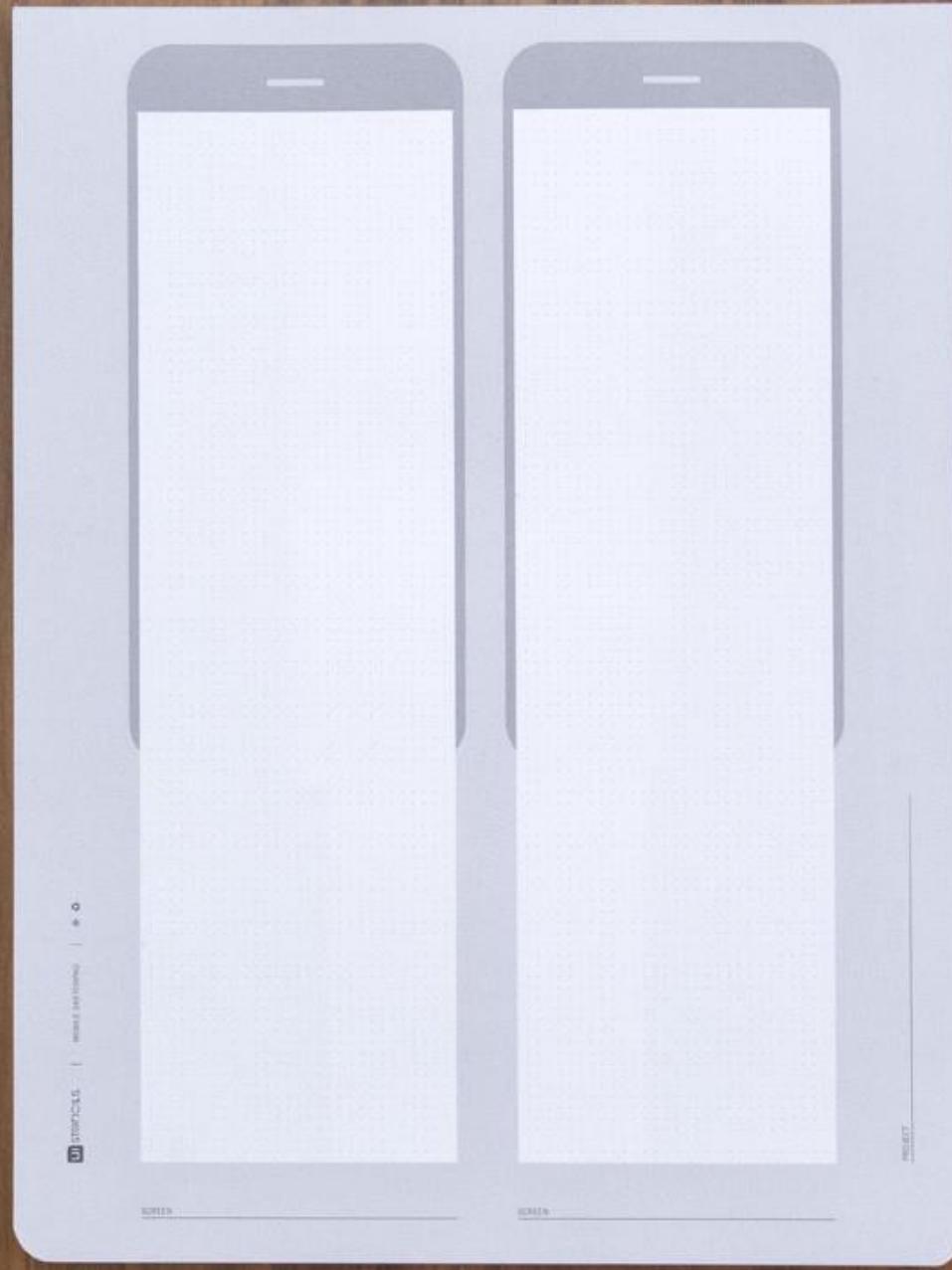
TASK FLOWS





PADS





CAROUSEL





marvel

Rapid Prototyping

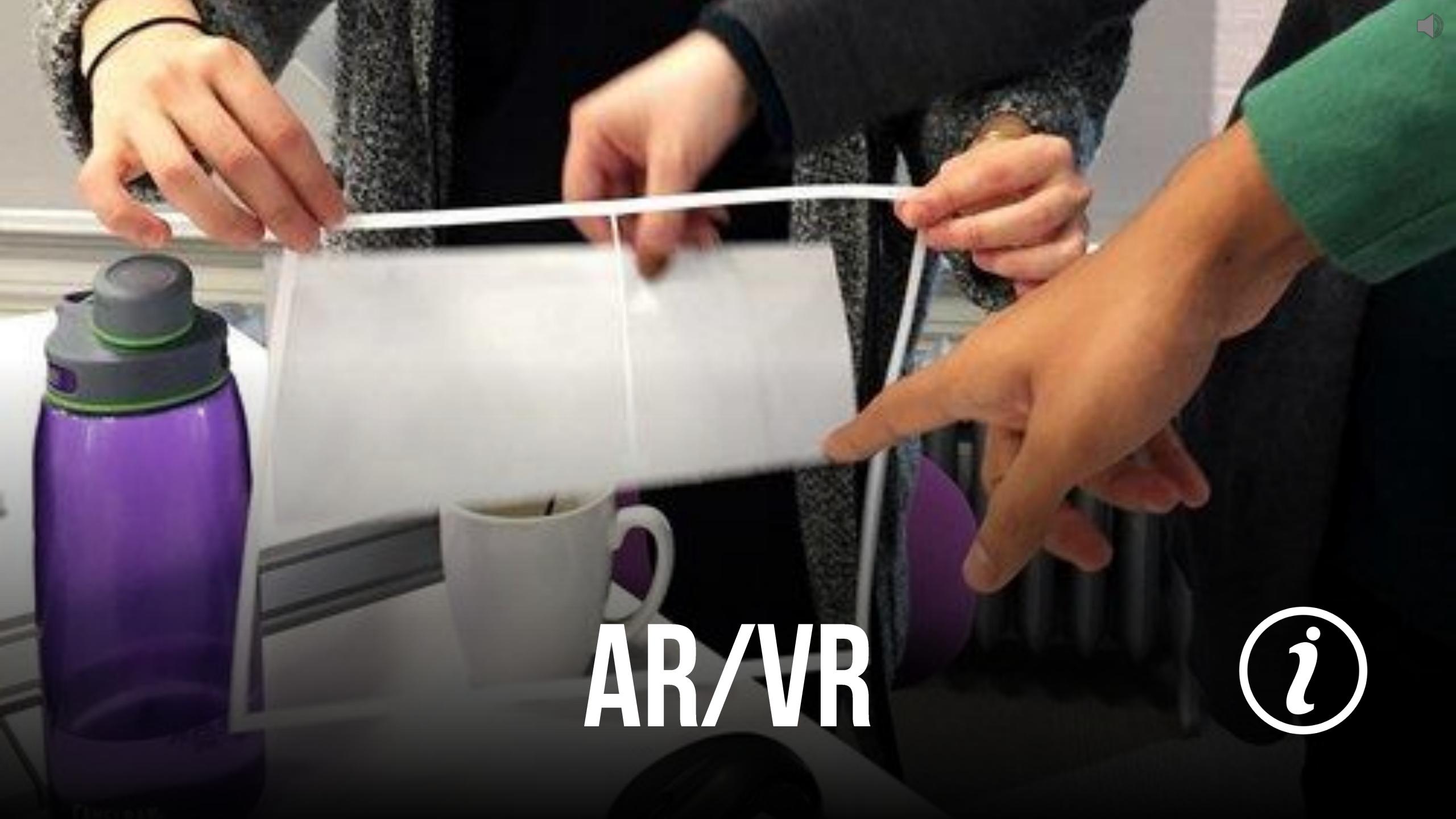
Creating an App



HOME

- Clean out the closet
- Do the dishes
- Vacuum the living room
- Take out the recycle
- Fix the A/C

WATCHES



AR/VR





WIREFRAMES



balsamiq®







Design

Prototype

Natl_Parks.design

▶ Device Simulator



Home

FEATURED

Backpacking Through Southern Utah

LATEST ADVENTURES

CONQUERING EL CAPITAN

Gear and Guides

CAMPING: THE ROCKY MOUNTAINS

The Rockies

LONGREAD: JOSHUE TREE

Dept. of History

SEE MORE

Latest - Rocky Mountains

"The at all world the harmony, as if nature would indulge her offspring; when, in these bleak upper side of the planet, nothing is to desire that we have heard of the happiest latitudes, and we bask in the shining hours of Utah or Montana; when everything that has life gives signs of..."

