PUR – Emotions And Usability

12th lecture

Jakub Franc
Emotional Design and Affective Response

Why emotions in design?

How does beautiful relate to usable?
Emotion

Mental state characterized by feeling
Accompanied by physiological responses
Based on temperament

Length, intensity, polarity, internal/external relation, spontaneity, non-reproducibility of experience, infectivity
Emotional Levels

Sensations
Affects
Emotions, feelings
Passions
Moods
Components of Emotions

Subjective, phenomenological
Expressive
Somatic
Primary Emotions

Fear
Anxiety
Anger
Joy
Sadness
Aversion
Surprise

Paul Ekman:
Anger
Disgust
Fear
Happiness
Sadness
Surprise
Theories of Emotions

James – Lange: Physiological
Cannon – Bard: Thalamic
Two-factor
Information theory
Facial Feedback hypothesis

We feel sad, because we cry.

William James, 1842 - 1910
Vitruvian Principles

Marcus Vitruvius Polio 70 BC – 15 BC

Firmitas

Utilitas

Venustas
Principles of Usability

ISO 9241

Efficiency

Ease of learn

Satisfaction
Accent on Usability
User Experience
Aesthetic Needs
Maslow’s Pyramid

- Spiritual Needs
- Self-Actualization
- Aesthetic Needs
- Cognitive Needs
- Ego Needs
- Social Needs
- Security Needs
- Physiological Needs
What Is Beautiful Is Good
Cognition and Emotions

Inseparable processes
First impressions appear in 300 – 600 ms

First 500ms (50ms) are critical for websites (Lindgaard et al. 2003)
- aesthetic judgements

These impression persist

Confirmed by fMRI tests
Product Personality

Shapes expectations and product perception

Customers choose products that express or extends themselves

Identity confirmation

Think about personality of your product
Product Personality and Car Industry
Product Personality in IT

Hello. I'm a Mac.
And I'm a PC.
Visual appearance of a website is the main determinant of trust (Fogg 2002)

Distrust is one of the main blockers for online payments adoption
Aesthetic Quality and Usability

The same interfaces with higher aesthetic quality are perceived as more usable (Kurosu, Kashimura 1995; Tractinsky 2000)

Increase in performance, creativity, frustration tolerance and satisfaction in general
How to Define Beauty?

Sandro Botticelli: The Birth of Venus (1485)
Defining Beauty

Objectivist Approach

beauty is quality of an object, “beauty ideal”

Subjectivist approach

“beauty is in the eye of beholder”

“proti gustu, žádný dišputát”

Interactionist definitions
Concept of Beauty Differs among Cultures
In Time
...among Individuals
Does Beauty Consist in Simplicity?

Result of cognitive processing dynamics (Reber et al., 2004)

Fluency

Less effort

Clarity, rapidity

Prototypical versus original designs (Google, 2012)
Sketches versus Photographs

Higher recognition speed for sketches than realistic photo (M. Mills 1960)
Does Beauty “Sell”?  

People do not make optimal decisions  

Fear from spontaneous shopping decisions  

Rationalization of shopping behavior  

Beauty is difficult to be rationally processed
Beauty Dilemma

Hedonic and pragmatic objects

Pragmatic - reduction to its main function
marginalizing “soft” factors (webs are usually pragmatic)

Are websites pragmatic or hedonic?
Beauty Dilemma

Hedonic objects – luxury, vanity, waste, guilty feelings, (accepted in gifts)

Underestimating of later profits
Beauty versus Usability

Aesthetic qualities displayed instantly, usability revealed much later

Usability understood as a pragmatic factor
Effects on Shopping Behavior

Research Findings
Diefenbach, Hassenzahl (2009)

People are not willing to pay more for beauty

People are willing to pay more for usability

People are not willing to compromise on usability because of beauty

Choice of beautiful object justified by pragmatic reasons
Employing this Knowledge in Design

