Understanding touch screen mobile phone users by Taxonomy of Experience (ToE)

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What is User Experience?

‘Every product that is used by someone has a user experience’

Garrett (2003, p.10)
Feel a product

Opening

Using

Closing

Good

Bad

Holding

Difficult

Easy

Looking

Pleasure

Satisfaction

Heard

User experience
It is tangible,
Happening all the time,
Cannot be designed,
Tricky to capture & share
About the research study

- Categorise users by different operational behaviour with the mobile phone interface

- Establish the guideline for customising the mobile phone users based on the user’s interaction with the mobile phone
user experience is beyond usefulness and usability of a product

it might be affected by the user’s internal state, the context and perceptions of the product

it is subjective, highly situated and dynamic in nature

The importance of experiencing a product is ‘the entire experience, from when I first hear about the product, to purchasing it, to opening the box, to getting it running, to getting service, to maintaining it, to upgrading it’

Norman, 2000
User experience of users’ interactions with technology is composed by the experiential, emotion and affect, and it is beyond the instrumental.

Hassenzahl and Tractinsky (2006)
The problem in evaluating user experience

- Experimental pilots (Isomursu, 2008) user’s attitudes and expectations

- Emotion (Hole & Williams, 2008) emotion sampling

- Concept of the object (al-Azzawi, Frohlich & Wilson, 2008) multiple card sorting

- Judgment of the product (Karapanos & Martens, 2008) repertory grids

Diary, focus groups, surveys, competitive analysis…and so forth

Whilst researchers attempt to transform UX to quantitative data, ToE-SEEing, uncover an understanding of the UX through qualitative analysis.
• Introduce the methodology of Taxonomy of Experience (ToE) & its analysis process of SEEing

• Apply ToE-SEEing to understand user experience of operating touch screen mobile phones and the priority of the using experiences
Taxonomy of Experience (ToE)

Definition of taxonomy: the science or technique of classification
Taxonomy of Experience: categorise experiences into themes

- to understand the user’s experience with a product via analysis of their verbal commentary to find the deep meanings

- based on philosophy, methodology and design theory

- to understand an experience by four aspects

\[ \text{Temporality (time)} \quad \text{Spatiality (lived space)} \]
\[ \text{Relationality (relationship to others)} \quad \text{Corporeality (body, physicality)} \]

Experiential event

- Cognition (thinking & acting)
- Sensorial (five senses)
- Affect (emotions, feelings)
SEEing is the analytic process of ToE

the term ‘SEEing’ attempts to differentiate from the processes of thinking, but still associates with the thinking processes

uncover an understanding of the user’s experience through qualitative analysis
Experimental Design
Experimental design

**Task:** 5 minutes free trial, use the phone as they wanted

**Participants:** Twelve participants were recruited from Brunel University
   6 currently use a touch screen mobile phone
   6 currently use a 12 keypad mobile phone

**Instrument:** Vodafone 541
ToE-SEEing process

Step 1: Gathering data and establishing structures
Step 2: Descriptive narratives
Step 3: Sorting fragments into themes
Step 4: Developing meaning(s)
Step 5: Essential elements
Step 6: Super-ordinary elements
Step 7: Weighting of super-ordinary elements
Step 8: Super-ordinary summary words
Step 9: Summary word descriptions
Step 1: Gathering data and establishing structures
- researchers have to immerse themselves in the experience completely
- collect the information for writing the descriptions for later steps (e.g. images, sounds, samples)

Step 2: Descriptive narratives
- transform the data collected in Step 1 into a textual format for analysis
Step 3: Sorting fragments into themes

- Meta-themes (higher level theme configurations)
- Sub-themes
### Step 3: Sorting fragments into themes

- **Meta-themes**
  (higher level theme configurations)

- **Sub-themes**

```excel
<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Step 1: GTK</td>
<td>Step 2: Data gathering</td>
<td><strong>Step 3: ToE Meta-Themes / Sub-themes / themes</strong></td>
</tr>
<tr>
<td>3</td>
<td>THE BODY-SOMATIC EXPERIENCE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>sensorial</td>
<td>sound</td>
<td></td>
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<tr>
<td>5</td>
<td>touch/feel</td>
<td>sight</td>
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<tr>
<td>6</td>
<td>smell</td>
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<tr>
<td>7</td>
<td>comfort (ergonomics)</td>
<td>appearance (aesthetics)</td>
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<tr>
<td>8</td>
<td>positive emotions</td>
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<tr>
<td>9</td>
<td>negative emotions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>THE HEART-AFFECTIVE EXPERIENCE</td>
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<tr>
<td>11</td>
<td>OUT THERE-CONTEXTUAL EXPERIENCE</td>
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<td>12</td>
<td>EXISTENTIAL FACTORS</td>
<td></td>
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<tr>
<td>13</td>
<td>CORPORATE, ECONOMIC FACTORS</td>
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<tr>
<td>14</td>
<td>OTHERS</td>
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</table>
```

- **THE BODY-SOMATIC EXPERIENCE**
- **THE HEART-AFFECTIVE EXPERIENCE**
- **OUT THERE-CONTEXTUAL EXPERIENCE**
- **EXISTENTIAL FACTORS**
- **CORPORATE, ECONOMIC FACTORS**
- **OTHERS**
Step 4: Developing meaning(s)

- to find the deeper meanings behind the fragment
- to ‘tease out’ the text into different meanings
- to accept all ‘possible’ meanings that are contained within the fragment
Step 5: Essential elements

- to filter out the less important meanings
- if the element is essential to the experience, or the experience might be different without the element
Step 6: Super-ordinary elements

- to distil the super-ordinary essence of the experience, i.e. the unexpected, novel and hidden aspects of the experience

- to isolate those elements of the experience that might not have been seen as an important part of the original design

- this process searches for the surprising elements, the unintended impacts of the experience.
### Step 7: Weighting of super-ordinary elements

To weight which super-ordinary elements are more ‘powerful’ of the essential elements of the experience by Likert rating 1-7
Step 8: Super-ordinary summary words

- to use word metaphors to synthesise ‘what is the collective meaning behind these elements’?

For example:
The super-ordinary element of ‘no risk means no fun’, could essentially be a statement about ‘freedom to enjoy danger’
Step 9: Summary word descriptions

- to summarise Steps 6-8
- to present the understanding of the experience to someone who does not understand the meaning of the super-ordinary words by 1-2 narrative paragraphs
elements of user experience with Vodafone 541

**Understanding—from the head**

Users expected to understand how to operate the phone before using it
- show instructions
- demonstrate the phone

Others: comfortable, intimacy and so forth.
Result

elements of user experience with Vodafone 541

**Experienced and familiar-from daily life and history**
Users compared the phone with previous experience
- same way as using computer
- detect mistake & help

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**Freedom-from the operation**

Small size, cross functions without starting from the main menu

**Specific-from the physical**

Information from the physical phone; different position might only for operating specific tasks

**Share-from the data & mind**

Link to the internet affect users’ pleasure to share information
- easy to carry with
- show off the phone

Others: comfortable, intimacy and so forth.
• ToE-SEEING helps this study to discover users’ experience step by step whether the experience comes from history or was produced whilst using the object;

• The elements of this study not only reflect the user’s expectation of the product, but also highlight the components that the user cares about most; such as: instructions on the phone, able to dominate the phone, size of the phone, share life with friends and so forth.

• The elements expose the lack of the interface design;

• ToE-SEEing helps to improve design guidelines;

• Understanding user experience should take place before conducting DESIGN
Thanks for your attention

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any questions?