SEE MORE

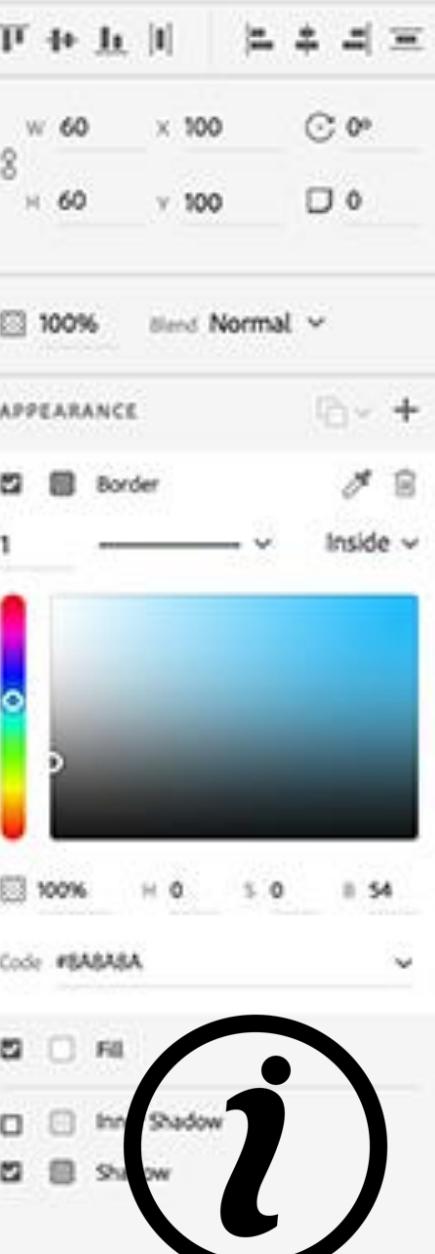
Feature Story - Zion

Backpacking Through Southern U

with Tolin Wadsworth

10 DAYS 54 MILES

SEE MORE



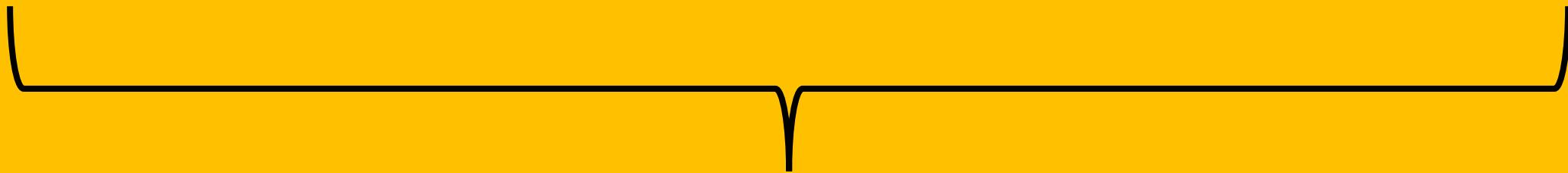
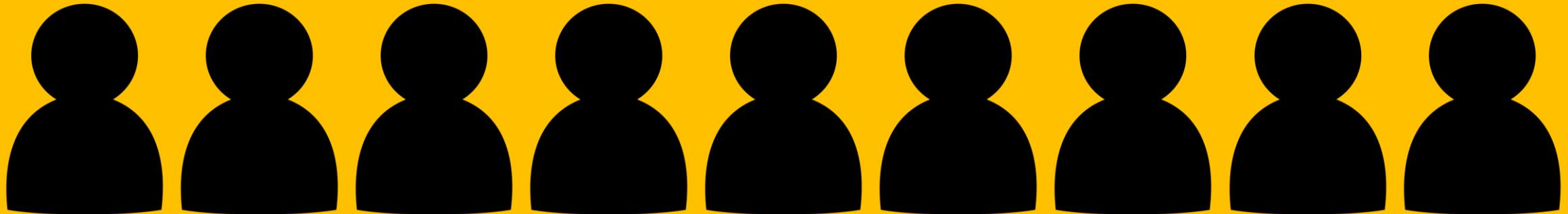


