

human computer interaction

Lecture 3:
User Research
Methods

Dmitrijs Dmitrenko



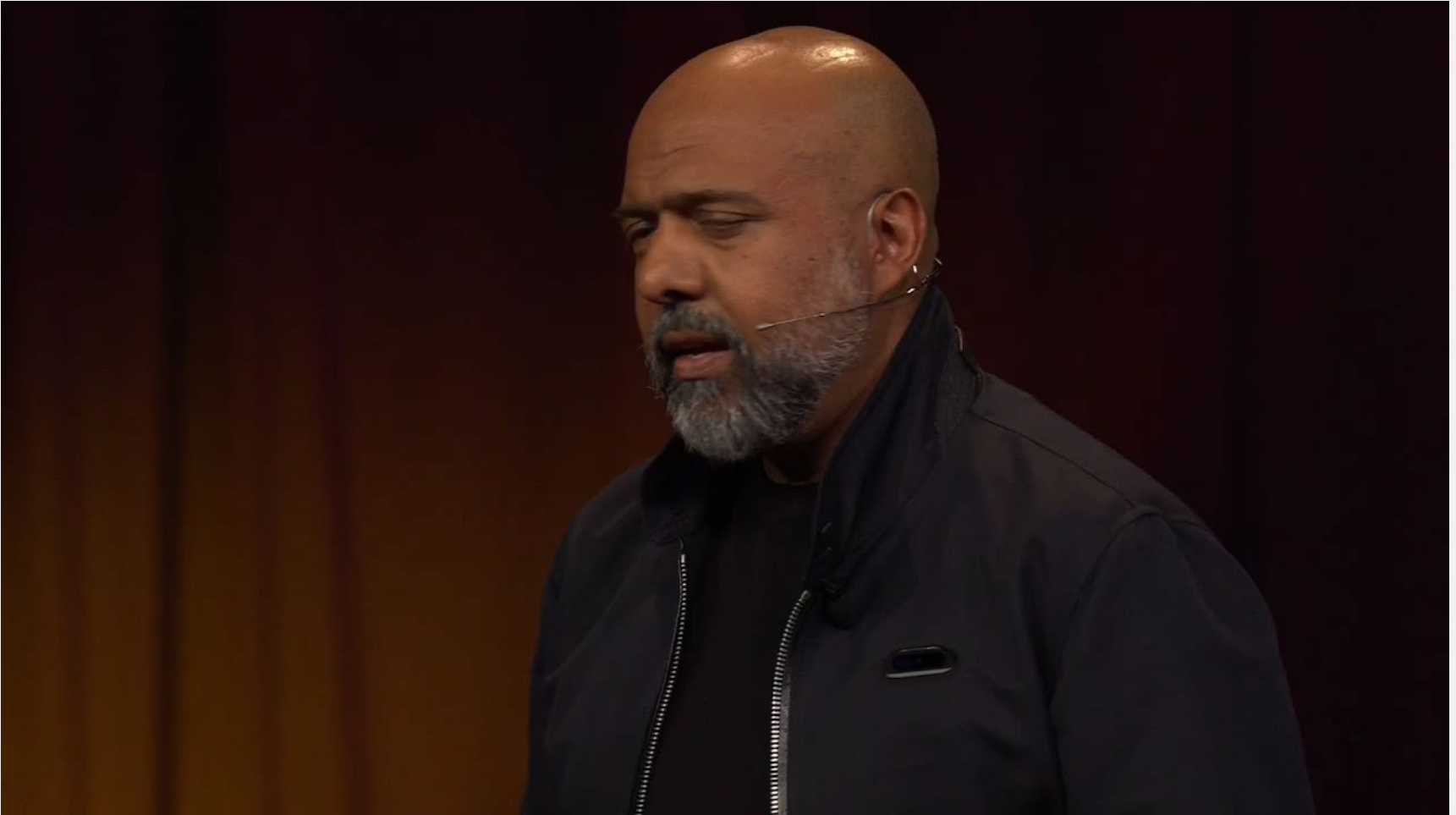


Good design vs Bad design



bad vs good design

direct manipulation: Humane AI Pin



Source: [TED Talks/The disappearing computer - and a world where you can take AI everywhere](#)

bad vs good design

direct manipulation: Humane AI Pin – Review



Source: [YouTube/Marques Brownlee](https://www.youtube.com/watch?v=MarquesBrownlee)
Thanks, Finn, for sharing this!



share your observations...

...on X or per email!

Use hashtags **#HCISussex #GoodDesign #BadDesign**

Tag me @DoubleDmi

Your examples will be featured in lectures!

