Course Cognition and Emotion 2017-2018

Bachelor Information Science, Utrecht University

Assignment 1: Emotions in HCI

Practical
- work in pairs
- the complete report will be 4-6 pages long
- use the literature for week 1 and 2
- send your results before Saturday midnight 25/11/2016 23:59 PM, by mail to IKUCognEmo@gmail.com
- include in the subject of your e-mail the assignment number and the first name of your student assistant (e.g. Assignment 1 - Joey)
- include your names and student numbers in the document and in the e-mail itself.

Introduction
In this assignment you are challenged to investigate different viewpoints on the role of emotions in the use of technology and in human computer interaction. We first ask you to evaluate a personal experience with technology that involves an emotional response, and that had an effect on your interaction with that device or application (user viewpoint). Secondly, you will identify and critique applications in which emotions and cognition play a role in their design; e.g. web/mobile applications, (serious) games, virtual reality applications, social robots, smart objects, smart home, smart cars (developer/designer viewpoint).

You will work in pairs; each of you will make one description and review the description of your team member; so together you will send two descriptions for each part of the assignment (at least 1 page for each application, 4-6 pages in total).

Part 1
The first part of the assignment requires you to identify a personal experience with technology that involves an emotional response, and that had an effect on your interaction with that device or application. You will describe the experience, the effect, and relate it to the literature of week 1 and 2 of this course (Lecture 1 and 2).

For instance, you may have experienced:
- frustration during the use of an application because it did not respond as expected; as a result you stopped using the application after a few more attempts;
- enjoyment using an app that keeps track of your workouts, because it gave you very encouraging feedback; and you were motivated to train even harder that week;
- a sense of urgency when you visited a flight ticket booking site because the site kept warning you that only two seats still available for this low price; and perhaps because of that feeling you booked the tickets;
- anger because you were confused by information on a web shop; and you realized too late that the product you ordered would not be dispatched to you immediately but after 14 days. You decide never to buy from this shop again.

Individuals may experience many other emotions (surprise, confusion, boredom, etc.) when using an application or a device. Take some time to think about the experience and response you want to describe.
For each description, use the provided template below.

1. **The emotion:** Describe an emotional reaction you remember vividly during the use of an application or device, as accurately as you can. How long did you experience this emotion? Did you experience any physiological reactions?

2. **The application/device:** Describe the application or device, its goals, and the exact moment you experienced the emotion, and the reason for your reaction; include one or more screenshots or photos that illustrate the application or device, and the trigger.

3. **Effect on interaction or behavior:** What was the effect of this reaction on your interaction with the application or device, or your behaviour? For example:
   - Did you stop using the application, or did the application influence your use of the application?
   - Did the experience influence your decisions, your behaviour in relation to the purpose of the application or the device (for instance your buying behaviour); or have another effect on your behaviour in daily life?
   - Did the application in any way acknowledge these emotions; in other words, is the application designed to respond to users’ emotions? Example: applications may provide supportive texts when a user hits the return key a couple of times without input, indicating frustration.

4. **Relate the experience to the literature on this topic:** Find evidence for your experience in the literature from the first two weeks regarding the origin of your experience and the effect on your behaviour. You are encouraged to use other literature; this contributes to a higher grade.

5. **Personal or common reactions:** Do you think your reaction was related to your personal preferences and experiences, or that other users would have the same reaction? Explain.

6. **Review:** Ask the other student in your team to review your case. Is the example presented clearly? React especially to 5, Personal or common, general response. Would (s)he have the same response; can (s)he relate to this experience, or is it very personal? Explain.

**Part 2**

The goal of this exercise is to broaden your view on the types of applications that are designed to take into account cognitive and emotional processes; i.e. their objective could either be to recognize and respond to user emotions, to influence users’ emotional response or to increase their effectiveness of doing a task (i.e. an application that automatically measures the facial expressions from a webcam for understanding consumer behaviors while watching commercials, a robot that provides personalized learning for children)

Inspired by the examples of applications provided during the lectures (in particular lecture 3), identify two examples of existing applications. Please refer clearly where you found these applications (provide link, conference/journal paper, website, video) and provide an at least 1 page description for each application. They can be commercially available software and/or hardware or research prototypes.
Include a clear description of the functionality of the application with images and mention who uses this application (target group). Provide an analysis of the application discussing why you find this application interesting and how it is related with the cognitive and emotional processes.

