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 _______
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
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 _____

«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)
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

<table>
<thead>
<tr>
<th>Profile</th>
<th>Unfinished sentence</th>
<th>UX dimension</th>
</tr>
</thead>
</table>
| 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 _______”

<table>
<thead>
<tr>
<th>Valence</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negative</td>
<td>228</td>
<td>17.8 %</td>
</tr>
<tr>
<td>Positive</td>
<td>817</td>
<td>63.9 %</td>
</tr>
<tr>
<td>Neutral</td>
<td>160</td>
<td>12.5 %</td>
</tr>
<tr>
<td>Mixed</td>
<td>74</td>
<td>5.8  %</td>
</tr>
</tbody>
</table>

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
AUTONOMY / INDEPENDENCE
COMPETENCE / EFFECTIVENESS
POPULARITY / INFLUENCE
Good UX is the consequence of fulfilling fundamental psychological needs
AN EXPERIENTIAL TABLE LAMP?
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

- 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

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

Desmet, 2012
Emotional granularity is the ability to characterize one’s emotional state with specificity, using discrete emotion labels rather than referring to global feeling states.
Eventually everything connects

UXPA 2018
Dr Carine Lallemand
University of Luxembourg

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.

**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.

**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.

Yoon, Desmet, & Pohlmeyer, 2013
Use case

What is the purpose of this box?

How does it trigger an emotion of anticipation?

http://www.willodom.com
PHOTOBOX: A SLOW TECHNOLOGY

Slowing down digital photo consumption to support anticipation and reflection

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.

Odom et al. (2012)

http://www.willodom.com
Meaning - Anticipation - Thinking about the past - Reflection on one’s relationship with technology

Odom et al. (2012)
# NEGATIVE EMOTION TYPOLOGY

36 negative emotions defined and illustrated

<table>
<thead>
<tr>
<th>Personal provocation</th>
<th>Agitation</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANGER</td>
<td>ANNOYANCE</td>
</tr>
<tr>
<td>INDIGNATION</td>
<td>DISSATISFACTION</td>
</tr>
<tr>
<td>RESENTMENT</td>
<td>FRUSTRATION</td>
</tr>
<tr>
<td>Antipathy</td>
<td>Repulsion</td>
</tr>
<tr>
<td>CONTEMPT</td>
<td>DISGUST</td>
</tr>
<tr>
<td>HATE</td>
<td>BOREDOM</td>
</tr>
<tr>
<td>Misluck</td>
<td>RELUCTANCE</td>
</tr>
<tr>
<td>Misfortune</td>
<td>Unmotivation</td>
</tr>
<tr>
<td>SADNESS</td>
<td>LONELINESS</td>
</tr>
<tr>
<td>DISAPPOINTMENT</td>
<td>REJECTION</td>
</tr>
<tr>
<td>PITY</td>
<td>HUMILIATION</td>
</tr>
<tr>
<td>Painful desire</td>
<td>Self-blame</td>
</tr>
<tr>
<td>LONING</td>
<td>GUILT</td>
</tr>
<tr>
<td>ENVY</td>
<td>REGRET</td>
</tr>
<tr>
<td>JEALOUSY</td>
<td>Concrete threat</td>
</tr>
<tr>
<td>Social failing</td>
<td>FEAR</td>
</tr>
<tr>
<td>SHAME</td>
<td>STARTLE</td>
</tr>
<tr>
<td>EMBARRASSMENT</td>
<td>WORRY</td>
</tr>
<tr>
<td>Ambiguous threat</td>
<td>Doubt</td>
</tr>
<tr>
<td>Anxiety</td>
<td>NERVOUSNESS</td>
</tr>
<tr>
<td>DISTRUST</td>
<td>INSECURITY</td>
</tr>
<tr>
<td>Helplessness</td>
<td>Overwhelm</td>
</tr>
<tr>
<td>DISTRESS</td>
<td>CONFUSION</td>
</tr>
<tr>
<td>DESPERATION</td>
<td>SHOCK</td>
</tr>
</tbody>
</table>

Steven Fokkinga  [http://emotiontypology.com/](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.