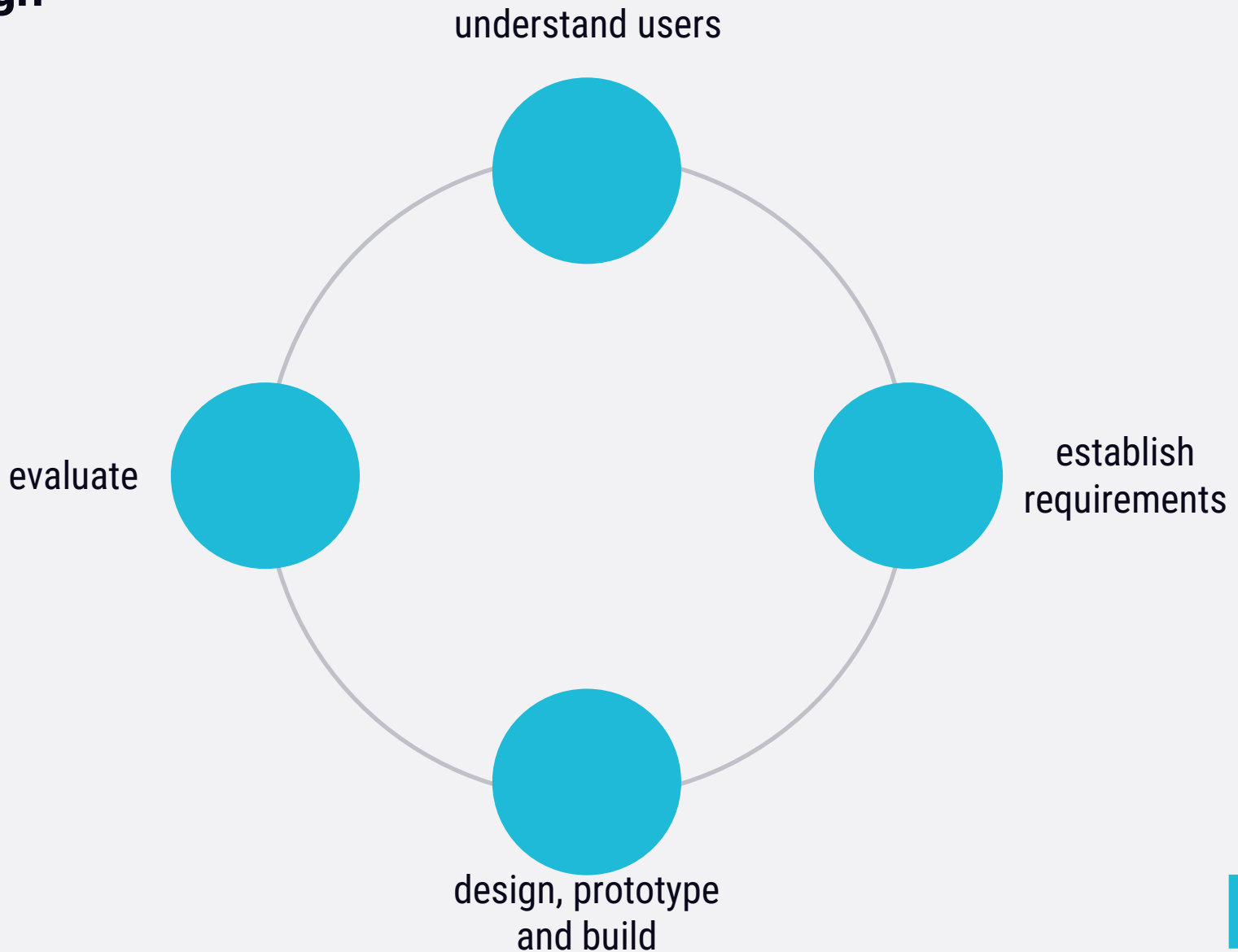
「Now back to today's
lecture...」



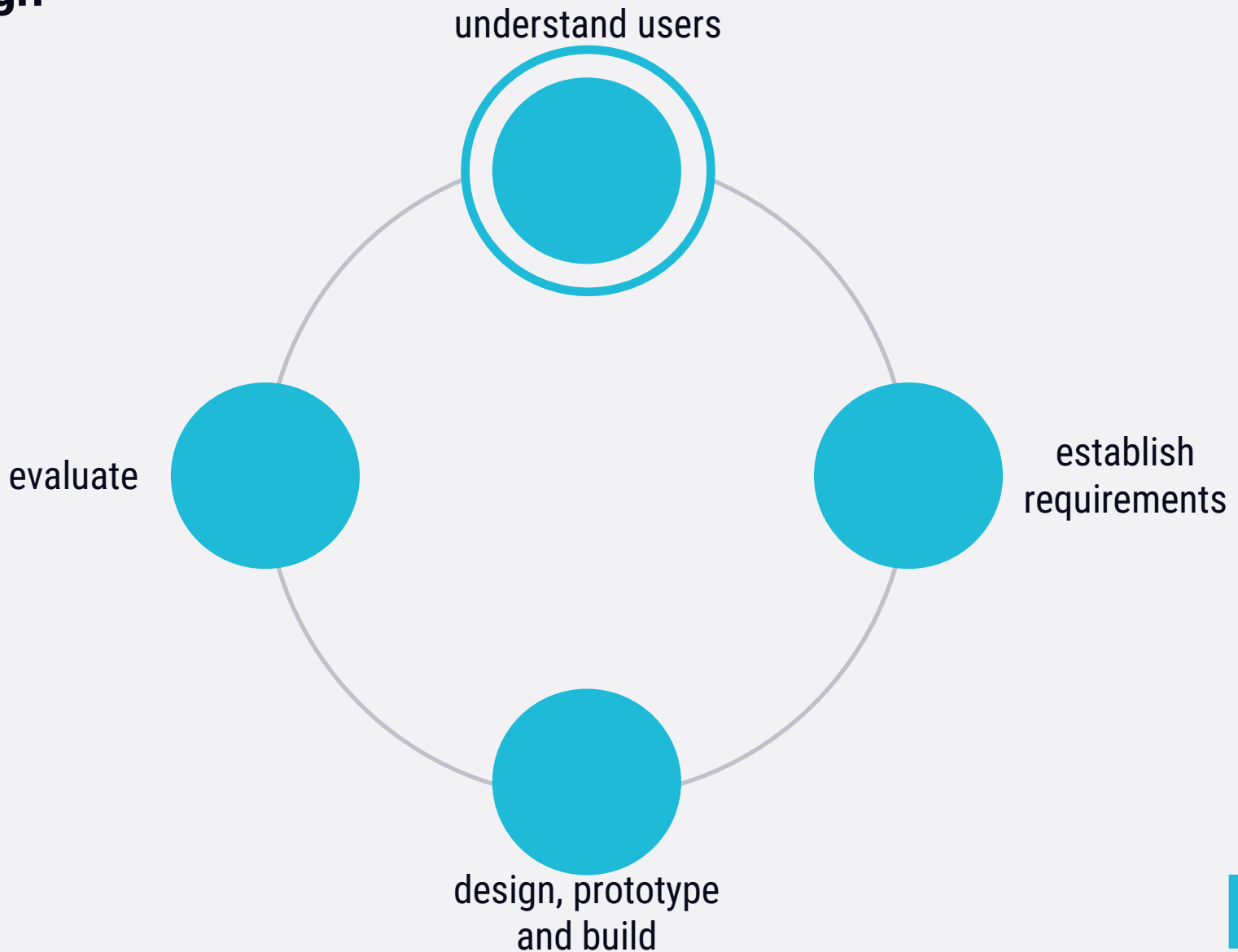
this topic:

user research methods

user-centred design



user-centred design



why carry out user research?



understand **user values**, **priorities** and **behaviours**



listen to what people **want** and **need**



get users involved at an early stage in the process



seek regular **feedback** from users **throughout** the design process

user research methods



asking people



interviews



focus groups



questionnaires/surveys



observing people



observing 'in the field'



controlled observation studies



indirect observation

user diaries/design probes

logs & analytics

biometric measures

interviewing







Often face-to-face, but can be done
via telephone or video chat



Usually recorded - audio or video
(can be transcribed later)



Interviewee = user / potential
user or stakeholder



Interviewer = member of design team, or dedicated user researcher

interview types

Unstructured
*exploratory
conversation
with no script*

Semi-structured
*guide
questions but
follow-ups
allowed*

Structured
*tightly scripted
with no
deviation*

"Give Me the Keys, I'll Drive!"

Results from an Exploratory Interview Study to Assess Public's Desires and Concerns on Automated
Valet Parking

Martina Schuß
martina.schuss@thi.de
Technische Hochschule Ingolstadt (THI)
Ingolstadt, Germany
Johannes Kepler Universität
Linz, Austria

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Ingolstadt, Germany
Johannes Kepler Universität
Linz, Austria

... Results suggest that the main benefits from the user perspective are clearly **practical** in nature (time saving, efficient use of parking lots), but are mitigated by **emotional concerns** (feeling of uncertainty, loss of control). We therefore conclude that these concerns must be addressed to ultimately ensure automated valet parking's success and benefits in society.

pros & cons interviews

pros

good for **understanding** wants,
needs, values, priorities



versatile and flexible



good for **exploring issues in detail**



collect rich data



can **clarify questions** and ask
follow-ups



cons



less useful when **users 'don't know what they know'**



difficult when **users are shy**



expensive and **time-consuming**



people can be **less likely to raise problems** face to face



focus groups



Participants = selected group of users / potential users or stakeholders



Facilitator = member of design team with facilitation experience, or dedicated user researcher