TESTING

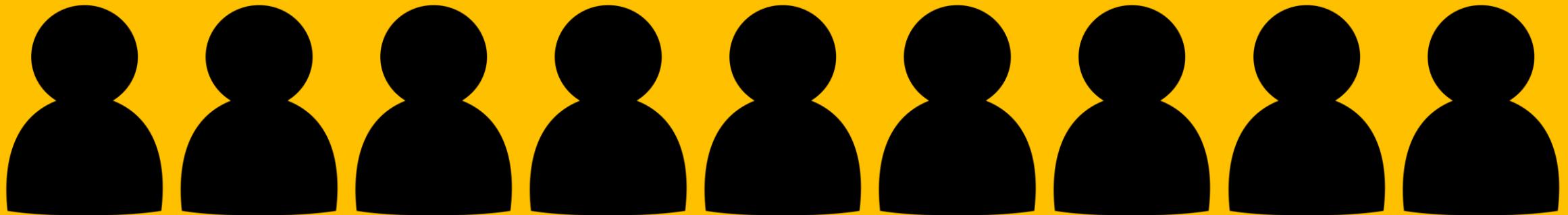


Why NOT do it?





STUDY



STUDY → **STUDY** → **STUDY**





DISCOUNT USABILITY

5 participants

Narrowed-down prototypes

Heuristic evaluation





Downloads

for *Don't Make Me Think*
and *Rocket Surgery Made Easy*

Usability test script [Word](#) [PDF](#)

Recording consent form [Word](#) [PDF](#)

Checklists [Word](#) [PDF](#)

“Things a therapist would say” (List of things the facilitator can say while the participant is doing the tasks) [Word](#) [PDF](#)

Instructions for Observers [Word](#) [PDF](#)

Hall Monitor's Guide [Word](#) [PDF](#)

Demo test video

[.mov](#) (Mac, 47 Mb)

[.wmv](#) (PC, 23 Mb)

[.m4v](#) (iPhone/iPod, 38 Mb)



Usability test script

Reprinted from *Rocket Surgery Made Easy*
© 2010 Steve Krug

- Web browser should be open to Google or some other “neutral” page

Hi, _____. My name is _____, and I'm going to be walking you through this session today.

Before we begin, I have some information for you, and I'm going to read it to make sure that I cover everything.

You probably already have a good idea of why we asked you here, but let me go over it again briefly. We're asking people to try using a Web site that we're working on so we can see whether it works as intended. The session should take about an hour.

The first thing I want to make clear right away is that we're testing the *site*, not you. You can't do anything wrong here. In fact, this is probably the one place today where you don't have to worry about making mistakes.

As you use the site, I'm going to ask you as much as



Usability Testing Checklists

Three weeks before

- Figure out what you're going to be testing (site, wireframes, prototype, etc.)
- Create your list of tasks to test
- Decide what kind(s) of users you want to test with
- "Advertise" for participants
- Book a test room for the entire morning with Internet access, table or desk and two chairs, and speakerphone
- Find a place near the test room for participants to sit and wait when they arrive
- Book an observation room for the entire morning with Internet access, table and enough chairs for observers, speakerphone, and projector and screen (or plan to bring a projector or large monitor)
- Book the observation room or a similar-size room for the debriefing lunch

