

@carilall
#UXPA2018

Eventually everything connects

UXPA 2018 Opening keynote
Dr Carine Lallemand
University of Luxembourg

According to me, a keynote talk should be _____

I'd be positively surprised by a talk that _____

I'd feel bored from attending a talk that _____

The most original format for a talk I could think of would be _____

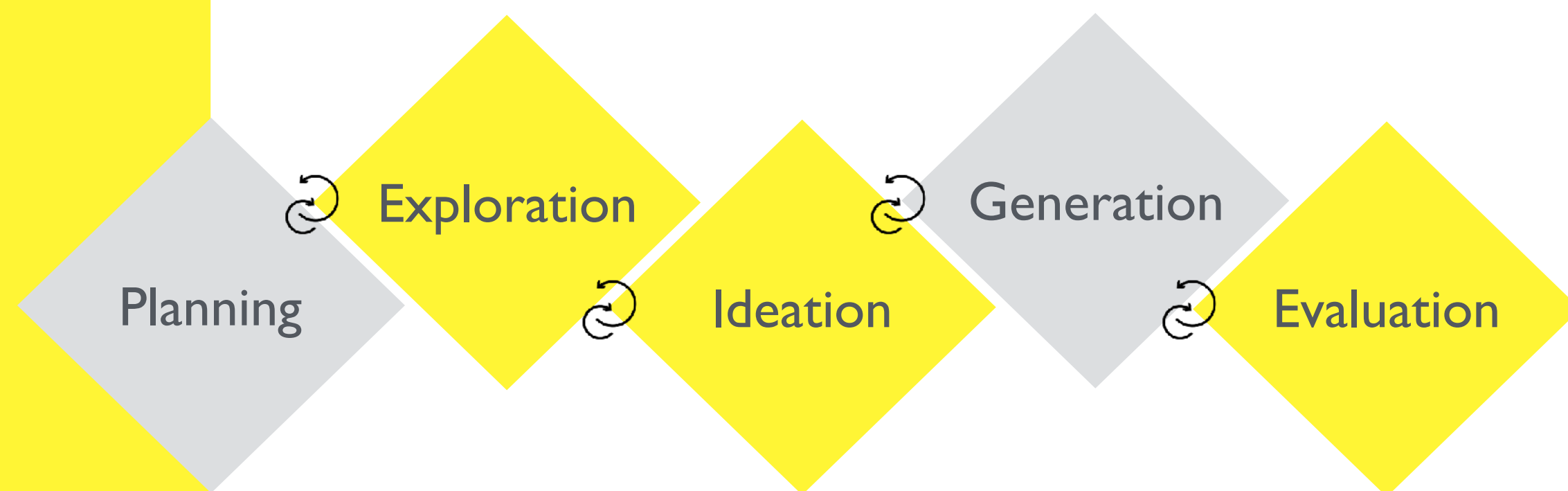
The most memorable talk I ever attended
was _____

A stack of cut logs is the central focus, arranged in a neat pile. The background shows a misty forest with tall, thin trees. The overall tone is dark and atmospheric. The quote is overlaid in white text on a semi-transparent dark background.

Give me six hours to chop down
a tree and I will spend the first
four sharpening the axe.

Abraham Lincoln

The sentence completion method



«The strength of the technique is that respondents use their own words to describe their situation, thus giving more spontaneous and honest answers compared to traditional questionnaires.»

(Hoyer & MacInnis, 2007)

According to me, a keynote talk should be _____

I'd be positively surprised by a talk that _____

I'd feel bored from attending a talk that _____

The most original format for a talk I could think of would be _____

The most memorable talk I ever attended was _____



Use case

IMPROVING THE E-READING EXPERIENCE

How we collected 14.000 ideas in 2 weeks

IMPROVING THE E-READING EXPERIENCE

Using several sentences stems to cover relevant UX dimensions

Profile	Unfinished sentence	UX dimension
 non ebook readers (596 respondents)	Compared with a print book, an electronic book is... In my opinion, eBooks are addressed to... I have never read any eBooks because... I would read a eBook if... I expect a eBook to... When I read a print book, I feel...	Comparison between products Identity / product image Frustrations / Barriers to use Expectations and needs Expectations and needs Affects
 ebook readers (1284 respondents)	Compared with a print book, an eBook is... The reading experience on an eBook is... The problem with eBooks is... What I love about eBooks is... What frustrates me the most with an eBook is... I find that the interface of an eBook is... I dream of a eBook that...	Comparison between products Global UX Issues and frustrations Positive aspects / Appropriation factors Issues and frustrations Specific UX - Interface Expectations / Dreams

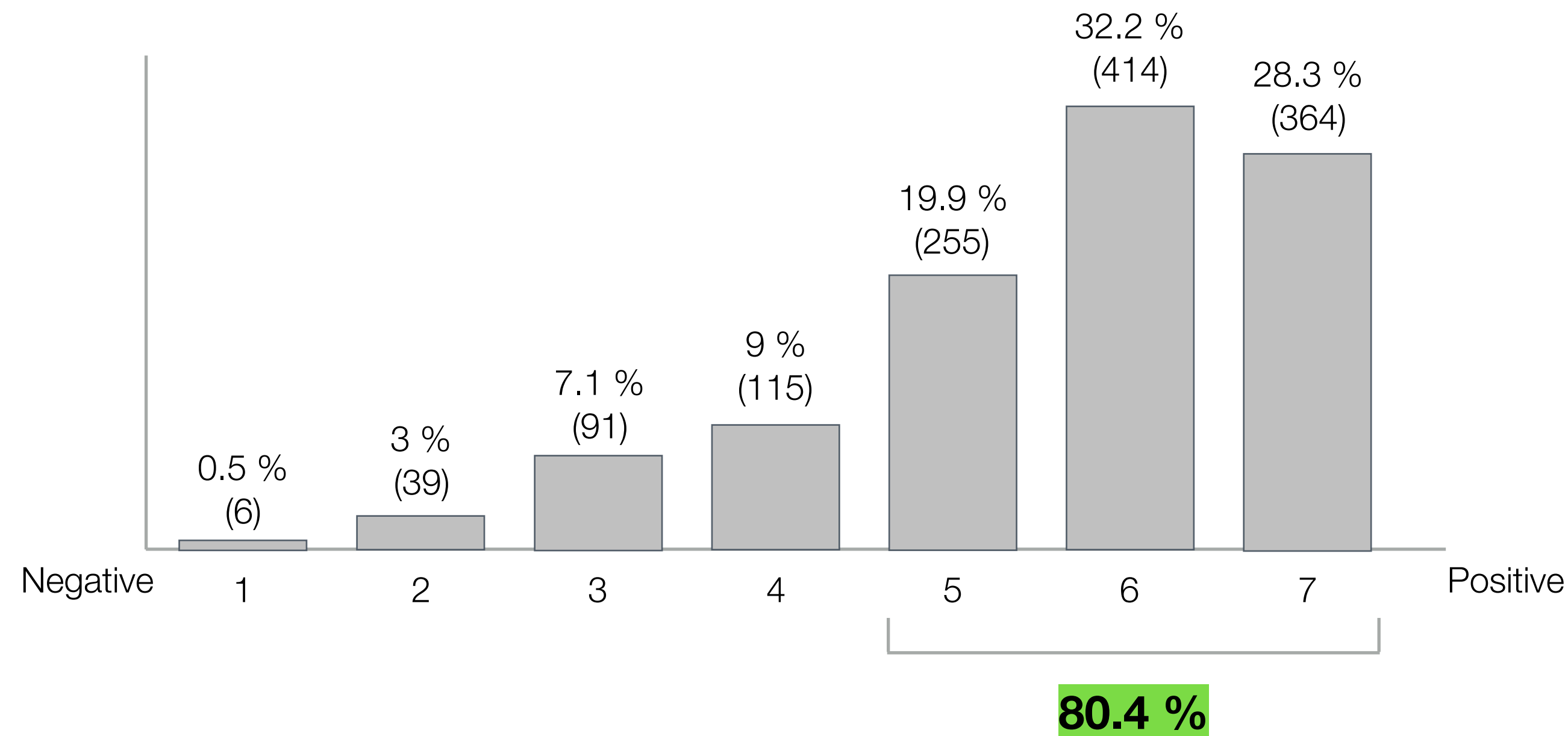
Mercier & Lallemand, 2015

LIKERT SCALES VS. SENTENCE COMPLETION

A different picture of the situation

On a 7-points Likert scale, how would you rate your overall e-reading experience? (N = 1284)

“The reading experience on a eBook is _____”



Valence	Frequency	%
Negative	228	17.8 %
Positive	817	63.9 %
Neutral	160	12.5 %
Mixed	74	5.8 %

Mercier & Lallemand, 2015

RICHNESS OF THE DATA COLLECTED

Ideas that can be easily translated into actionable insights

“The problem with ebooks is _____”

- the price
- the lack of availability and choice
- the absence of a sensual experience (feeling the paper in one's hands)
- the navigation and information architecture
- the battery / the need for a network connexion
- their bad quality
- the impossibility to lend the book to a friend
- DRM (digital rights management)
- the bad reading experience
- the screen and visual fatigue
- it is dematerialized
- ...

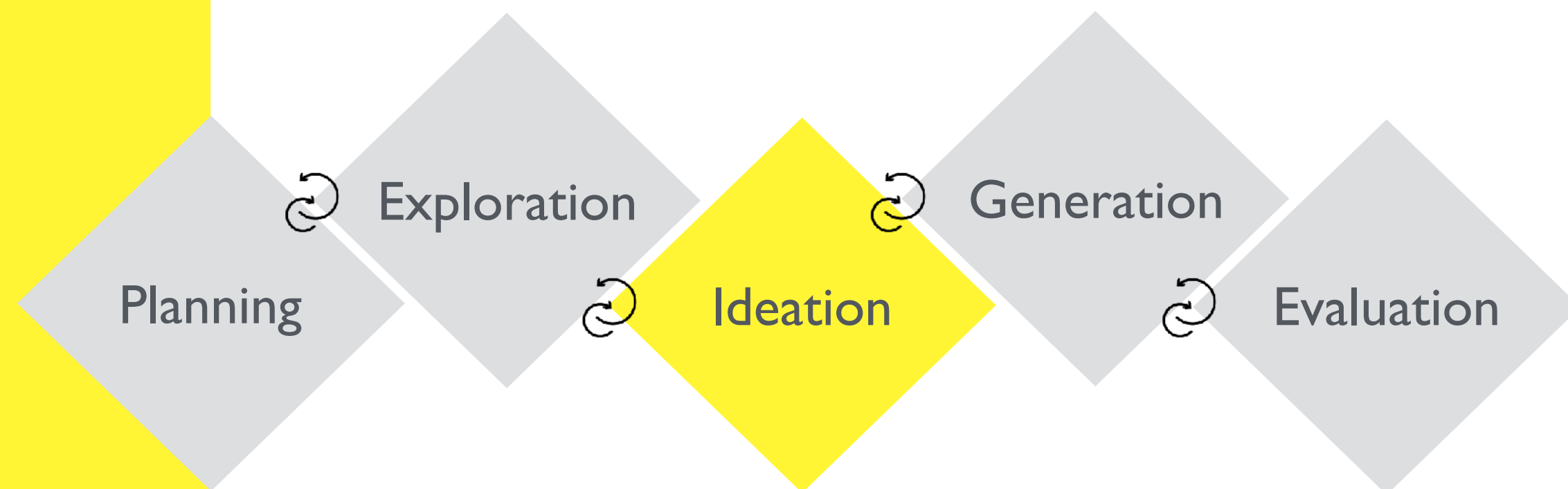
I'm not able to physically track my progress in the book

you can't skim or flip through easily

that you don't see what people are reading because you don't see the book cover...

Mercier & Lallemand, 2015

Needs-driven & emotional design



"Psychological needs are particular qualities of experience that all people require to thrive"

Sheldon et al., 2010

PLEASURE / STIMULATION



RELATEDNESS / BELONGINGNESS



SECURITY / CONTROL



AUTONOMY / INDEPENDENCE



COMPETENCE / EFFECTIVENESS



POPULARITY / INFLUENCE



SELF-ACTUALIZING / MEANING



**Good UX is the consequence of
fulfilling fundamental
psychological needs**

AN EXPERIENTIAL TABLE LAMP?



GLO nightlight

AN EXPERIENTIAL TABLE LAMP?



?

Competence / Effectiveness

Autonomy / Independence

Relatedness / Belongingness

? Influence / Popularity

Security / Control ?

Pleasure / Stimulation

Self-actualizing / Meaning

SOME CLUES

Target users? ... kids

Context of use? ... night

Needs? ...
security & autonomy





GLO NIGHTLIGHT: **SECURITY + AUTONOMY**



A SAFE BIKE?





Bike Zone laser system

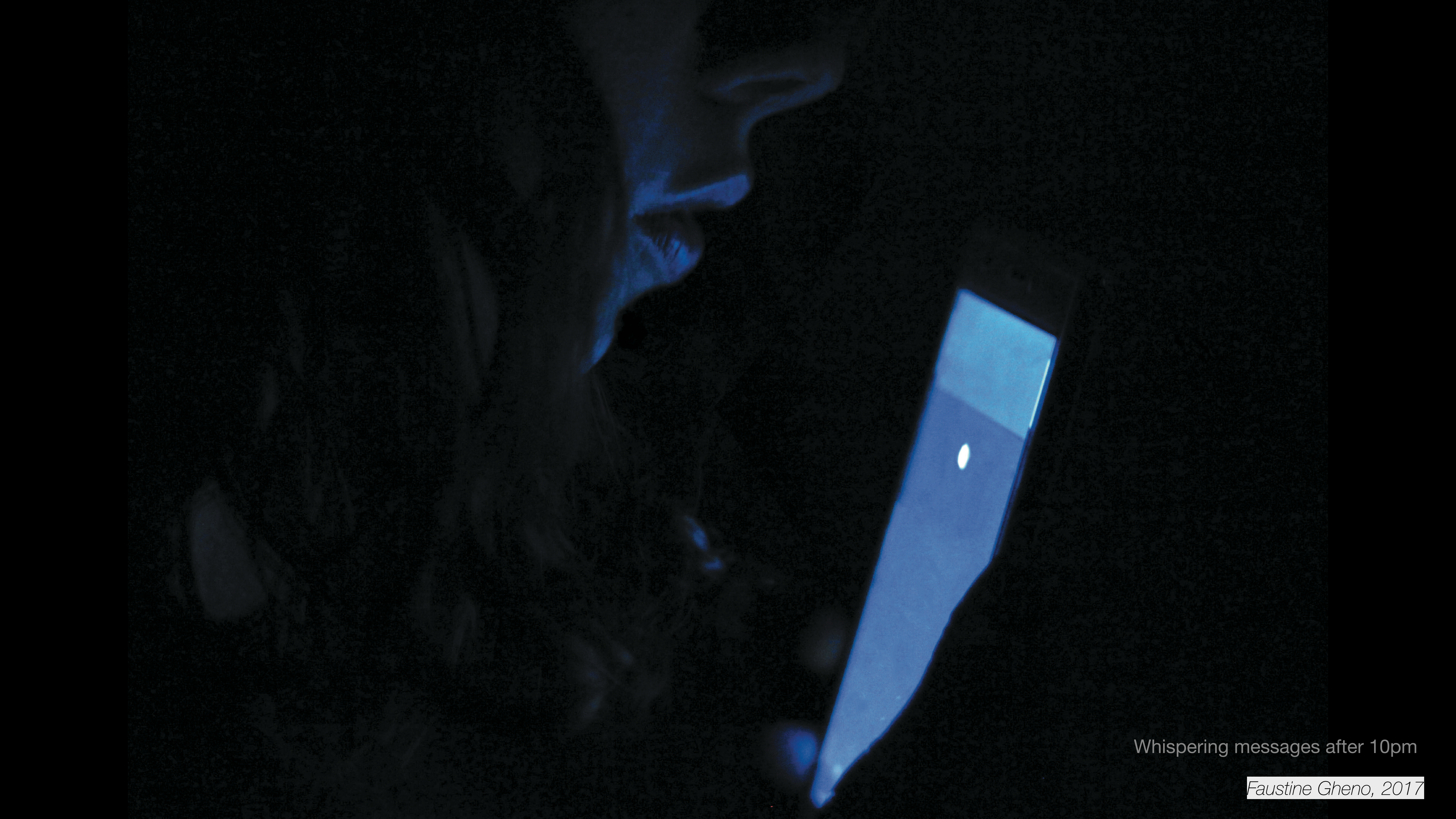


RELATEDNESS + DATING APP



Whispering messages after 10pm

Faustine Gheno, 2017



Whispering messages after 10pm

Faustine Gheno, 2017

UX CARDS

A pragmatic tool supporting needs-driven design



RELATEDNESS - BELONGINGNESS



RELATEDNESS BELONGINGNESS

Having regular close contact with people who care about you

- Being aware of others' emotions, activities or mood
- Expressing feelings or emotions in a wide variety of ways
- Having a sense of physical intimacy
- Caring about others
- Offering gifts to others
- Carrying out actions together
- Keeping record of past activities and special moments