Usually recorded - audio or video
(can be transcribed later)

focus groups examples



And, yes,
pink cars do exist 😊



Or, you can have your car covered by grass!
Why not? 😊



pros & cons focus groups

pros

can be an **efficient way of hearing from more people**



good for **community issues**



can help with **ideas generation** activities



consensus can emerge



can **encourage users to talk more freely**



cons



success **depends on skill of facilitator**

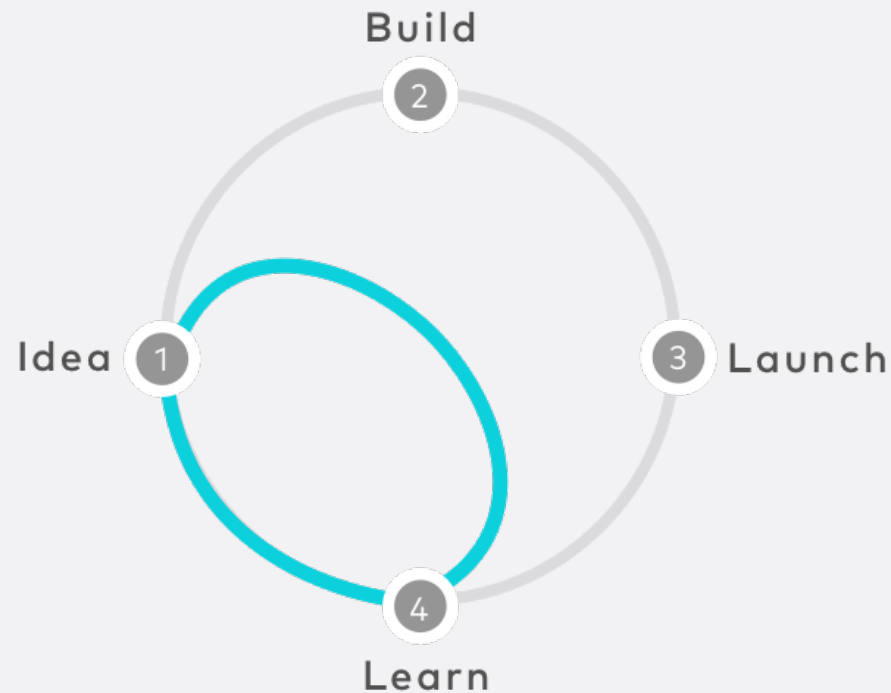


less in-depth individual beliefs



dominant participants can drown out others

Google Design Sprint



Source: [Google Ventures](#)

focus groups alternatives



Source: [The Sprint Book](#)

bad
what makes a ~~good~~ question?

~~“You seem to find
the current system
difficult to use, why
is that?”~~

avoid leading
questions!

~~“What are the
affordances of
this device?”~~

avoid technical
terms/jargon

“ ~~Why do you think
this menu is easier
to use than the old
one?~~

avoid assumptions

A Real-Life Example: Why did Walmart lose \$1.85 billion by asking one question?

‘Would you like Walmart to be less cluttered?’



SyncMaster 2263UW

Community Engagement x
www.surveymonkey.com/s/37D3TZC

Community Engagement Questionnaire

1. Are you involved in any community activities or groups?

☐ Yes

☐ No

2. If you answered yes to the above question, can you tell us what they are?

3. If you answered question 2, how do you engage with them?
e.g. by phone, face to face, online, by letter...

Next

Powered by **SurveyMonkey**
Check out our [sample surveys](#) and create your own now!

questionnaires

questionnaire

question format

- 'yes' and 'no' checkboxes
- open-ended responses
- rating scales
- checkboxes that offer many options

Community Engagement Questionnaire

4. Do you use the Internet?

☐ Yes ☐ No

5. If you use the internet, why do you use it?

☐ Keep in touch with family and friends ☐ Meet new people

☐ Other

6. Do you use any of the following?

☐ DropBy ☐ Senior Net

☐ Email ☐ Skype

☐ Facebook ☐ Twitter

☐ OlderView ☐ YouTube

☐ Online forums ☐ Chat boards

questionnaire

question presentation can be misleading

Section 2 of 4

Sport, fitness and recreation

Thinking about Other types of dance. To what extent do you agree or disagree with these statements?

Select one answer only

The activity is part of my routine.

- ☐ Strongly agree
- ☐ Agree
- ☐ Neither agree nor disagree
- ☒ Disagree
- ☐ Strongly disagree
- ☐ Don't know
- ☐ Prefer not to say

pros & cons questionnaires

	pros		cons
can reach large numbers of people	✓	✗	limited opportunity for follow up questions
cost efficient	✓	✗	may lack richness
can be quick	✓	✗	can't clarify /correct misunderstandings
easy to repeat	✓	✗	people may give up halfway through

bad
what makes a ~~good~~ question?