Two weeks before

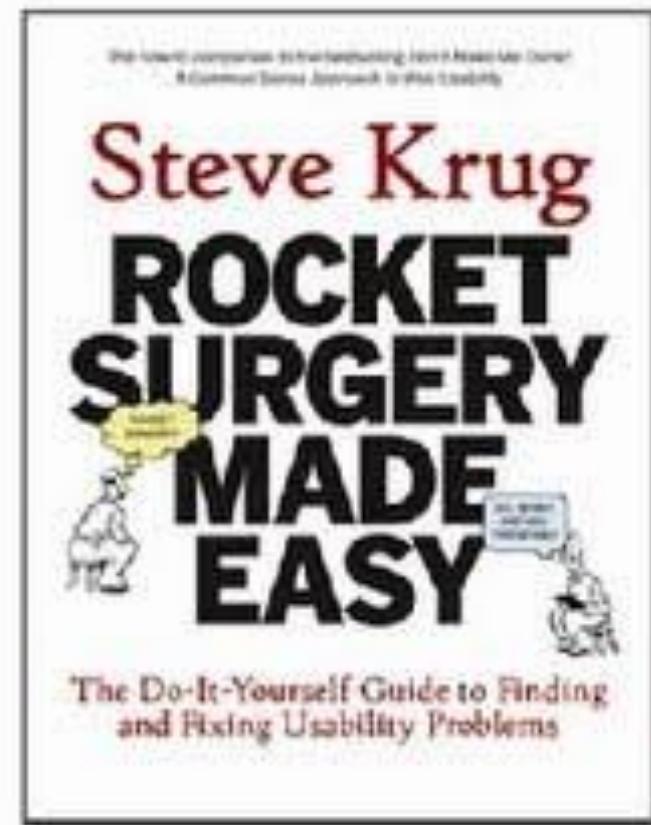
- Get feedback on your list of tasks from the project team and stakeholders
- Arrange incentives for participants (e.g., order gift certificates, requisition cash)
- Start screening participants and scheduling them into time slots
- Send "save the date" email inviting team members and stakeholders to attend