Connectedness
Intimacy
Love / Friendship

Closeness
Togetherness
Other-awareness



PLEASURE - STIMULATION



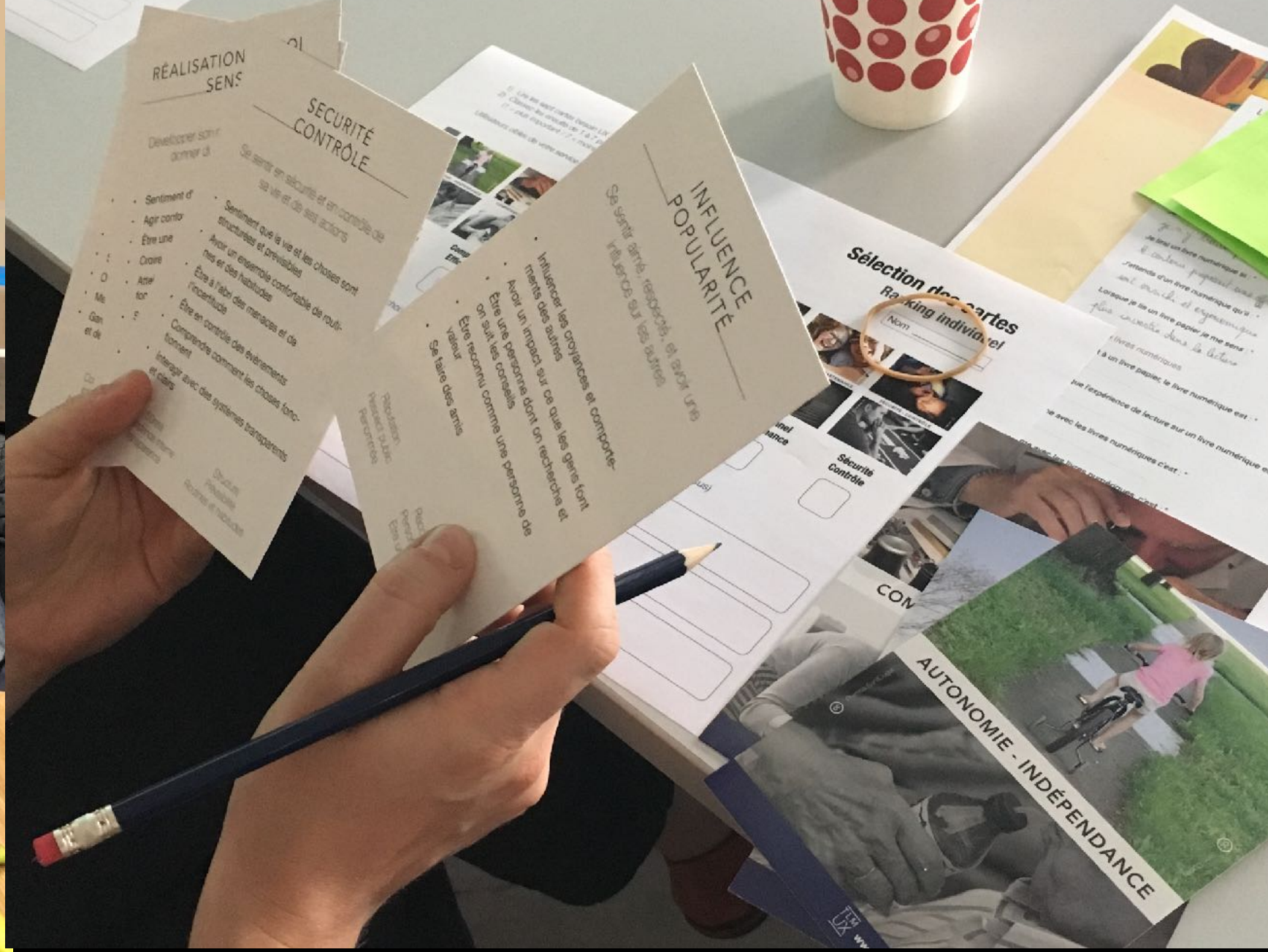
PLEASURE STIMULATION

Feeling that you get plenty of enjoyment and pleasure, feeling stimulated

- Performing a leisure or playful activity
- Having fun
- Experiencing new sensations and activities
- Feeling intense physical pleasure
- Feeling enjoyment for the senses: sensual pleasure, aesthetic pleasure
- Discovering new sources and types of stimulation

Enjoyment / Fun
Novelty
Entertainment

Leisure
Amusement
Discovery



What are the 3 most important needs to fulfil when attending a talk?

Competence / Effectiveness ?

Autonomy / Independence

Relatedness / Belongingness

? Influence / Popularity

Security / Control

Pleasure / Stimulation

Self-actualizing / Meaning ?



PLEASURE - STIMULATION



Enjoyment, Fun, Novelty,
Discovery, Leisure



COMPETENCE - EFFECTIVENESS



Self-efficacy, Achievement,
Motivation, Learning



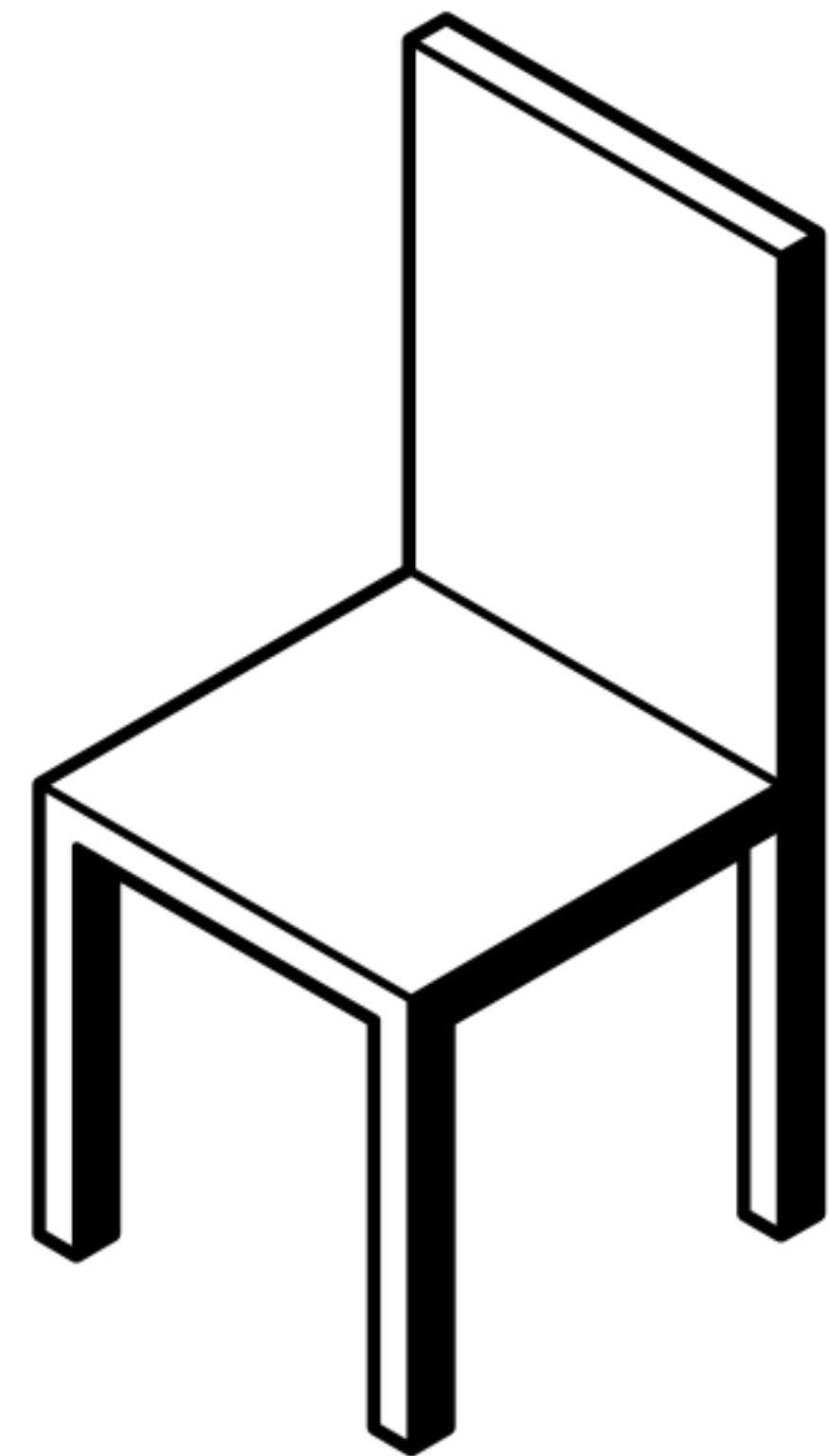
SELF-ACTUALIZING - MEANING



Developing one's best potential,
Creativity and Spontaneity

What if... there was a secret object hidden somewhere around each of you?

Can you find the secret object?



Especially for you

Especially for you

Especially for you

Products that evoke positive emotions are bought more often, used more often, and are more pleasurable to use.

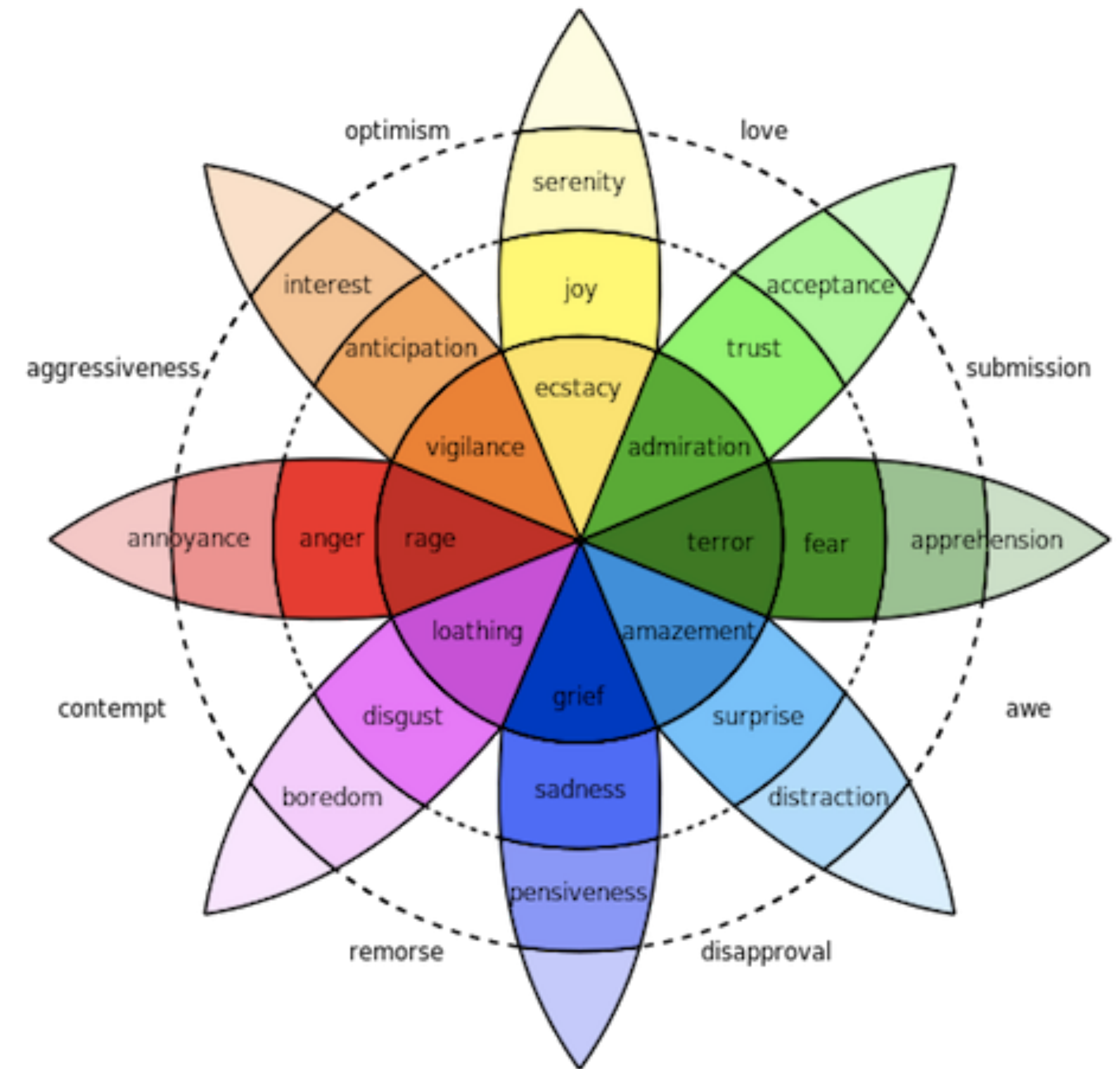
Desmet, 2012

EMOTIONAL GRANULARITY

An essential UX designer's skill

Emotional granularity is **the ability to characterize one's emotional state with specificity,**

using discrete emotion labels rather than referring to global feeling states.



Plutchik's wheel of emotions



**Companion
booklet - p. 3**

How good is your emotional granularity?

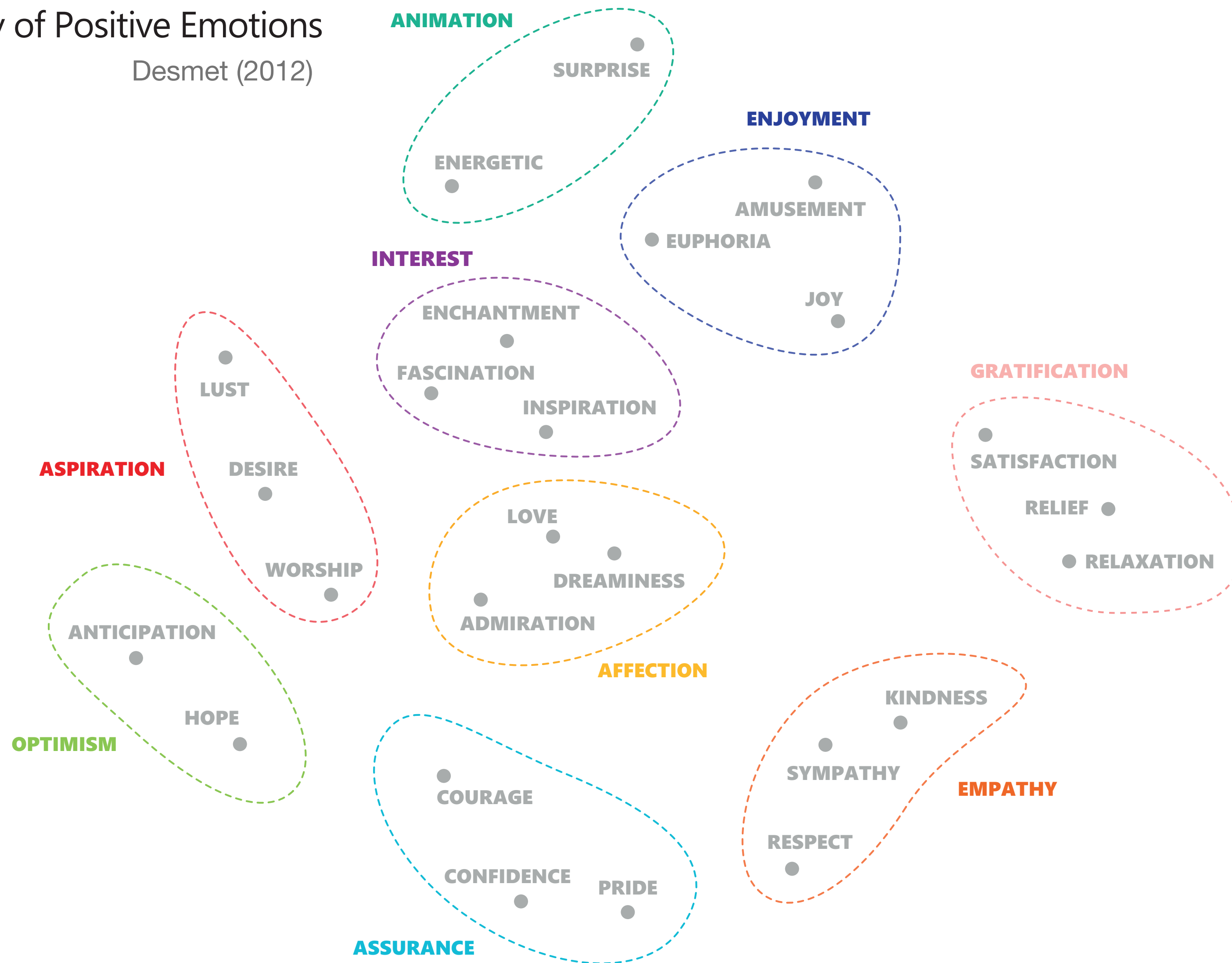
List all positive emotions you can think of in
2 minutes.