1. State your age in years

2. How long have you worked here?
(check one only)

- ☐ 1 yr
- ☐ 2 yrs
- ☐ 3 yrs
- ☐ > 3 yrs

3. How long have you used the Internet? (Check one only)

- ☐ < 1 yr
- ☐ 1-3 yrs
- ☐ 3-5 yrs
- ☐ > 5 yrs

4. Do you use the Web to:

- Purchase goods ☐
- Send email ☐
- Visit chatrooms ☐
- Find information ☐

5. How useful is the Internet to you?

Questions

1. Please state your exact income. \$ _____

2. Kindly check your marital status.

single _____ married _____

3. Kindly check the region of the United States in which you live.

south _____ west _____

east _____ north _____

4. Kindly check your age group.

young _____

middle-aged _____

elderly _____

5. Kindly check your social class.

upper _____

middle _____

lower _____

6. Do you think transverse-mounted motors in cars help to promote fuel efficiency?

yes _____

no _____

7. Does your present car have any foreign-made components?

yes _____

no _____

Questions	Potential Respondent Reaction
1. Please state your exact income. \$ _____	Do you mean take-home pay? Annual or monthly? Should I include interest on my savings account? What business of yours is my exact income?
2. Kindly check your marital status. single _____ married _____	
3. Kindly check the region of the United States in which you live. south _____ west _____ east _____ north _____	
4. Kindly check your age group. young _____ middle-aged _____ elderly _____	
5. Kindly check your social class. upper _____ middle _____ lower _____	
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2. Kindly check your marital status. single _____ married _____	Really, I'm not either. I'm legally separated from my spouse.
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3. Kindly check the region of the United States in which you live. south _____ west _____ east _____ north _____	I live in Chicago. I'm not sure which I should check.
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4. Kindly check your age group. young _____ middle-aged _____ elderly _____	I'm 32. I'm not sure if that is young or middle-aged.
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6. Do you think transverse-mounted motors in cars help to promote fuel efficiency? yes _____ no _____	What is a transverse-mounted motor?
7. Does your present car have any foreign-made components? yes _____ no _____	Which car do you mean? I own two. I don't know if either has any foreign-made parts. Both are Fords but maybe some parts were imported.

good questions

⦿ can be **open or closed**:

⦿ open: which websites do you visit regularly?

⦿ closed: which of these websites do you visit regularly ?

☐ amazon.co.uk

☐ bbc.co.uk

⦿ ask about **specifics**: who, what, when, where, why, how?

⦿ use open probes at the end: do you want to tell me **anything else?**

⦿ it is also a good practice to **summarise the interviewee's responses!**

observation



observation

⊗ early in design:

⊗ understand users' context, tasks, goals

⊗ later in development:

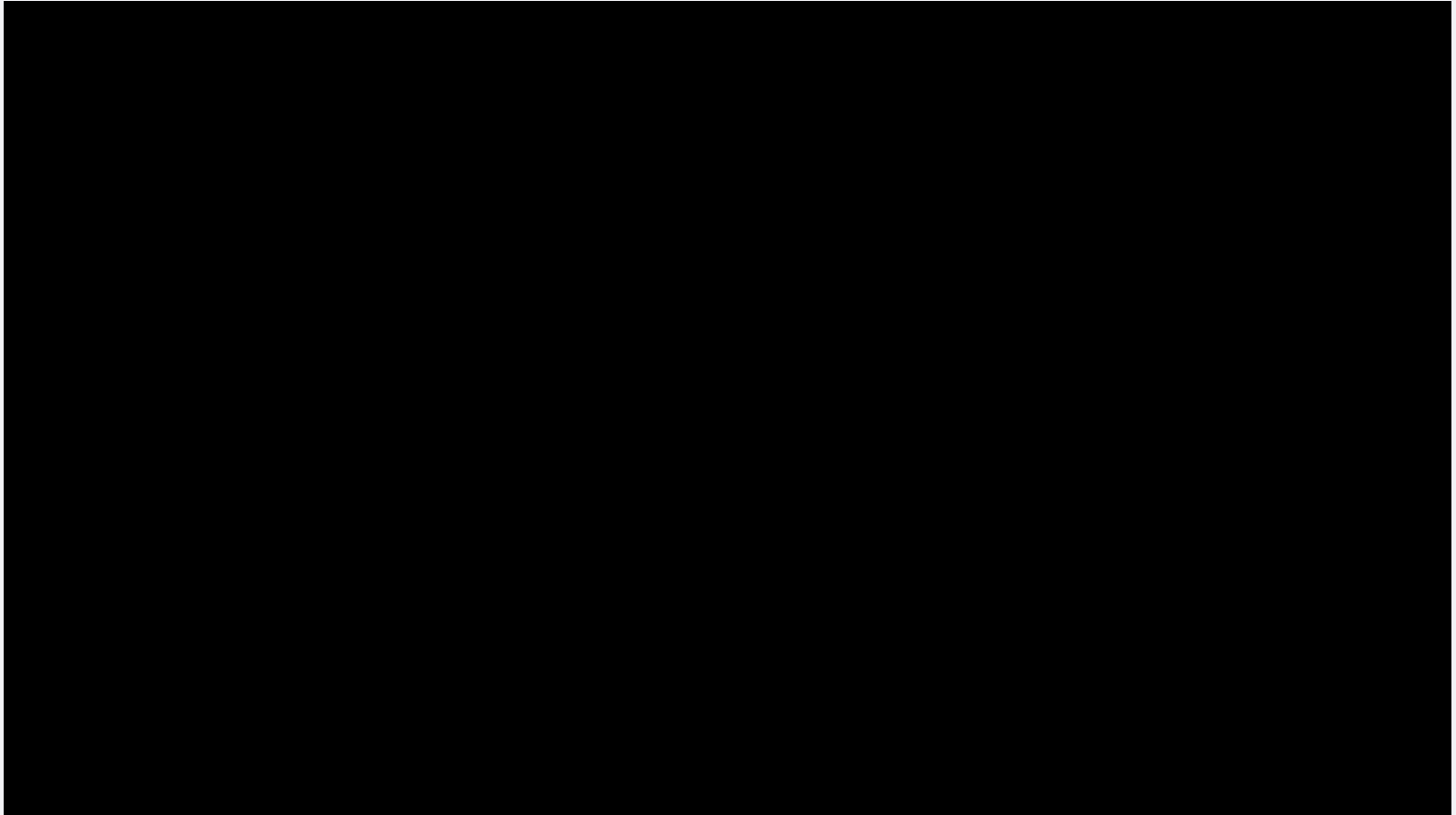
⊗ understand how the prototype supports these goals