One week before

- Send email to the

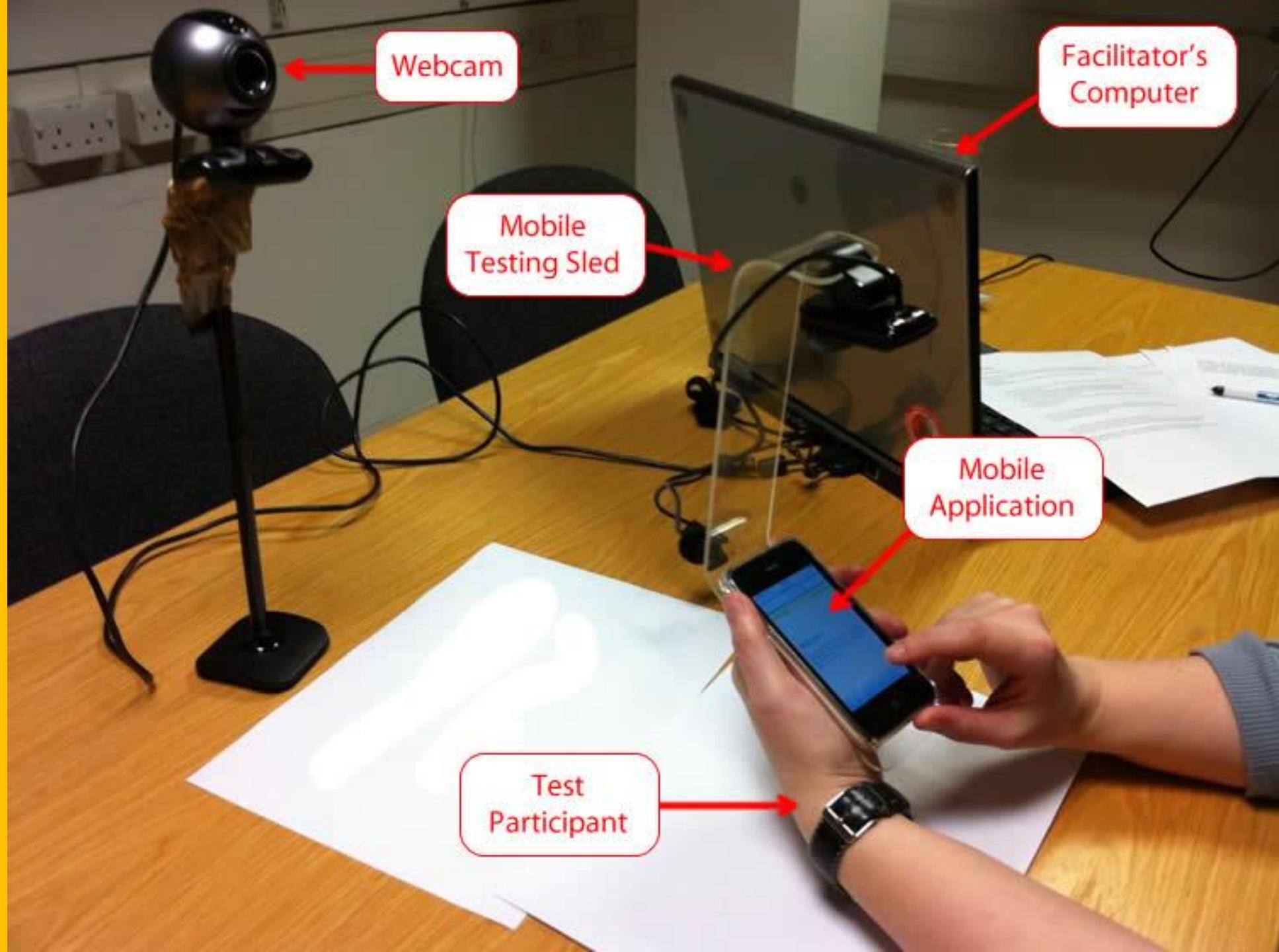
Demo Usability Test

for readers of



Rev. 1.1 / February 3, 2010
© 2010 Steve Krug
www.rocketurgerymadeeasy.com







CASE STUDY

Abney et al. 2014



Which methods did the authors compare?

 Allow Single Choice Only Allow Multiple Choices Shuffle Answers Allow Retry Limit Attempts

Overhead camera



White sled



Clear sled



Eye tracking stand



Head-mounted camera



Add another answer

What were the advantages of the best performing method?



Allow Single Choice Only Allow Multiple Choices

Shuffle Answers Allow Retry Limit Attempts

Clearly recorded hands, fingers, and screen



Less noticeable



Firm attachment to the phone



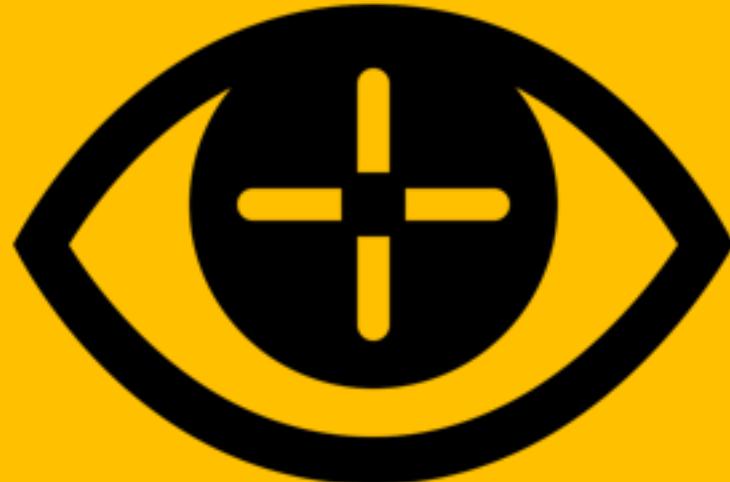
Well-balanced weight



Fewer changes to player behaviour



+ Add another answer



EYE TRACKING









A CRITICAL LOOK



CASE STUDY

Kjeldskov and Paay, 2012



According to their survey, 'engineering through applied research' was the most popular combination of purpose and method. Using the definitions in Table 1, explain what 'engineering through applied research' is.



According to Kjeldskov and Paay, how has the field changed since their first literature review?



What were their recommendations for future Mobile HCI research?





HOW TO CHOOSE A METHOD?