.....

Feeling disappointed by your score? Check the
resources on emotional design at the end of this booklet!

Typology of Positive Emotions

Desmet (2012)



9 categories of positive emotions:

Enjoyment

Interest

Assurance

Empathy

Gratification

Animation

Affection

Optimism

Aspiration

Positive Emotional Granularity Cards

Interest

ENCHANTMENT

Engaged, spellbound

To be carried away by something that is experienced as overwhelmingly pleasant



It arises when an appealing and/or mysterious character of something facilitates physical or mental isolation in a pleasant way.

Assurance

CONFIDENCE

Challenged, determined

To experience mental or moral strength to withstand or cope with the situation



It arises when it is certain that one is capable of overcoming a challenge in the process of realizing his/her goal.

Interest

INSPIRATION

Motivated, determined

To experience a sudden and overwhelming feeling of creative impulse



It arises when one is awakened to the realization of a relational meaning of something and is enabled to do something creative.


Use case

Optimism

ANTICIPATION

Awaiting, expectant

To eagerly await an anticipated desirable event that is expected to happen



It arises when one notices that there is a high chance that a desired event will actually take place.



<http://www.willodom.com>

How does it trigger an emotion of anticipation?

PHOTOBOX: A SLOW TECHNOLOGY

Slowing down digital photo consumption to support anticipation and reflection

Odom et al. (2012)

Design concept

A Bluetooth printer hidden in a wooden box that prints 4 or 5 randomly selected photos from its owner's Flickr collection at random intervals each month.

The owner has no control over what is printed nor when. The Photobox does not demand nor require its owner's attention to enact its behavior.



<http://www.willodom.com>

DESIGN FOR EMOTION

A 14 month longitudinal study to understand the impact of a slow technology

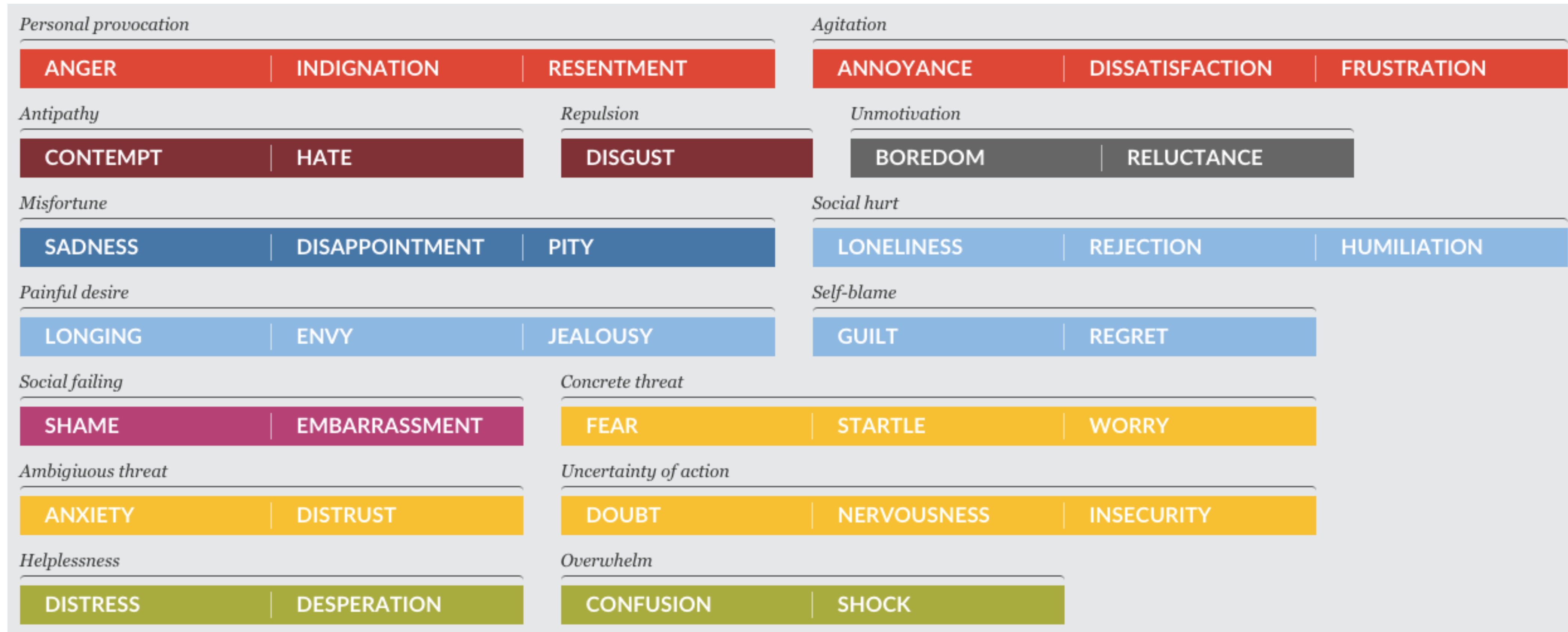
Odom et al. (2012)



Meaning - Anticipation - Thinking about the past - Reflection on one's relationship with technology

NEGATIVE EMOTION TYPOLOGY

36 negative emotions defined and illustrated



Steven Fokkinga <http://emotiontypology.com/>

RICH EMOTIONAL EXPERIENCES



RICH EXPERIENCE QUALITIES

Combining positive and negative emotions

THE CHALLENGING

The experience of a frustrating, yet engaging problem that people are determined to solve.



THE THRILLING

An immediate, exciting rush that makes people feel alive and very in-the-moment.



THE SUSPENSEFUL

The suspenseful experience of thinking that something will or may go wrong, but not knowing when or how.

NEGATIVE EMOTION

NERVOUSNESS

The feeling when you have to do something, but you think that something might go wrong that prevents you from succeeding. You don't feel in control of the situation.



BENEFIT

ANTICIPATION

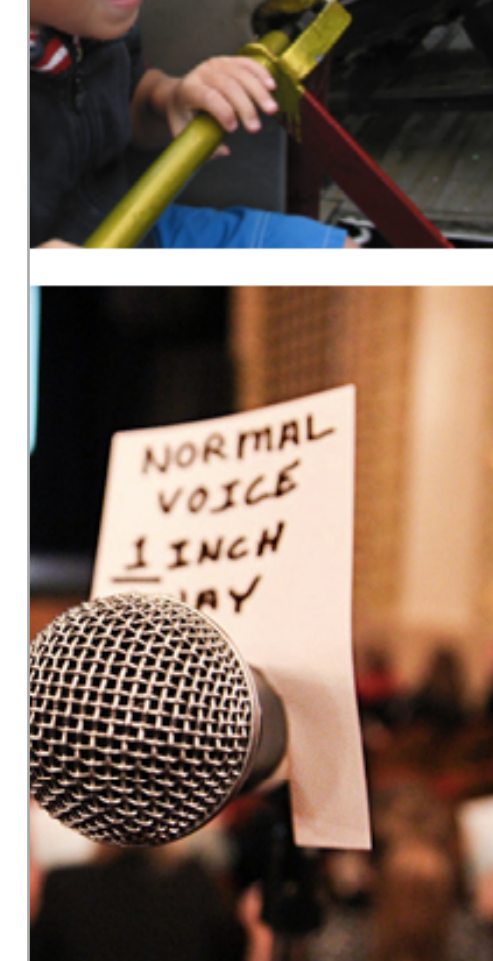
Knowing that something is about to happen that will either turn out good or bad can make for a very arousing waiting time.



LIFE EXAMPLES

Preparing to go on a blind date

Watching the result announcements of a lottery in which you are participating



Steven Fokkinga
Rich experience qualities

CARD SETS FOR UX RESEARCH & DESIGN

www.diopd.org/emotioncards



Positive Emotional Granularity Cards
(Yoon, Desmet, & Pohlmeier, 2013)

www.funkydesignspaces.com/plex



PLEX Cards - playful experiences
(Lucéro & Arrasvuori, 2010)

uxmind.eu/portfolio/ux-design-and-evaluation-cards



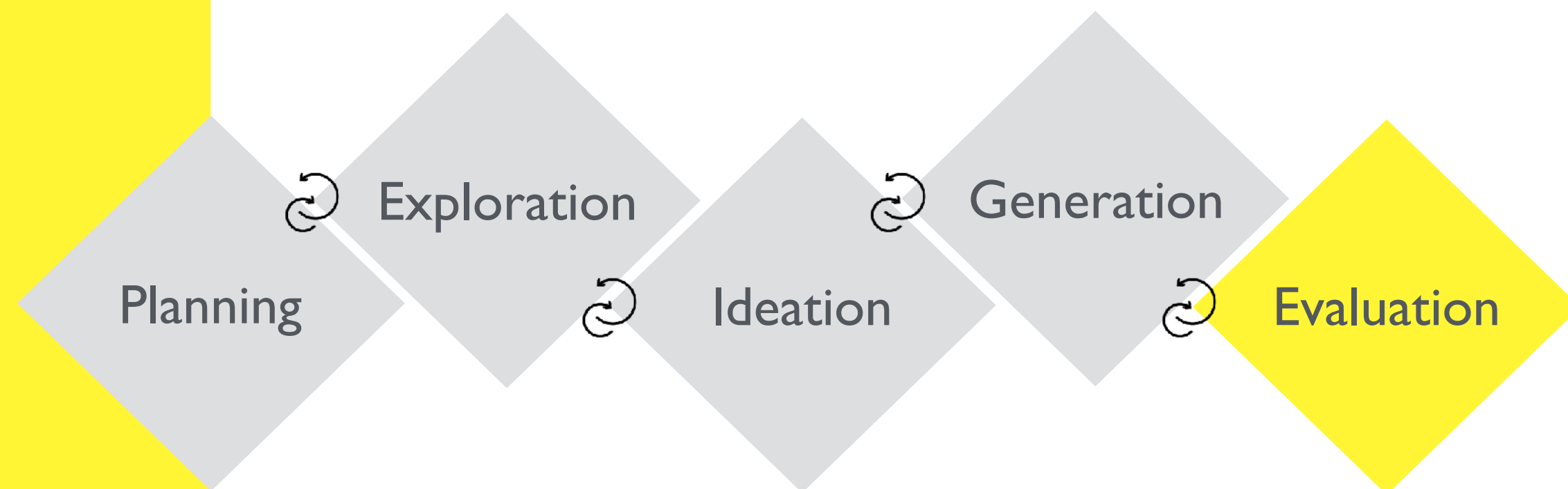
UX Cards - psychological needs
(Lallemand, 2015)

<http://studiolab.ide.tudelft.nl/diopd/library>



Symbolic meaning for user happiness
(Casais, Mugge, & Desmet, 2016)