structuring frameworks

three easy-to-remember parts:

- 👤 the person: **who is using the technology at any particular time?**
- 📍 the place: **where are they using it?**
- 📦 the thing: **what are they doing with it?**

observation in the field



planning and conducting observation in the field

decide on **how involved you will be**: passive observer to active participant

how to **gain acceptance**

how to **handle sensitive topics**, e.g. culture, private spaces, etc.

how to collect the data:

- ⊕ what data to collect
- ⊕ what equipment to use
- ⊕ when to stop observing

observation in a controlled environment
think aloud

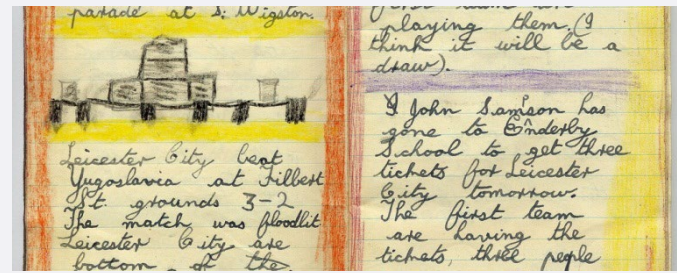
To better understand why the Transforming Steering Wheel was effective, we then examined the speed and style of transformation.

pros & cons observation

	pros		cons
can discover things users can't express easily e.g. unconscious behaviours	✓		✗ can be costly and time consuming
fills in details and allows you to get a rich picture	✓		✗ potentially invasive
helps you understand the context you are designing for	✓		✗ can generate vast amounts of data

indirect observation

user diaries & probes



- ⊗ asking users to record their thoughts, ideas and experiences using a **paper/digital**, **audio/video** or **photo diary**
- ⊗ can be used to gather **information about their daily life**, or their use of a device
- ⊗ can deliver rich data, but **little control over what is recorded** beyond initial prompts
- ⊗ can be **disruptive and/or time consuming** for user

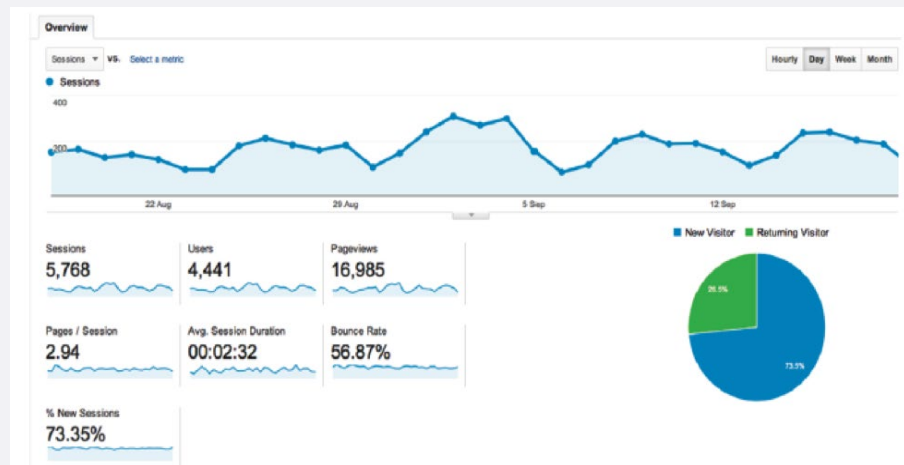
web analytics

a system of tools and techniques for optimizing web usage by:

- 🕸 measuring,
- 🕸 collecting,
- 🕸 analyzing, and
- 🕸 reporting web data

typically focus on the number of web visitors and page views.