1. What type of application is that? (web/mobile application, (serious) game, virtual reality application, robot, smart object, smart home, smart car etc.) How important/impactful is it?
2. What does the application do? How does it work? To which target user group is it useful for? How is it useful for these people? Explain.
3. How does it address the cognitive and emotional aspects? What kind of technology is used in the application to recognize emotional and cognitive states and to give feedback? What are the technological availabilities and limitations? Explain.

**Objectives of the assignment**
- encourage you to actively make the connection between cognition, emotion and HCI;
- help you gain awareness of current applications of emotion & cognition in ICT;
- help you to obtain a better understanding of the theoretical or generic concepts in the literature by applying them to a real world example, and bringing them closer to your own experience;
- help you to go through the exam literature with more focus and engagement;
- help you develop ideas towards the final project
- practice accurate writing.

**Important:**
Plagiarism is the copying of another person’s documents, ideas or lines of thought and presenting it as one’s own work; this includes copying of other students in the course. So be original in your work.

**Please see the grading rubrics in the following pages!**
**Grading rubric Part 1:**

<table>
<thead>
<tr>
<th>Assessment Criteria</th>
<th>Insufficient (1-5)</th>
<th>Sufficient (5.5 – 6.5)</th>
<th>Good (7-8)</th>
<th>Excellent (9-10)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clarity of the presentation and convincingness of the experience (steps 1-3)</td>
<td>The descriptions of the experiences are superficial and not convincing.</td>
<td>The descriptions of the experiences are OK, but not very original, and poor in detail.</td>
<td>The descriptions of the experiences are original and sufficiently detailed to be convincing.</td>
<td>Real life experiences are rich in detail and reveal unexpected and surprising events and responses. The detail and description of context specific information are indicators of authenticity.</td>
</tr>
<tr>
<td>Relation of the emotions experienced to literature (steps 4-5)</td>
<td>The relation of the experienced emotions to the literature is superficial or incorrect.</td>
<td>Literature has been used to explain the emotions, but in a simple manner.</td>
<td>The emotions are explained well using literature.</td>
<td>The students have conducted a literature search to explain the emotional reactions, beyond the course literature.</td>
</tr>
<tr>
<td>Review of the experience by the second student (step 6)</td>
<td>The review is not detailed or critical, mostly repeating the experience of the first student.</td>
<td>The review is somewhat critical, an attempt has been made to assess how common the described experience is.</td>
<td>The review is critical and detailed.</td>
<td>The review is critical, detailed, using evidence from literature or other sources.</td>
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</table>
Grading rubric Part 2:

<table>
<thead>
<tr>
<th>Assessment Criteria</th>
<th>Insufficient (1-5)</th>
<th>Sufficient (5.5 – 6.5)</th>
<th>Good (7-8)</th>
<th>Excellent (9-10)</th>
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</thead>
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<tr>
<td>Well-selected examples (step 1)</td>
<td>The examples given are very primitive and do not reflect the state-of-the-art.</td>
<td>The students provided two examples which are interesting and related.</td>
<td>The students made a good search for interesting and relevant applications with impact (e.g. from well-known technology conferences or mentioned in media)</td>
<td>The students found creative applications, out-of-the-box examples going beyond the state-of-the-art and also with impact on users and industries</td>
</tr>
<tr>
<td>A clear description of the application with good quality of text and visual materials (step 2)</td>
<td>The text provided is very low quality, not understandable, formatting is bad and with typos, the application descriptions are not clear.</td>
<td>The students provided two examples with clear description and sufficiently readable text and visual materials.</td>
<td>The students provided two examples with a very clear description supported by good quality visual materials.</td>
<td>The students provided an excellent description of the applications, very concise and to-the-point supported by good quality visual materials.</td>
</tr>
<tr>
<td>Depth of analysis on how these applications are related with the cognitive and emotional processes and how they use technology (step 3)</td>
<td>The students didn’t provide a discussion on the emotion/cognition and technology aspects or the discussion is very superficial.</td>
<td>The students provided sufficient discussion on the emotion/cognition and technology aspects. They showed clearly how affective technology is used in the design of the app supported by the literature from the lectures.</td>
<td>The students provided a very clear and in depth discussion on the emotion/cognition and technology aspects supported by the literature from the lectures and outside.</td>
<td>The students provided an excellent and in depth critical discussion on the emotion/cognition and technology aspects, supported by the literature from the lectures and external good quality references.</td>
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