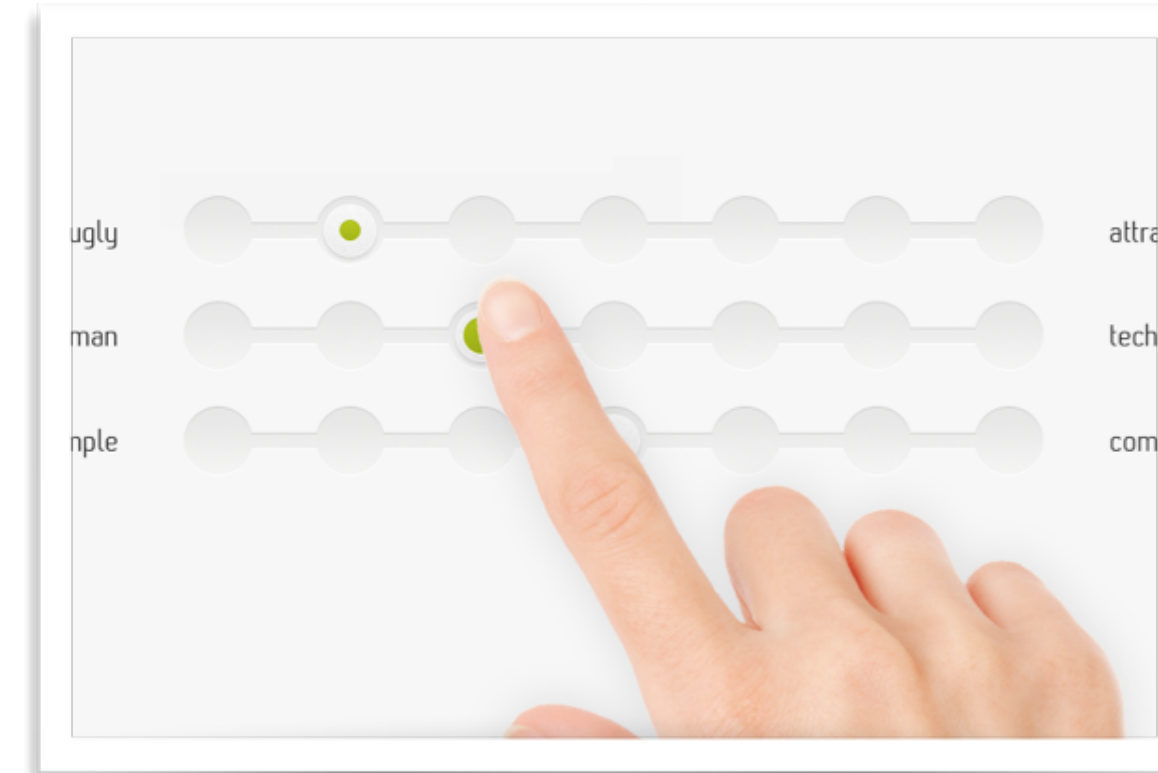
UX evaluation scales



UX SCALES

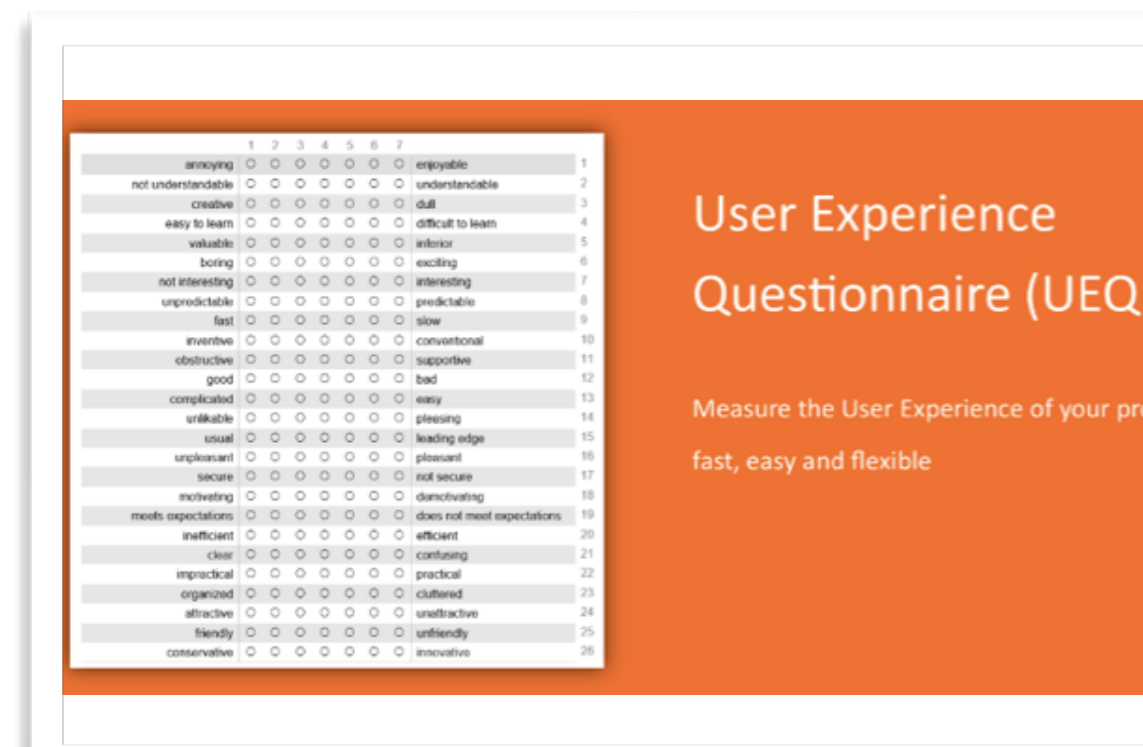
STANDARDIZED QUESTIONNAIRES

<http://www.attrakdiff.de>



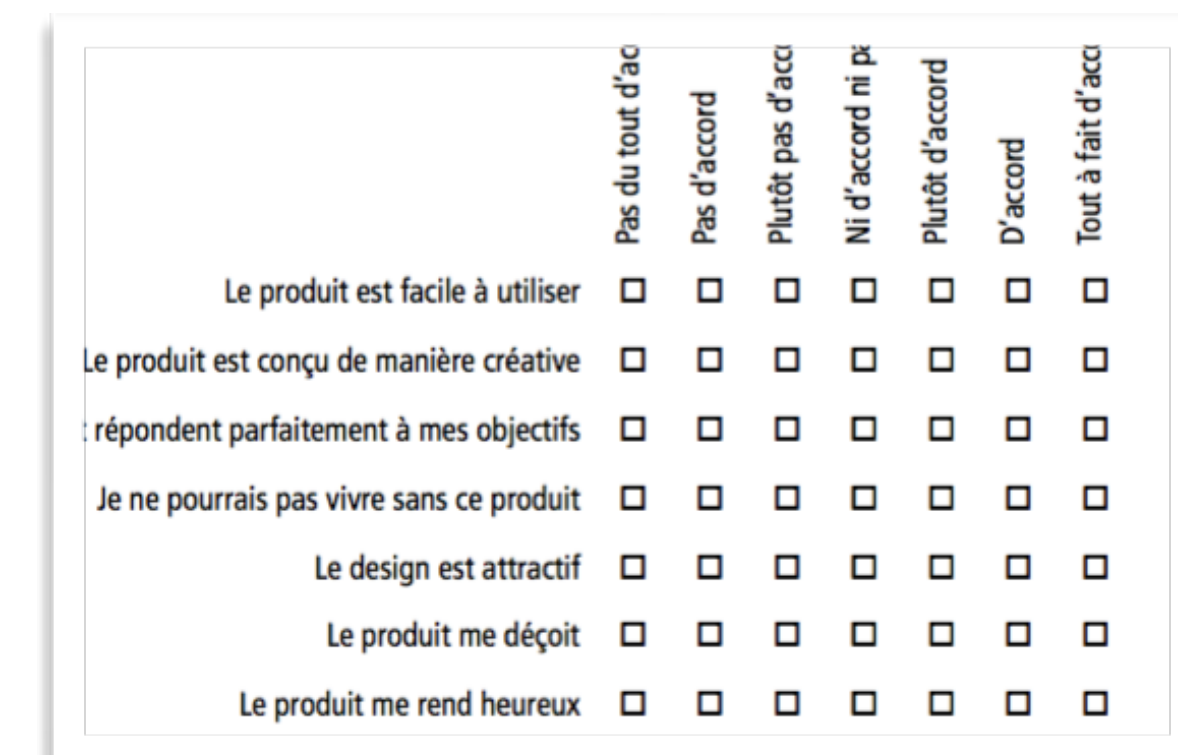
AttrakDiff scale
(Hassenzahl et al., 2003)

<http://www.ueq-online.org>



User Experience Questionnaire
(Laugwitz et al., 2008)

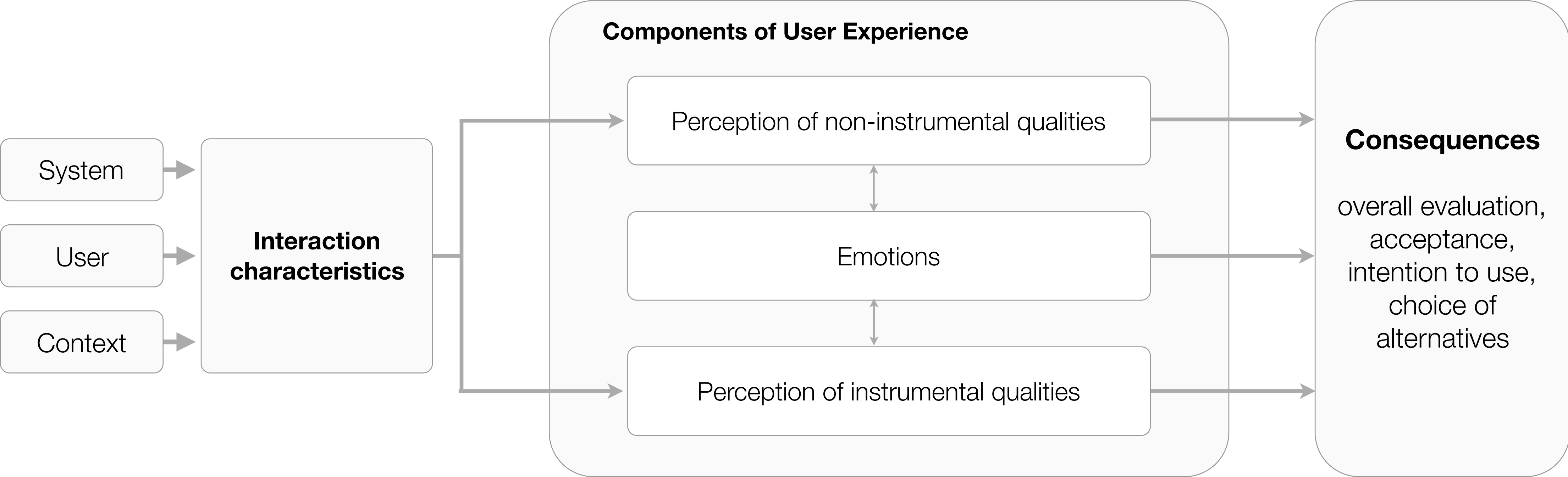
<http://mecue.de/english>



meCUE questionnaire
(Minge & Riedel, 2013)

THEORETICAL MODEL

We need to assess both pragmatic and hedonic perceived qualities of a system





Companion booklet - p. 5

User Experience Questionnaire (UEQ)

This scale consists of pairs of contrasting attributes. On each line, tick the circle that most closely reflects your impression.

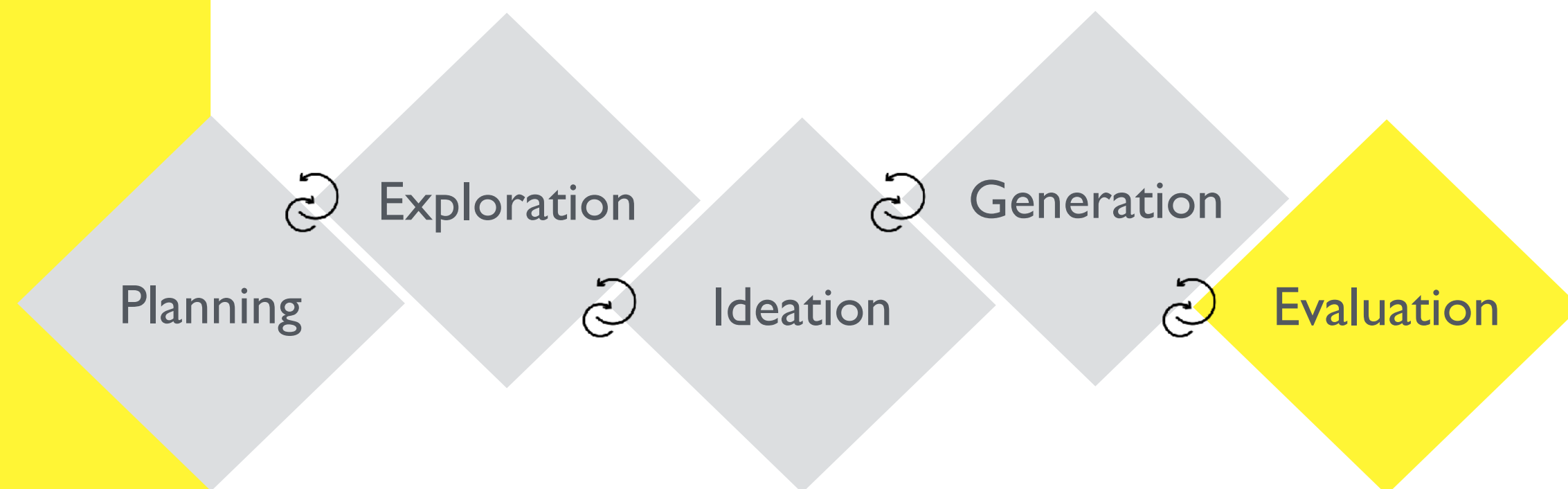
.....

	1	2	3	4	5	6	7	
not understandable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	understandable
creative	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	dull
easy to learn	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	difficult to learn
valuable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	inferior
boring	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	exciting
not interesting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	interesting
fast	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	slow
inventive	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	conventional
good	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	bad
complicated	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	easy
usual	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	leading edge
unpleasant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	pleasant
motivating	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	demotivating
inefficient	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	efficient
clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	confusing
impractical	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	practical
organized	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	cluttered
attractive	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	unattractive
unfriendly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	friendly
conservative	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	innovative