Example: Google Analytics



pros & cons logs & analytics

pros

cost effective



allows researchers to reach
an extremely **large number**
of users

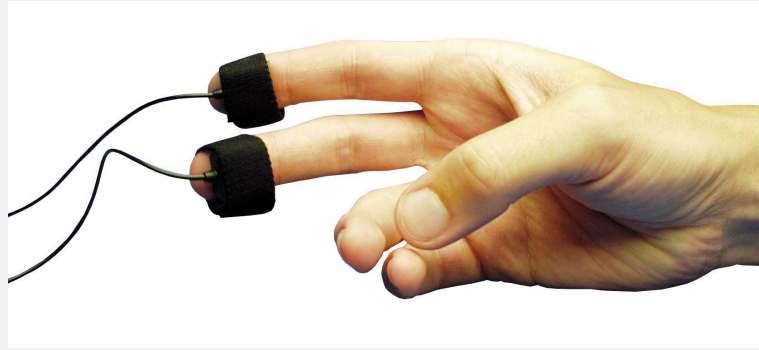


cons



data gathered can **lack context**: we know a lot about **what** and **when**, a little about **who** and **where**, but hardly anything about **why**

biometrics



the study and use of measurable biological characteristics
sensors allow the measurement of different biological readings from participants, e.g.:

- 🌀 galvanic skin response
- 🌀 heart rate
- 🌀 eye movements
- 🌀 Electroencephalography (EEG)



whenever you are working with real users you need to consider ethical issues

what ethical concerns might there be in HCI?

- ⊗ participant anonymity
- ⊗ informed consent
- ⊗ user expectations
- ⊗ safety
- ⊗ persuasion/manipulation

dark patterns

Services - Ryanair.com

https://www.bookryanair.com/SkySales/Booking.aspx?culture=en-gb&lc=en-gb#Services

Login

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FLIGHTS SERVICES CAR HOTEL PAYMENT ITINERARY

Passenger(s)

All passenger names must match those in the passport/accepted travel document
Duplicate names must not be entered for passengers ?

Passenger 1

Title: First name: Last name:

First name: Harry Last name: Brignull

Travel Insurance

	INSURANCE	INSURANCE PLUS
Medical Expenses up to £2,500,000 (excess of £75, double excess for aged 65+)	✓	✓
Personal Belongings up to £1,500 (excess of £75)*	✓	✓
Cancellation circumstances (excess of £15)	✓	✓
Ticket Refund (In case of Ryanair cancellation)	✓	✓

VIEW POLICY

Please select a country of residence

- United Kingdom
- Ireland
- Germany
- Spain
- France
- Italy
- Sweden
- Austria
- Belgium
- Denmark
- Don't Insure Me
- Finland
- Hungary
- Latvia
- Lithuania
- Malta
- Netherlands
- Norway
- Poland
- Portugal
- Slovakia

Source: <http://darkpatterns.org/>
See more here: <https://www.youtube.com/watch?v=kxkrdLI6e6M>

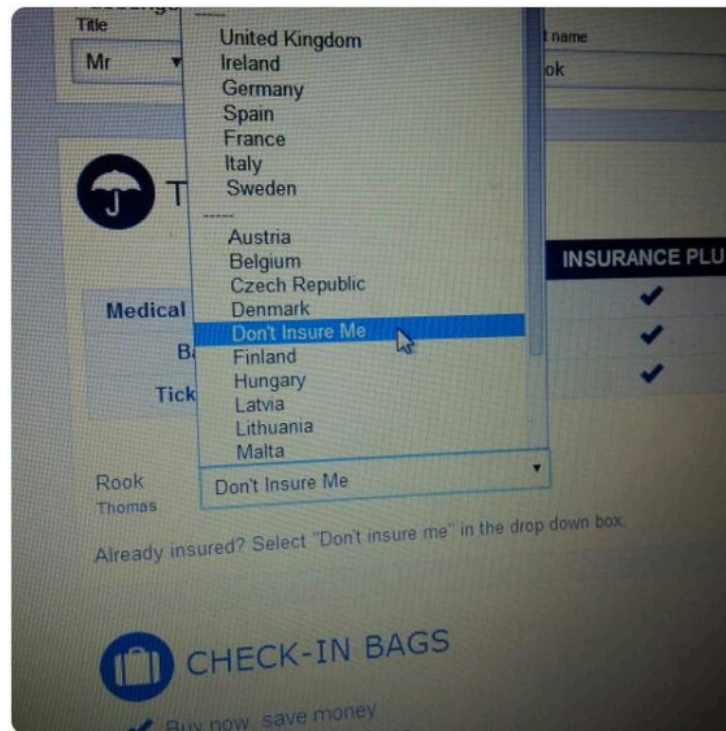
dark patterns



James Elliott
@Jelliott08

Follow

@Ryanair I live in the relatively unknown country of 'don't insure me' - what do i do if i don't want insurance? #ffs