Beautiful products are wanted, but not easy to sell

Address both rational and affective motives

Opportunity for creating emotional attachment
Employing this Knowledge in Design

Ideal steps

1. Attract

2. Provide rational reasons for purchase

3. Keep fulfilling both hedonic and pragmatic needs
How Not to Learn about Aesthetic Qualities

People behave soberly, rationally in test situations

Successful completion of the test task is not enough

Aesthetic needs are not directly expressed

Rationalization covers real motives
Main Emotional Topics (according to HFI)

Fear
Food
Sex
Child protection
Designing for Emotions in “Global Village”

Basic Human needs and basic emotions are innate (Matsumuto, 2008)

Stimuli interpretation might differ

Specific cultural context plays role (life styles, norms, symbols)

Cultural cognitive style
Rating Scales

BERT

Semantic differential (Ch. E. Osgood)

Semantic profiles for students with (●) and without (■) prior work experience.
# Microsoft Reaction Cards

The complete set of 118 Product Reaction Cards

<table>
<thead>
<tr>
<th>Accessible</th>
<th>Creative</th>
<th>Fast</th>
<th>Meaningful</th>
<th>Slow</th>
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<tbody>
<tr>
<td>Advanced</td>
<td>Customizable</td>
<td>Flexible</td>
<td>Motivating</td>
<td>Sophisticated</td>
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<tr>
<td>Annoying</td>
<td>Cutting edge</td>
<td>Fragile</td>
<td>Not Secure</td>
<td>Stable</td>
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<td>Appealing</td>
<td>Dated</td>
<td>Fresh</td>
<td>Not Valuable</td>
<td>Sterile</td>
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<td>Desirable</td>
<td>Friendly</td>
<td>Novel</td>
<td>Stimulating</td>
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<td>Difficult</td>
<td>Frustrating</td>
<td>Old</td>
<td>Straight Forward</td>
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<tr>
<td>Boring</td>
<td>Disconnected</td>
<td>Fun</td>
<td>Optimistic</td>
<td>Stressful</td>
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<tr>
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<td>Disruptive</td>
<td>Gets in the way</td>
<td>Ordinary</td>
<td>Time-consuming</td>
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<td>Busy</td>
<td>Distracting</td>
<td>Hard to Use</td>
<td>Organized</td>
<td>Time-Saving</td>
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<td>Calm</td>
<td>Dull</td>
<td>Helpful</td>
<td>Overbearing</td>
<td>Too Technical</td>
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<td>Clean</td>
<td>Easy to use</td>
<td>High quality</td>
<td>Overwhelming</td>
<td>Trustworthy</td>
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<td>Clear</td>
<td>Effective</td>
<td>Impersonal</td>
<td>Patronizing</td>
<td>Unapproachable</td>
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<td>Collaborative</td>
<td>Efficient</td>
<td>Impressive</td>
<td>Personal</td>
<td>Unattractive</td>
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<td>Comfortable</td>
<td>Effortless</td>
<td>Incomprehensible</td>
<td>Poor quality</td>
<td>Uncontrollable</td>
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<td>Compatible</td>
<td>Empowering</td>
<td>Inconsistent</td>
<td>Powerful</td>
<td>Unconventional</td>
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<td>Compelling</td>
<td>Energetic</td>
<td>Ineffective</td>
<td>Predictable</td>
<td>Understandable</td>
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<td>Complex</td>
<td>Engaging</td>
<td>Innovative</td>
<td>Professional</td>
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<td>Expected</td>
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<td>Secure</td>
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<td>Convenient</td>
<td>Familiar</td>
<td>Low Maintenance</td>
<td>Simplistic</td>
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Projective Techniques
What to Take Away

Practice multi-disciplinary approach

Learn about preferences of your users

Count on aesthetic qualities as on the pragmatic, find equilibrium

Communicate usability of your product

Be good friends with great visual designers
Resources

http://uxpamagazine.org/measuring-emotions/
Thank for your attention

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