> www.ueq-online.org

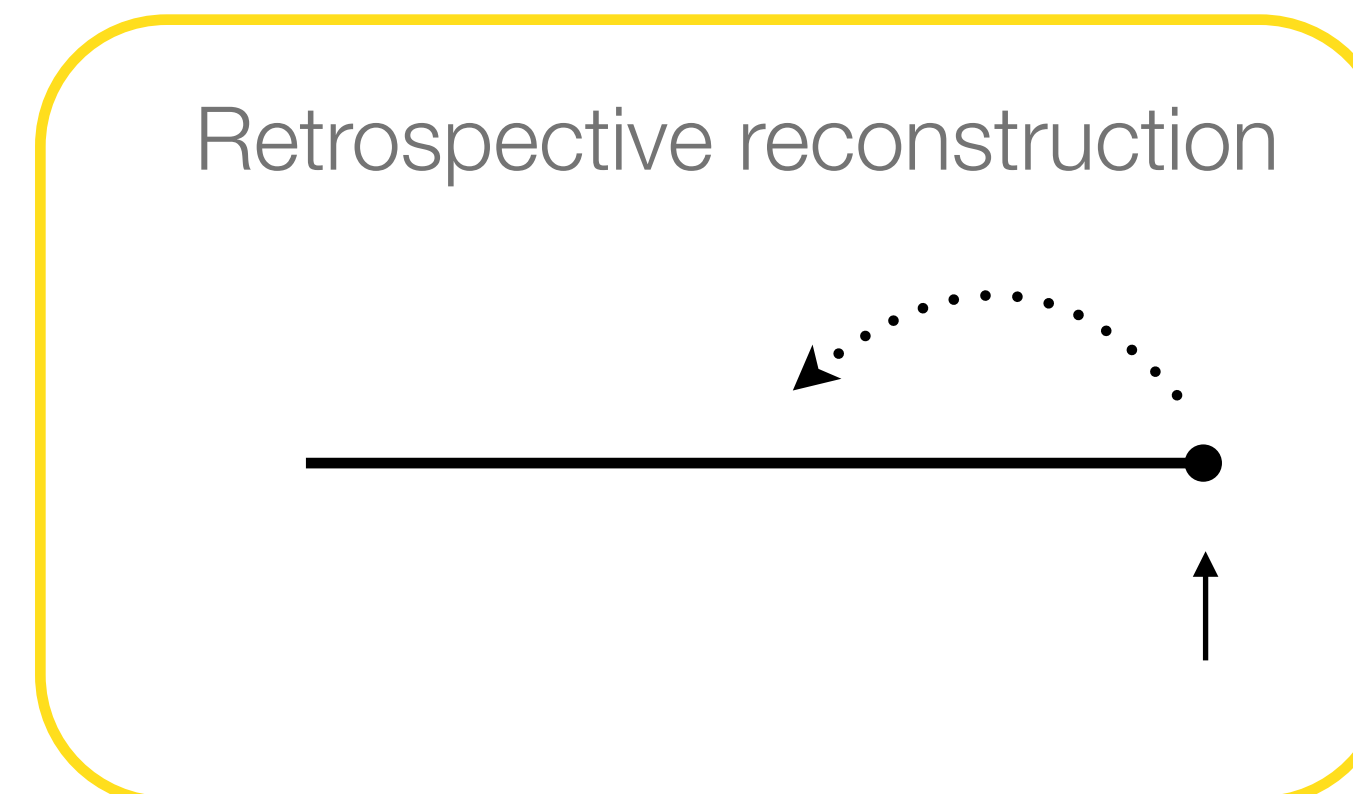
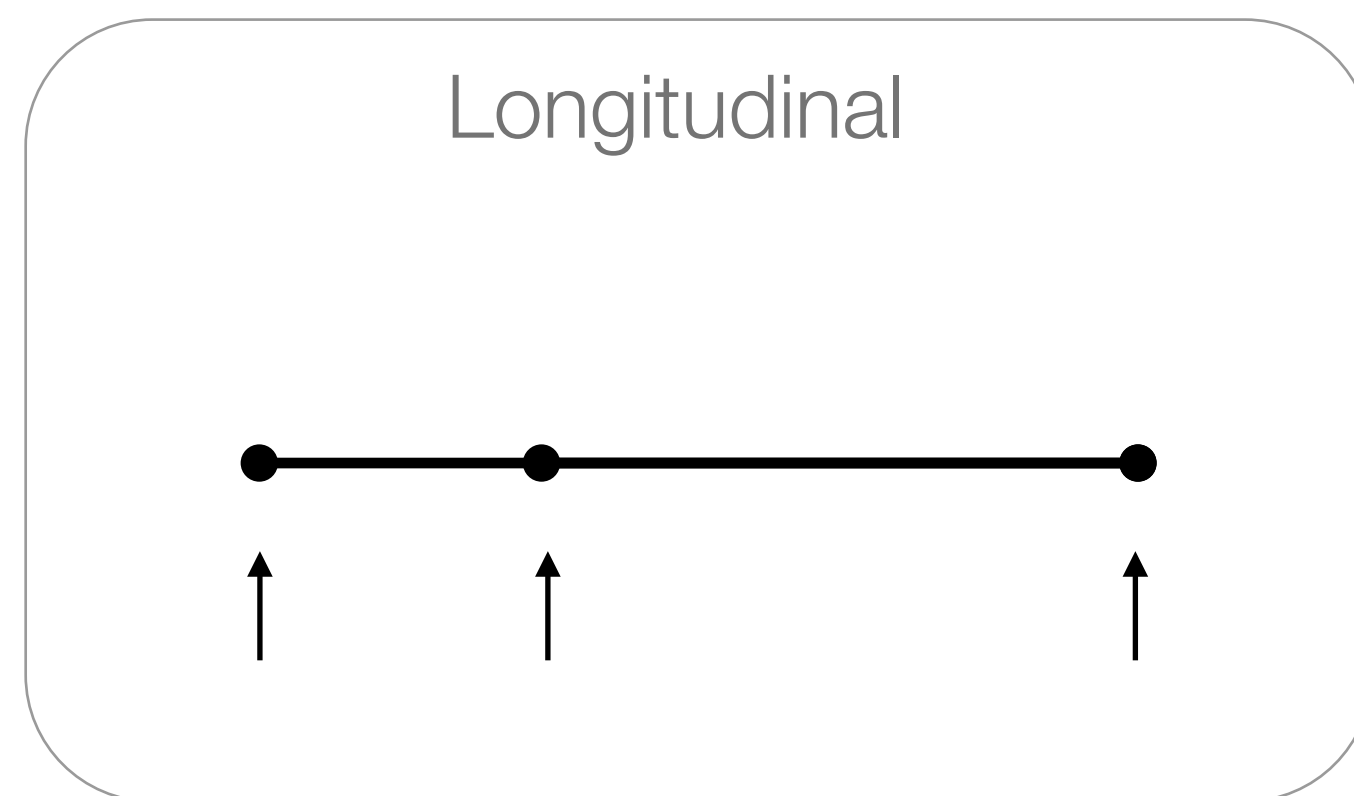
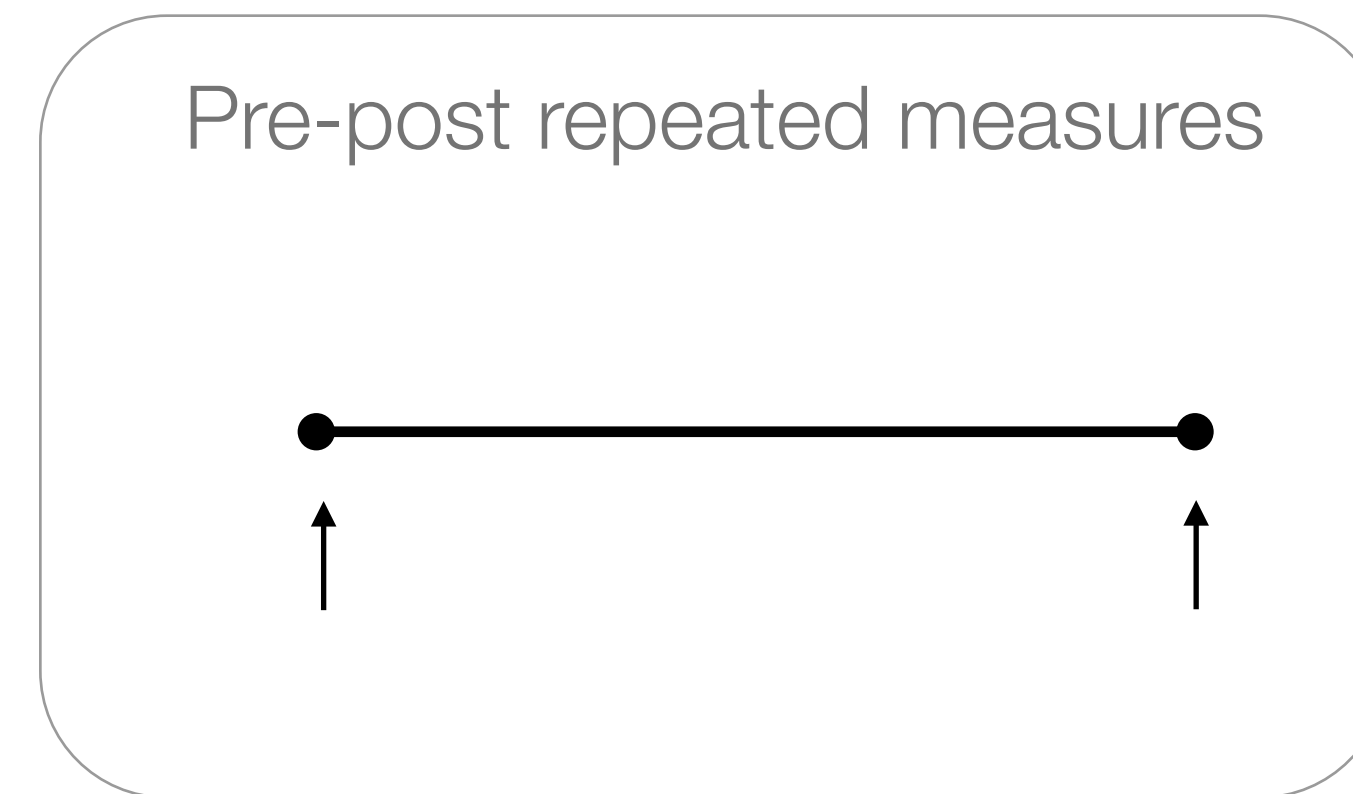
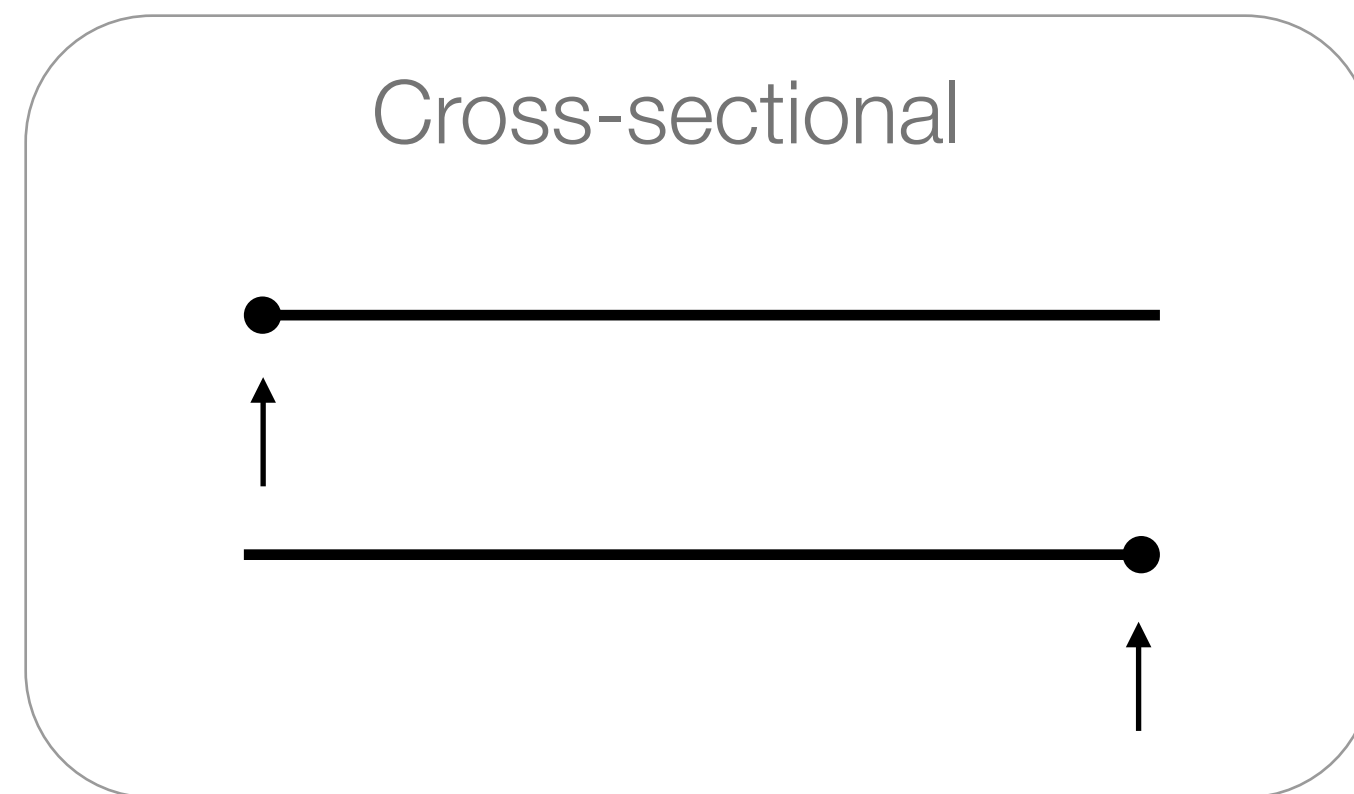
Laugwitz, B., Held, T., Schrepp, M. (2008). Construction and evaluation of a user experience questionnaire. In: Holzinger, A. (Ed.): USAB 2008, LNCS 5298, 63-76.

Retrospective UX evaluation



LONG-TERM EVALUATION PARADIGMS

Four approaches to understand UX over time



Karapanos, Martens & Hassenzahl, 2010

THEORIES OF HUMAN MEMORY

How do we reconstruct past experiences?

Bottom-up

CONSTRUCTIVE APPROACH

Reconstruction happens in a forward temporal order

Emotional experience can neither be stored nor retrieved, but can be reconstructed on the basis of recalled contextual cues

Top-down

VALUE-ACCOUNT APPROACH

People recall an overall emotional assessment of an experience, but not the exact details of the event

Reconstruction takes place in a top-down fashion



What do you remember about your last holidays?

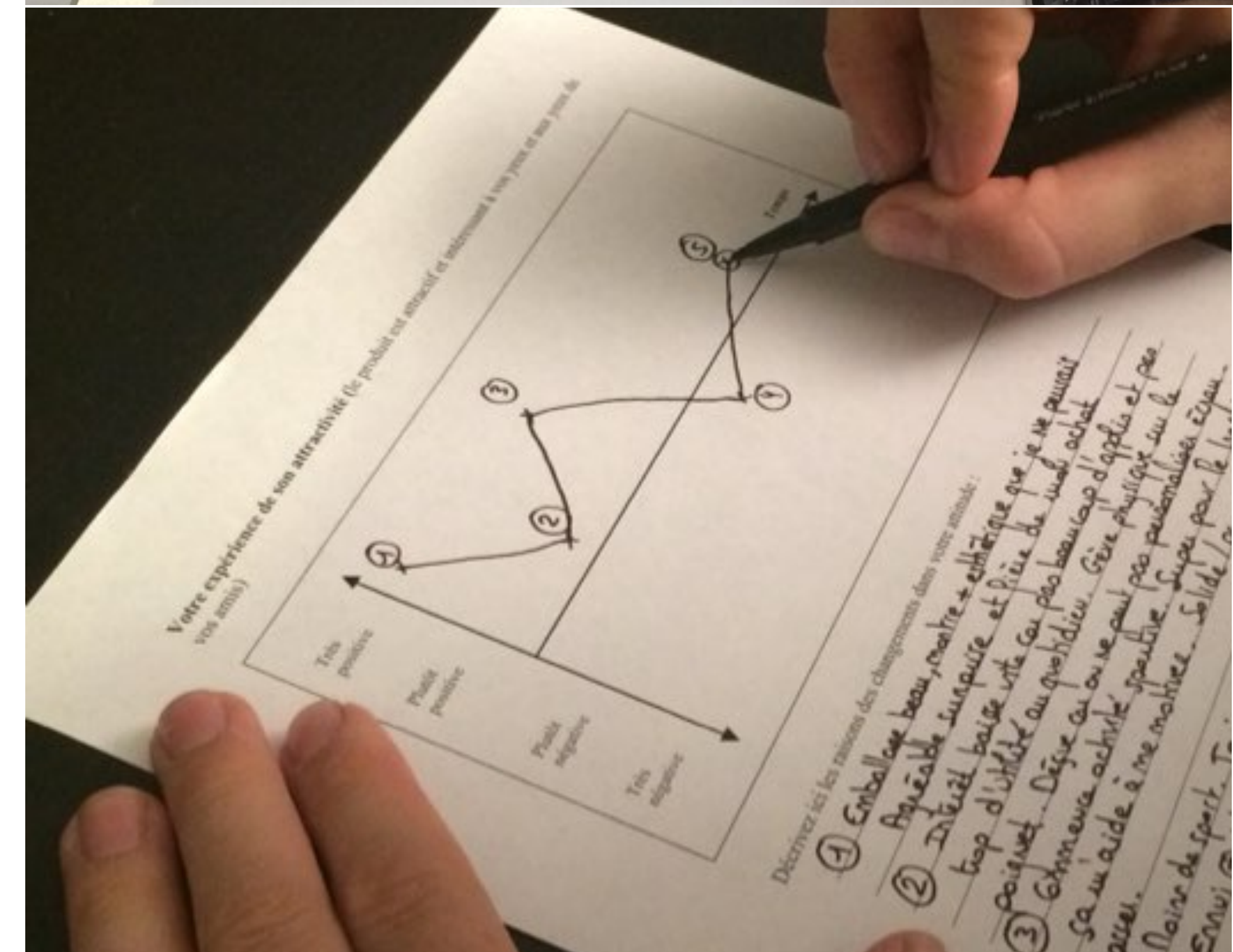
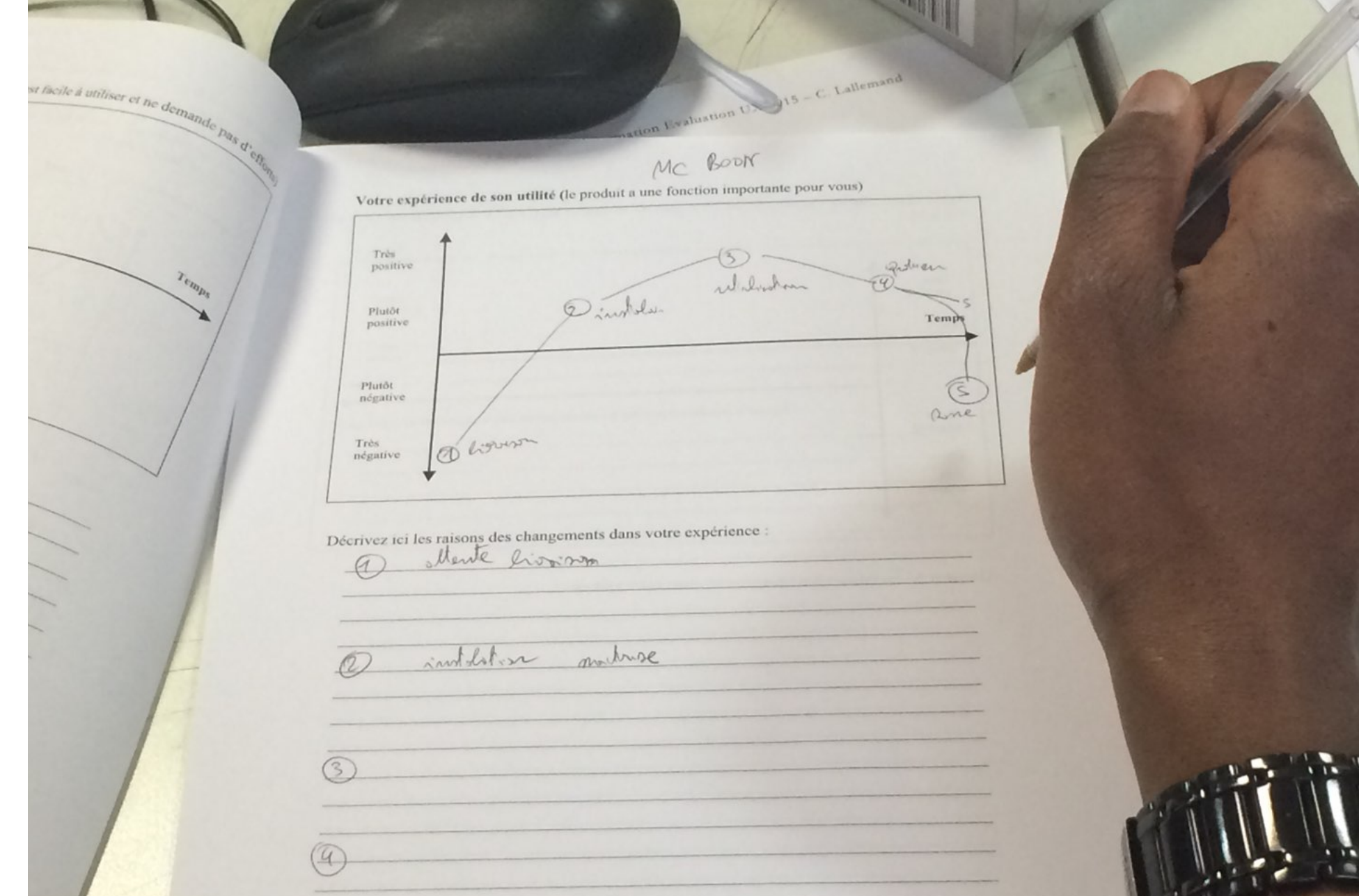
UX CURVES METHODS