10:58 AM - 4 Feb 2014

1 Retweet 8 Likes



1

8

dark patterns

James Royal-Lawson, **we're giving you a 30-day free trial of Amazon Prime!**
Starting with this order



	amazon prime
Standard Delivery	FREE
One-Day Delivery	FREE
Same-Day Delivery <small>(in select residential postcodes) Details</small>	FREE

Get fast free
delivery on
this order

Amazon Prime includes:

- ✓ FREE One-Day Delivery on millions of items
- ✓ Unlimited deliveries with no minimum order size
- ✓ Share your delivery benefits with one other adult

Yes → Continue and don't gain Amazon Prime benefits

No → Order Now with Prime

No → Continue with FREE One-Day Pickup Pay later

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If you do not want to hear from us by any or all of these means, please tick the relevant box(es) below:

Post ☐

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Email ☐

Text ☐

Source: Royal Mail

First Time Big Savings Offer!
Start Today and Save 31%
on Bio-Degradable Nappies and Organic Baby Wipes!

Play This Video
For  Your
Welcome Suprise!

Hello

Thank you so much for ordering the Midi Nappy Samples,
they will be shipped off to you straight away.

As a special **Welcome Surprise**, Anna, I want to give you an
Amazing Offer!

I'd really like you to start giving you to start giving Your Baby The Healthiest Start to Life, but I know that lots of Mums and Dads, even though they want to, are just too busy to come back to Beaming Baby and order their first Pack of Nappies.

So I'm going to make this *really simple*, **By offering you 1 case of 160 Nappies with a Massive 31% Discount Today!**

The reason Jane and I thought this was a good idea, is that we're convinced that as soon as You and Your Baby see and feel the difference with Beaming Baby Biodegradable Nappies, you'll realise these will make your Baby Healthier and Happier, so you'll want to stay with us.

This is NOT a SUBSCRIPTION OFFER! - It is just a ONE-OFF Bargain Pack of Beaming Baby Nappies!

On top of all that, as a special **Welcome**, and **Thank You** for giving this a go, we'd like to give you 4 FREE Bonuses!

Free Bonus Number 1 A Free pack of the UK's Number 1 Best Selling **Organic Baby Wipes**

Free Bonus Number 2 A Free pack of Biodegradable Nappies Sacks

Free Bonus Number 3 A £5.00 Voucher, Giving you **£5.00 off your next order** with Beaming Baby

Free Bonus Number 4 Free Shipping, So you can IMMEDIATELY Give Your Baby The Healthiest Start to Life!

That's a total saving of £19.05!

That's not all, you'll also benefit from our **365 Day, Total Happiness, Money Back Guarantee!**

So if you or your baby are not totally happy with anything from us, just call or email us and we'll arrange a **Free Collection** and a full, instant refund or credit.

You have Nothing to lose and Your Baby has Everything to Gain! So please just go ahead and click the "Confirm" button below...
I'm looking forward to sharing some fascinating baby secrets with you in a moment, Warm Wishes *Charlie*

Your First Time Big Saving Offer includes:

1 x Case of **Midi** (160 Nappies) 5 to 8 kg, 11 to 18 lb

1 x **Free** Pack of Organic Baby Wipes (72 wipes)

1 x **Free** Pack of Biodegradable Nappy Sacks (60 Sacks)

1 x **Free** £5.00 Voucher

1 x **Free** Delivery

All for ONE Payment ONLY of **£44.99**

Yes! CONFIRM MY ORDER FOR £44.99

or Go to www.beamingbaby.co.uk

Please note, this is the only time you will be offered the First Time Big Savings Offer with 4 Free Bonuses. As soon as you leave this web page, this Offer will **EXPIRE**. When you click the "Confirm" button above, you will immediately be sent one Case of Nappies, Plus 4 Bonuses for Free, all for the amazing offer Price of just £44.99 Offer price.

Source: Beaming Baby

summary & key points

there is **no one 'best' method!**

choosing the 'best' method depends on:

- ④ focus of the study
- ④ participants involved
- ④ nature of the technique(s)
- ④ resources available
- ④ time available

Updates/Reminders

- 🕒 **Office Hour:** if you need to see me, please book a meeting using this link: <https://calendly.com/d-dmitrenko/30min>
- 🕒 **Drop-in Sessions** will be confirmed on Canvas – please look out for announcements!

preparation for next week: reading

Read the “**Data Gathering**” chapter of the Interaction Design book