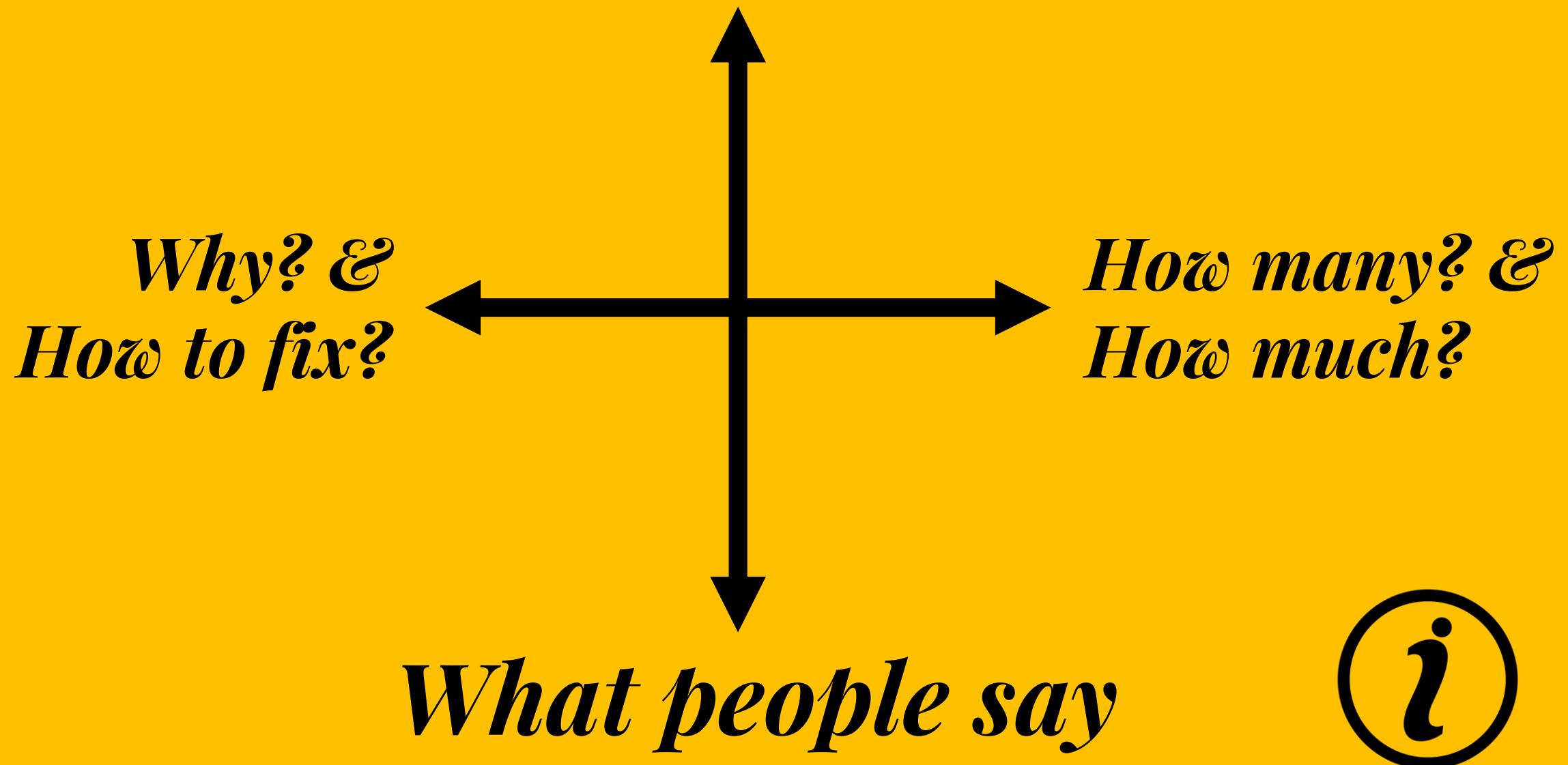
What people do



What people say



What people do





For idea generation
QUALITATIVE
beats
QUANTITATIVE
every time!