Retrospective UX evaluation

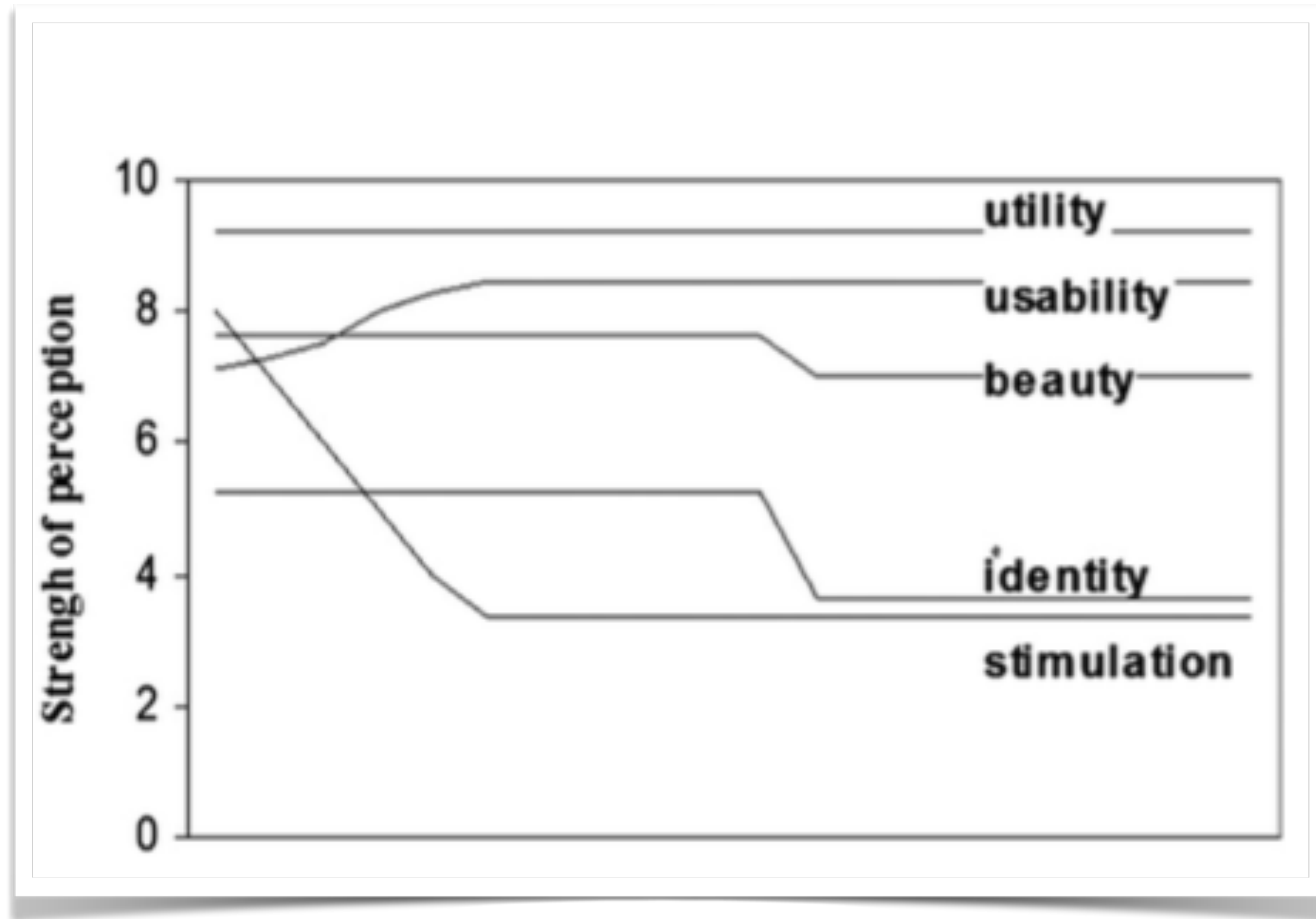
Users sketch a curve and add comments to report how their experience has changed during the time of use

The curve drawing area is formed of an horizontal timeline and a vertical line that divides positive and negative experiences.

Focus on the overall attractiveness or on specific aspects such as usability, or utility, or stimulation.



USE CASE: SMARTPHONE EXPERIENCE CURVE



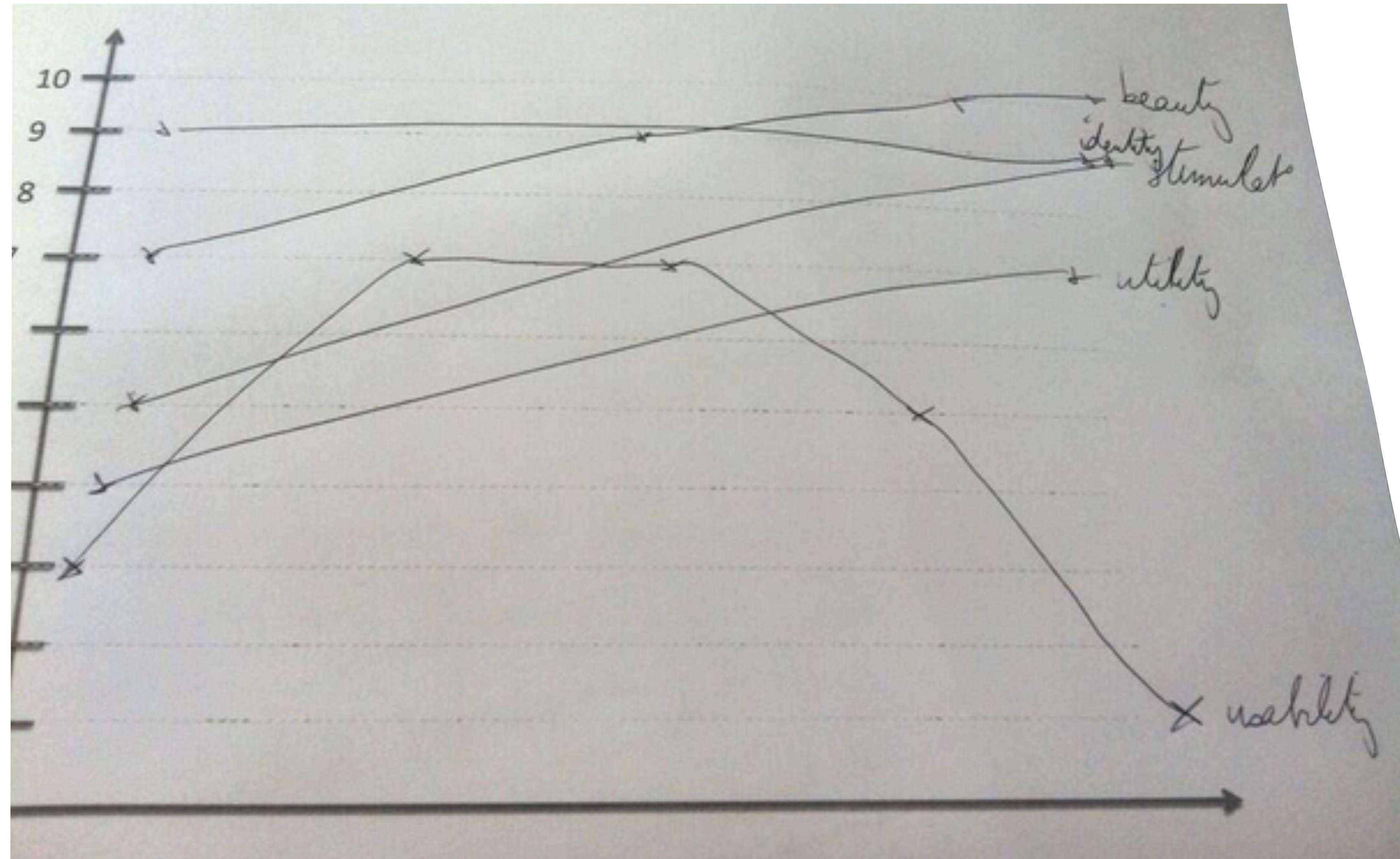
Category	Definition	Example
Familiarity	A process of getting to know the product and getting used to it.	<p>“I needed some time to orient, but after two weeks I knew how everything worked” (positive)</p> <p>“This was really fast, after some months there was nothing new to try” (negative)</p>
Comparison	Users compared their mobile phone to an other one (new, friend's phone) and devaluated it	“My boyfriend got a new one, one you can open with a click and it is more round than mine. I'd like this one more”

von Wilamowitz-Moellendorff, M., Hassenzahl, M., and Platz, A. (2006)

REAL-LIFE EXAMPLE...

This practitioner draw the UX curve of « something he has been using on a daily basis for the past 2 years... »

...his 2-years old son :D



Nabil THALMANN @nabilthalmann · 20 juin

#jtflupa mon graphe #CORPUS concernant un produit que j'utilise depuis 2 ans: mon fils-> la #usability baisse :-)

Your experience curve

Sketch a curve representing your experience as an attendee of this talk.

.....

The graph template features a vertical axis on the left with five levels of sentiment: 'very positive' (marked with a '+' in a hexagon), 'pretty positive', 'neutral', 'pretty negative', and 'very negative' (marked with a '-' in a hexagon). Horizontal dashed lines separate these levels. A solid horizontal line is drawn at the 'neutral' level. The horizontal axis is divided into five stages: 'anticipated experience', 'start of the experience', 'experience episodes', 'current feelings', and 'future expectations'. A double-headed arrow spans the 'experience episodes' stage. A pencil icon is positioned at the top right corner of the graph area.

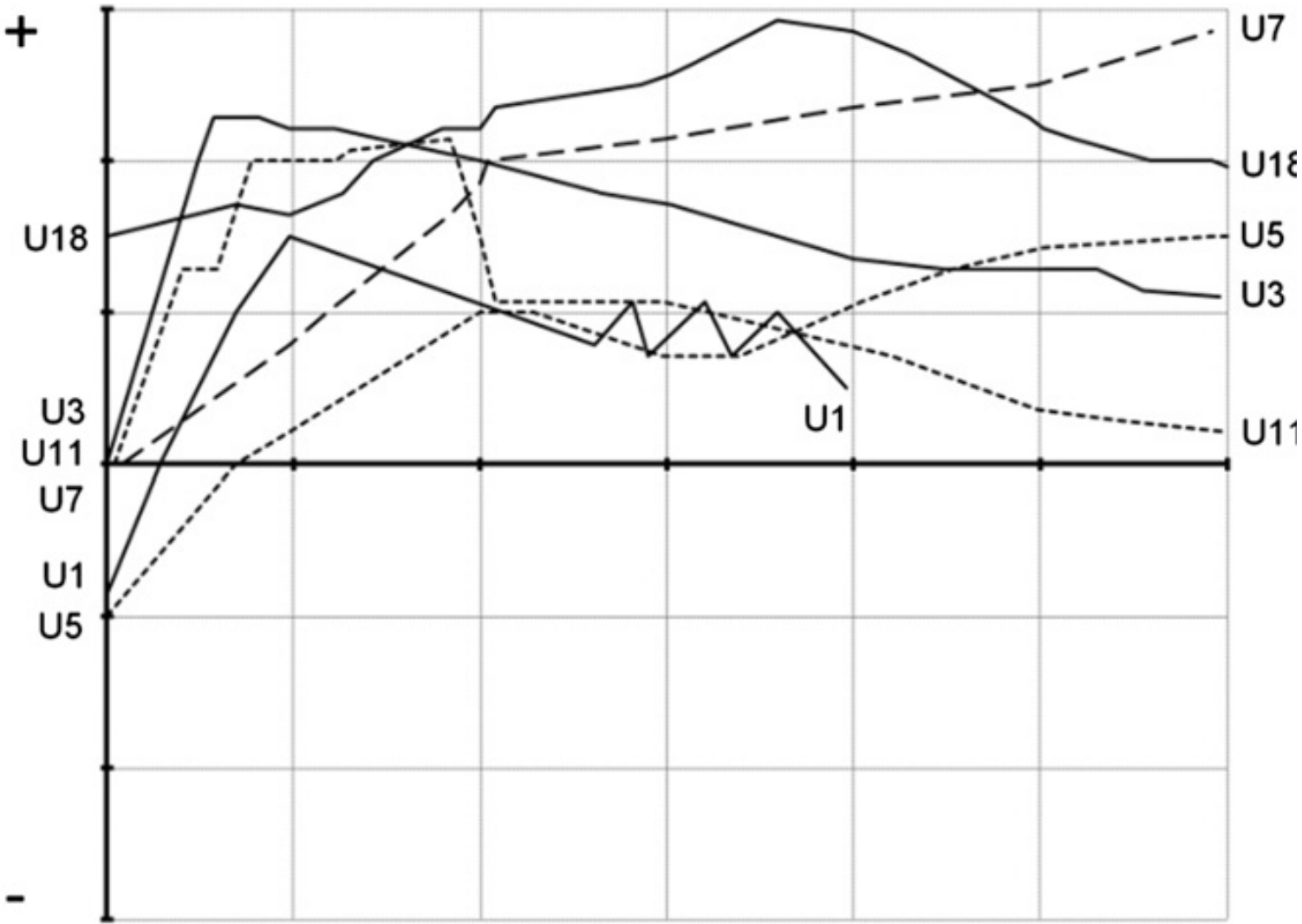


Companion booklet - p. 6-7

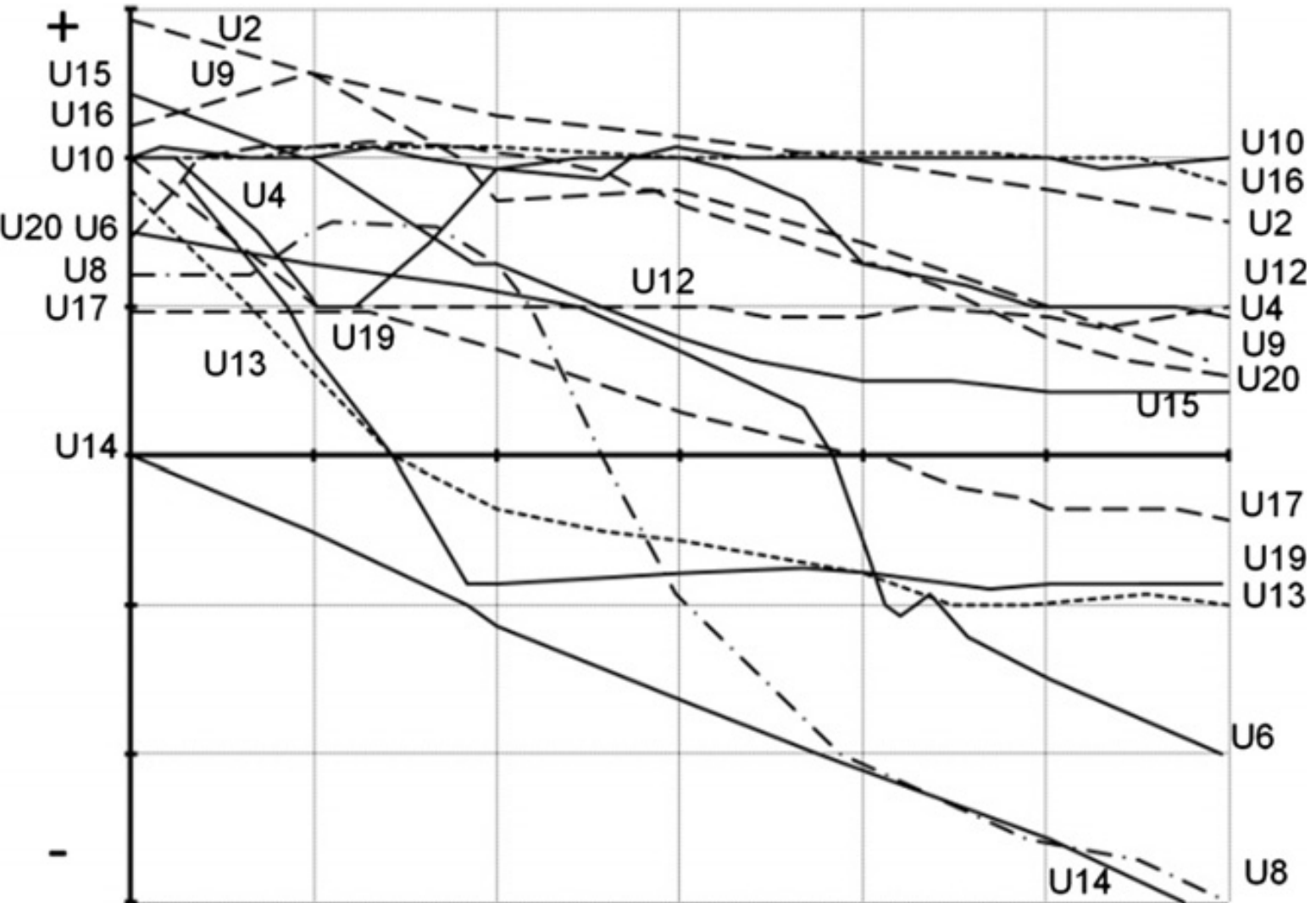
UX CURVES - DATA ANALYSIS

- UX Curves indicate trends of UX over time
- Experience narratives provide qualitative data to explain why the UX has changed over time