<table>
<thead>
<tr>
<th>NEGATIVE EMOTION</th>
<th>BENEFIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEVROUSNESS</td>
<td>ANTICIPATION</td>
</tr>
<tr>
<td>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.</td>
<td>Knowing that something is about to happen that will either turn out good or bad can make for a very arousing waiting time.</td>
</tr>
</tbody>
</table>

LIFE EXAMPLES
Preparing to go on a blind date
Waiting the result announcements of a lottery in which you are participating
CARD SETS FOR UX RESEARCH & DESIGN

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

UX Cards - psychological needs
(Lallemand, 2015)

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

Symbolic meaning for user happiness
(Casais, Mugge, & Desmet, 2016)
UX evaluation scales
UX SCALES
STANDARDIZED QUESTIONNAIRES

AttrakDiff scale
(Hassenzahl et al., 2003)

User Experience Questionnaire
(Laugwitz et al., 2008)

meCUE questionnaire
(Minge & Riedel, 2013)
THEORETICAL MODEL

We need to assess both pragmatic and hedonic perceived qualities of a system.
User Experience Questionnaire (UEQ)

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

<table>
<thead>
<tr>
<th>not understandable</th>
<th>understandable</th>
</tr>
</thead>
<tbody>
<tr>
<td>creative</td>
<td>dull</td>
</tr>
<tr>
<td>easy to learn</td>
<td>difficult to learn</td>
</tr>
<tr>
<td>valuable</td>
<td>inferior</td>
</tr>
<tr>
<td>boring</td>
<td>exciting</td>
</tr>
<tr>
<td>not interesting</td>
<td>interesting</td>
</tr>
<tr>
<td>fast</td>
<td>slow</td>
</tr>
<tr>
<td>inventive</td>
<td>conventional</td>
</tr>
<tr>
<td>good</td>
<td>bad</td>
</tr>
<tr>
<td>complicated</td>
<td>easy</td>
</tr>
<tr>
<td>usual</td>
<td>leading edge</td>
</tr>
<tr>
<td>unpleasant</td>
<td>pleasant</td>
</tr>
<tr>
<td>motivating</td>
<td>demotivating</td>
</tr>
<tr>
<td>inefficient</td>
<td>efficient</td>
</tr>
<tr>
<td>clear</td>
<td>confusing</td>
</tr>
<tr>
<td>impractical</td>
<td>practical</td>
</tr>
<tr>
<td>organized</td>
<td>cluttered</td>
</tr>
<tr>
<td>attractive</td>
<td>unattractive</td>
</tr>
<tr>
<td>unfriendly</td>
<td>friendly</td>
</tr>
<tr>
<td>conservative</td>
<td>innovative</td>
</tr>
</tbody>
</table>


www.ueq-online.org
Retrospective UX evaluation
LONG-TERM EVALUATION PARADIGMS

Four approaches to understand UX over time

- Cross-sectional
- Pre-post repeated measures
- Longitudinal
- Retrospective reconstruction

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

<table>
<thead>
<tr>
<th>Category</th>
<th>Definition</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Familiarity</td>
<td>A process of getting to know the product and getting used to it.</td>
<td>“I needed some time to orient, but after two weeks I knew how everything worked” (positive)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“This was really fast, after some months there was nothing new to try” (negative)</td>
</tr>
<tr>
<td>Comparison</td>
<td>Users compared their mobile phone to another one (new, friend’s phone) and devaluated it</td>
<td>“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”</td>
</tr>
</tbody>
</table>
REAL-LIFE EXAMPLE...

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

...his 2-years old son :D
Sketch a curve representing your experience as an attendee of this talk.
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
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.

HOW VALID ARE RETROSPECTIVE METHODS? UNVALID, YET RELIABLE?

UX CURVES METHODS

© 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?
Bilan d'activité 2010

Assemblée générale FLUPA
14 décembre 2010
This is me :)
Eventually everything connects - people, ideas, objects. The quality of the connections is the key to quality per se.

- Charles Eames
Merci !
REFERENCES


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

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