Male

Born 1948

Raised in Britain

Married

Successful

Wealthy

2 Children

Likes dogs and holidays in the Alps





Discover

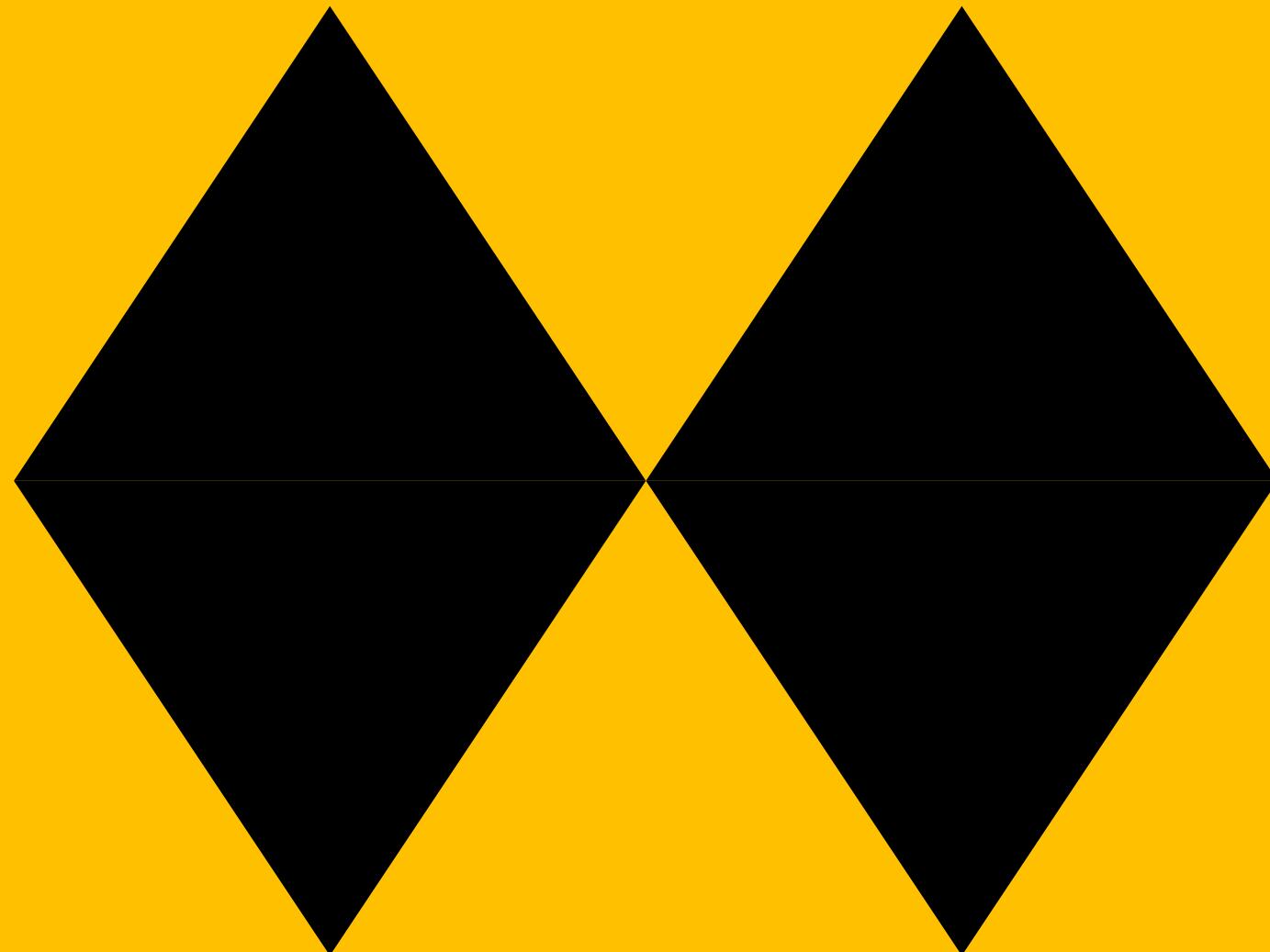
Define

Develop

Deliver



PROBLEM



SOLUTION



LAB OR IN-THE-WILD?



Is it worth the hassle?

Kjeldskov et al. 2004



It's worth the hassle!

Nielsen et al. 2006



Was it worth the hassle?

Kjeldskov and Skov, 2014





Prototyping *Learning* *Asking*
UX *Testing* *Looking*
Shared Value **RECAP** *HMWST*
How to choose
Levels of processing *Double Diamond*

How did you feel about this lecture?

Allow Single Choice Only Allow Multiple Choices

Loved it!



Liked it



Neither liked it nor disliked it



Disliked it



Hated it



+ Add another answer

Select font size **T** **T** **T**

Tell us more about what you liked and disliked about this lecture