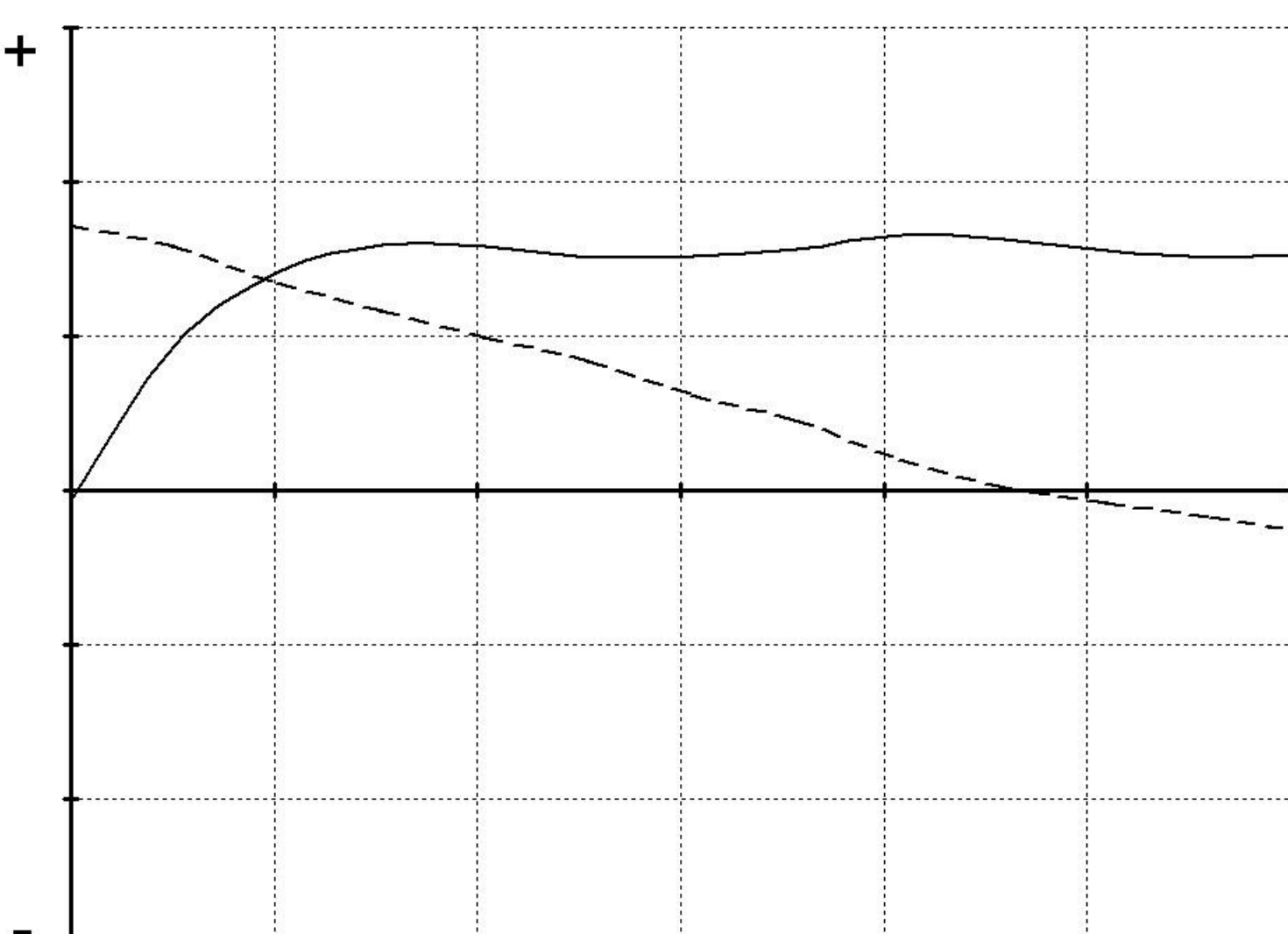
Kujala et al., 2011



Improving



Deteriorating



— Improving (N=6) -- Deteriorating (N=13)

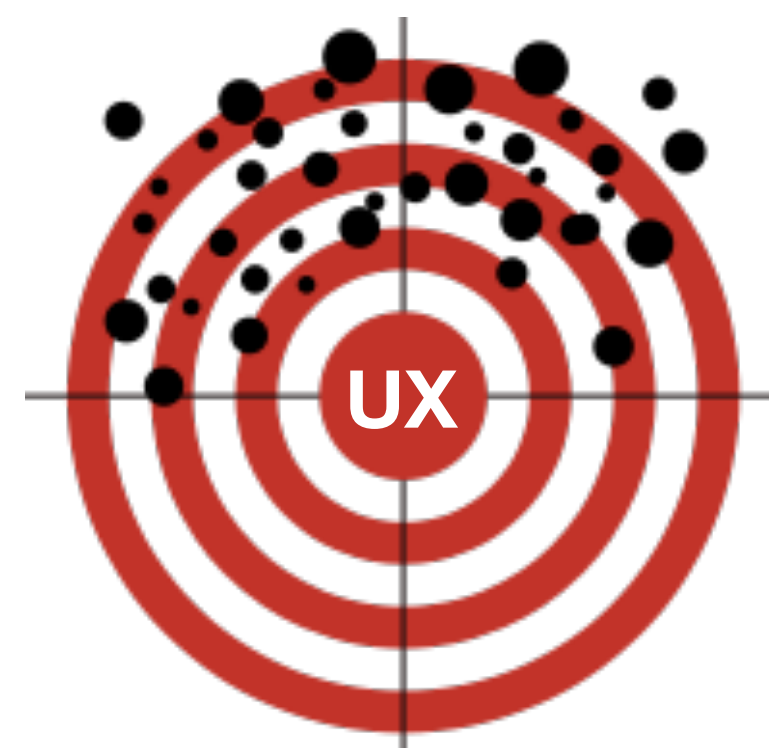
Averaged curves

HOW VALID ARE RETROSPECTIVE METHODS?

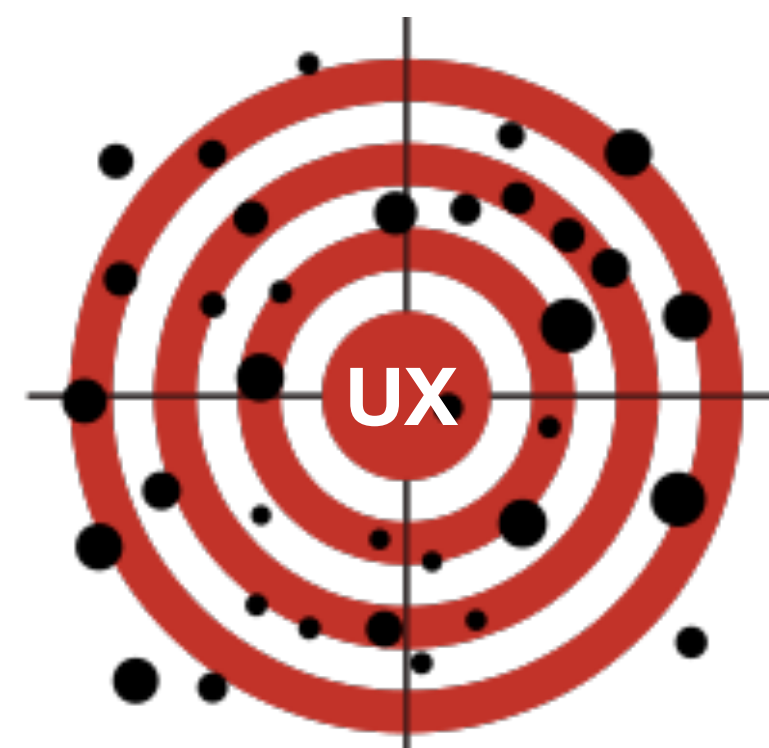
Invalid, yet reliable?

What they will tell you is biased by their memory, it is not similar to how they really felt

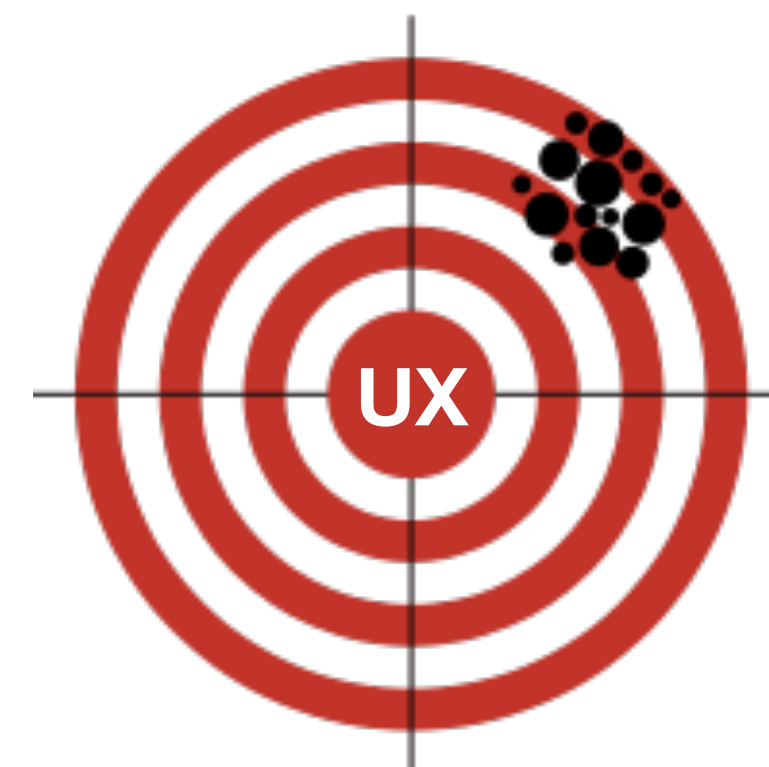
What matters is how they remember the experience with your system because they will behave on this basis.



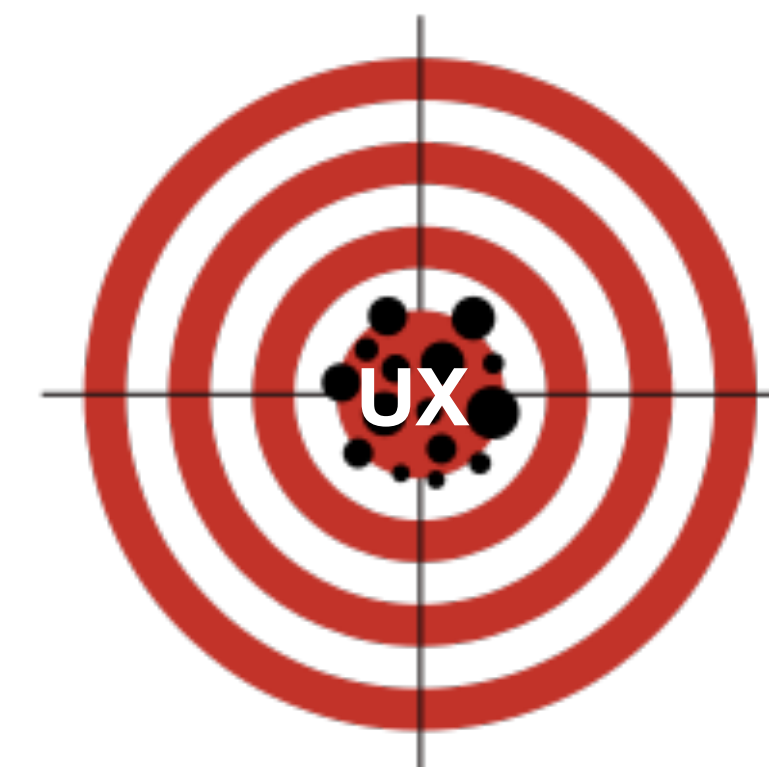
Unreliable & Invalid



Unreliable, But Valid



Reliable, Not Valid

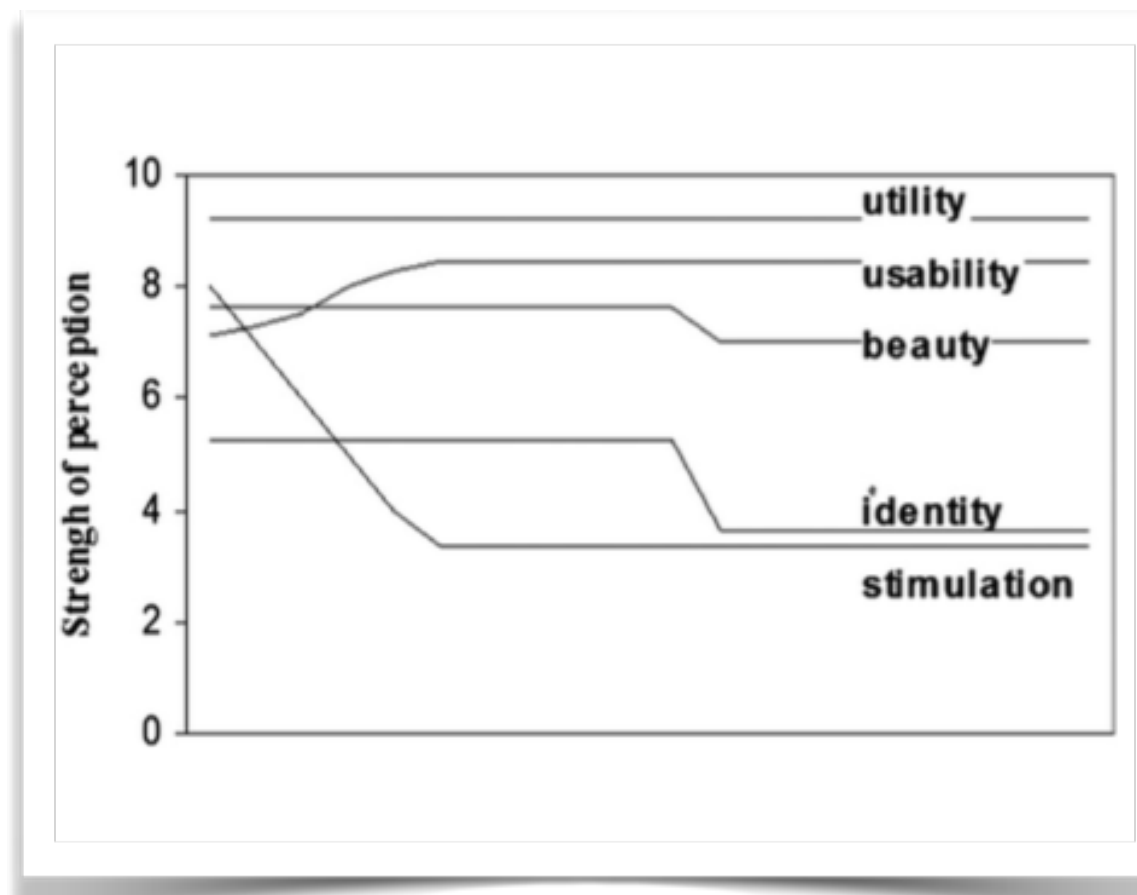


Both Reliable & Valid

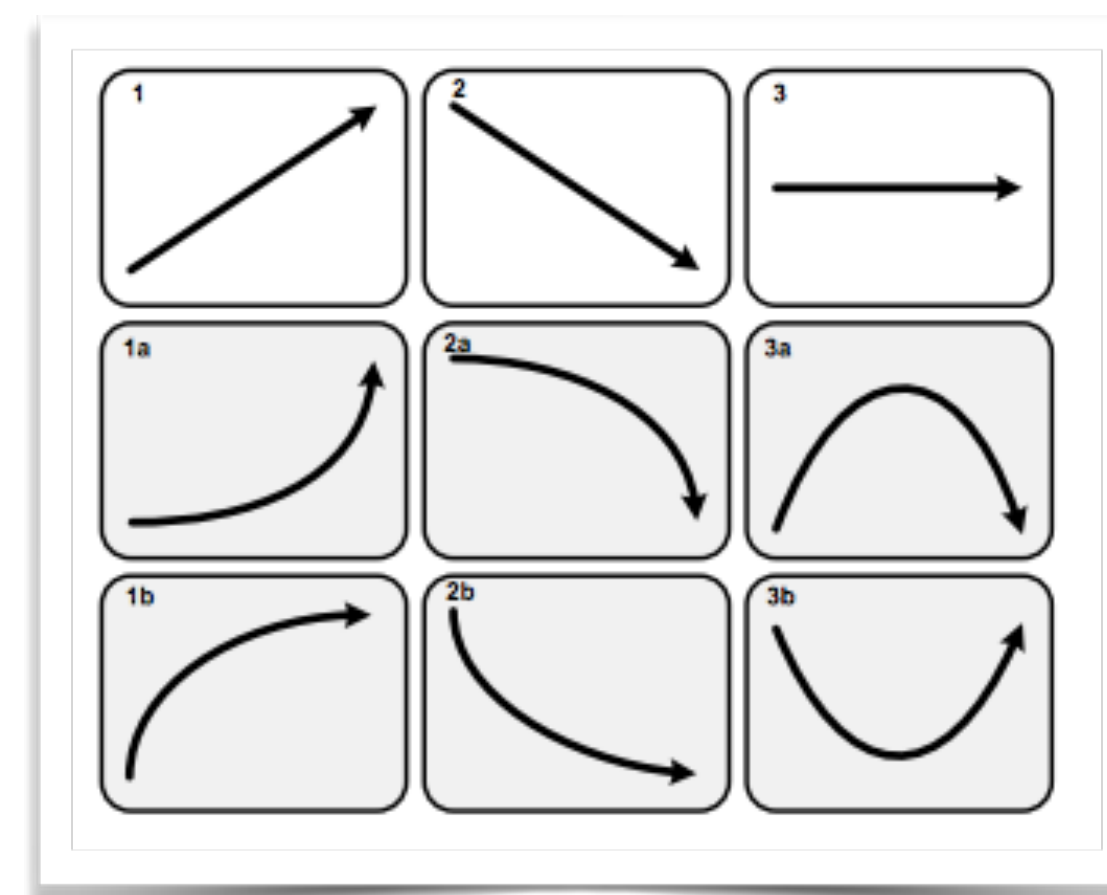
© Adam Cooper (2014)

UX CURVES

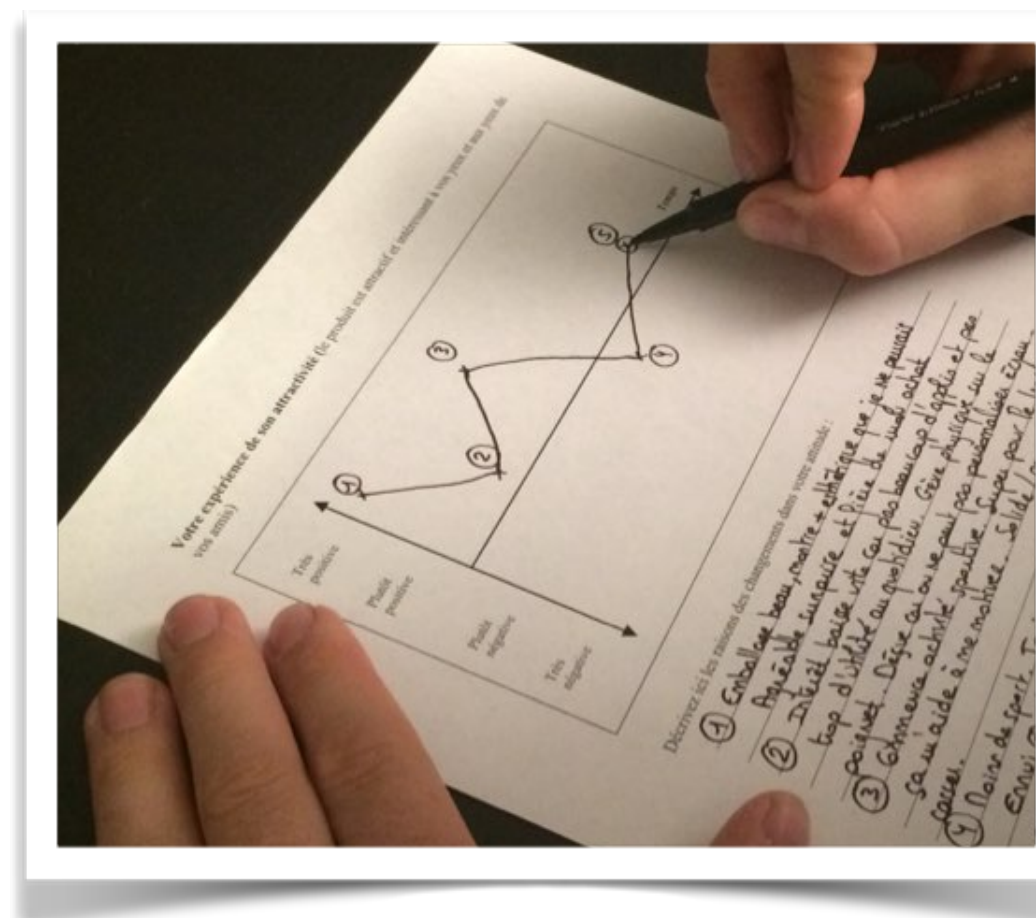
METHODS & TOOLS



CORPUS interview
(von Wilamowitz et al., 2006)



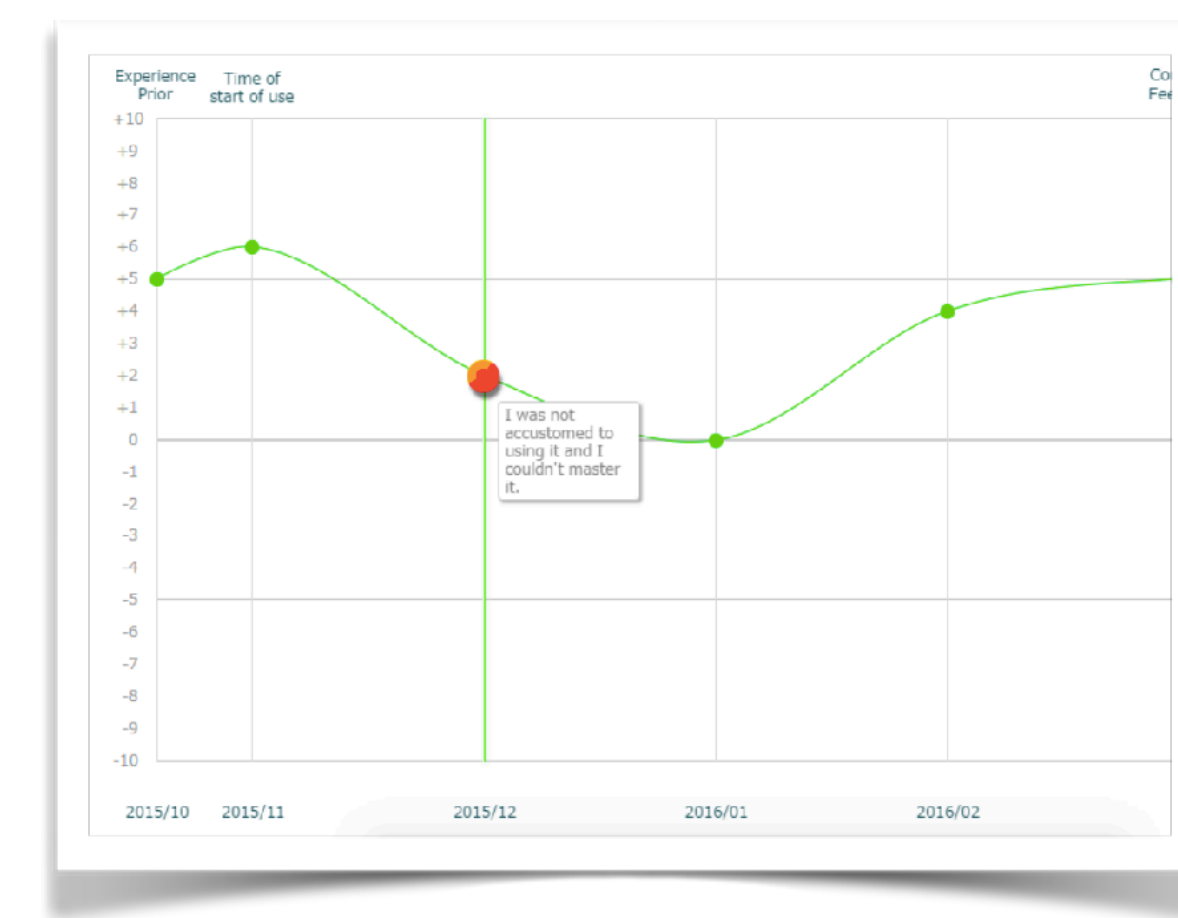
Analytic scale
(Karapanos et al., 2010)



UX Curve
(Kujala et al., 2011)



DrawUX
(Varsaluoma & Kentta, 2012)



UX Graph
(Kurosu, 2016)

What's your story?





Luxembourg, December 2010
General Assembly of FLUPA, France-Luxembourg UXPA local chapter

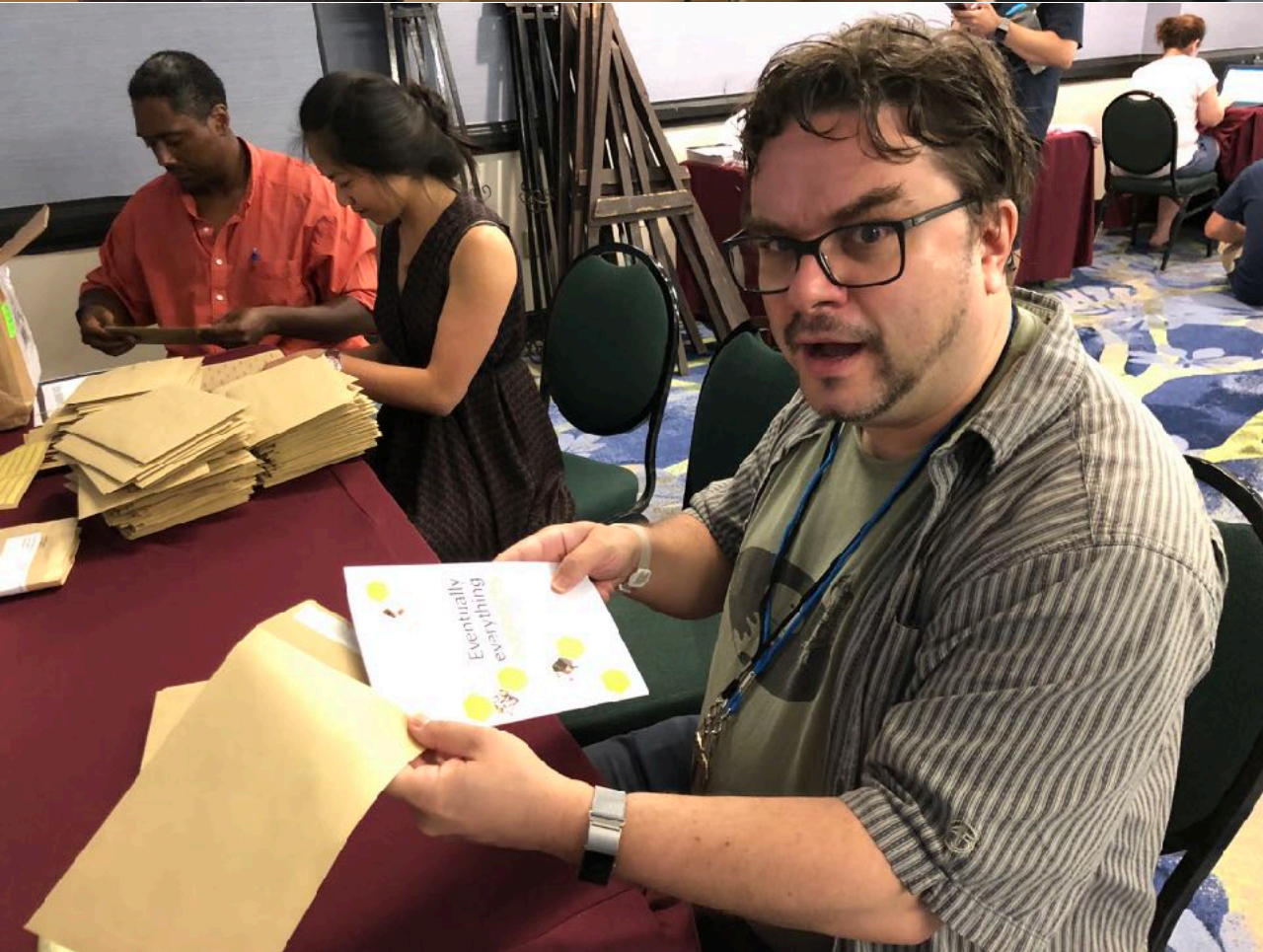


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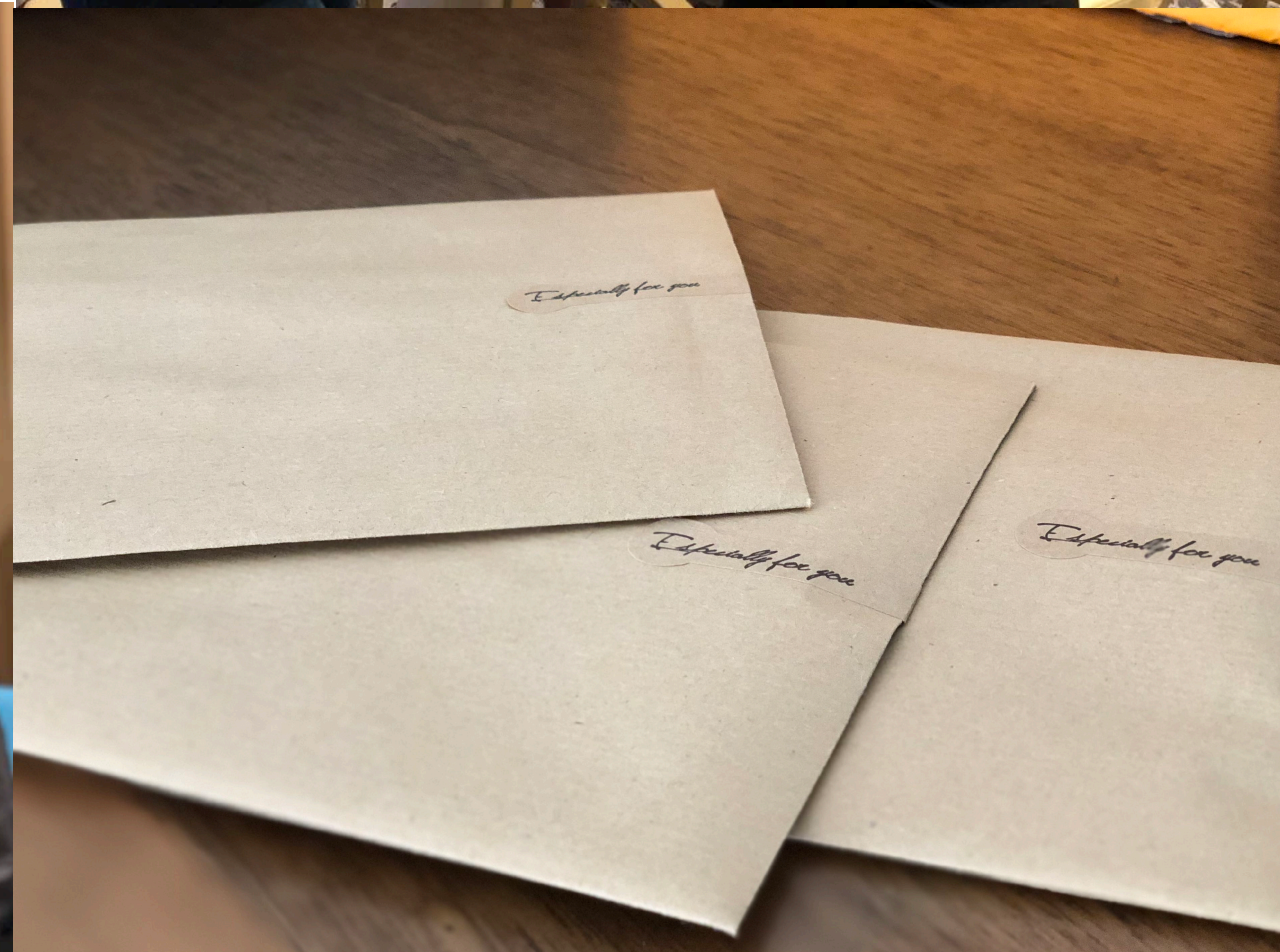


**Eventually everything connects - people, ideas, objects.
The quality of the connections is the key to quality per se.**

- Charles Eames



MERCI!



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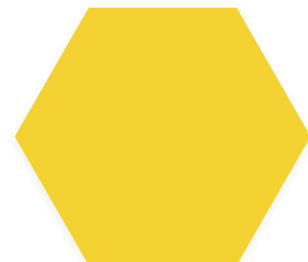
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Icons: Ebook by Laymik, Chair by Lluisa Iborra, Book by Julia Simplicio from the Noun Project



Eventually everything connects

Opening keynote
UXPA 2018
Dr Carine Lallemand
University of Luxembourg

DESIGNWEB

CARINE LALLEMAND
AVEC GUILLAUME GRONIER

PRÉFACE D'ALAIN ROBILLARD-BASTIEN



Méthodes de design UX

30 méthodes fondamentales pour
concevoir des expériences optimales

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