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USER EXPERIENCE RESEARCH: MODELLING AND DESCRIBING THE SUBJECTIVE

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ABSTRACT

User experience research in the field of human-computer interaction tries to understand how humans experience the interaction with technological artefacts. It is a young and still emerging field that exists in an area of tension. There is no consensus on how the concept of user experience should be defined or on how it should be researched. This paper focuses on two major strands of research in the field that are competing. It tries to give an overview over both and relate them to each other.

Both start from the same premise: usability (focusing on performance) is not enough. It is only part of the interaction with technological artefacts. And further: user experience is not very different from experience in general. Then they develop quite different accounts of the concept. While one focuses more on uncovering the objective in the subjective, on the precise and the formal, the other one stresses the ambiguous, the human and suggests to live with the subjectivity that is inherent in the concept of (user) experience. One focuses more on evaluation rather than design and the other more on design than evaluation. One is a model and the other one more a framework of thought.

Both can be criticised. The model can be questioned in terms of validity and the results of the other approach do not easily generalize across contexts – the reliability can be questioned. Sometimes the need for a unified view in user experience research is emphasized. While I doubt the possibility of a unified view I think it is possible to combine the two approaches. This combination has only rarely been attempted and not been critically reflected.

KEY WORDS

human computer interaction, user experience, method comparison, overview

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INTRODUCTION

User experience (UX) research in the field of Human-Computer Interaction (HCI) tries to understand how humans experience the interaction with technological artefacts (e.g. computers, mobile phones, cameras, etc.). UX research is quite young, at most twenty years old, and moving and evolving rapidly. Therefore, most concepts including UX are not clearly defined nor agreed upon. HCI is an interdisciplinary field and benefits heavily from different views towards the problem. On the downside all the different backgrounds and vocabularies do not make progress easier.

While the lack of a unique definition for UX has sometimes been seen as deficiency [1] it enables us here to take a closer look at different views towards UX and their differences and commonalities. Let us start with a look at the past and see where the concept of UX comes from.

USABILITY – WHERE IT BEGINS

For the roots of UX we have to look at *usability*. It is a connected concept and some see it as enclosing UX while others say it is being enclosed by UX [2]. What looks like an unimportant subtlety reveals quite large differences in theoretical grounding when watching closely. ISO 9241-210 defines usability as the

> extent to which a system, product or service can be used by specified users to *achieve specified goals* with *effectiveness*, *efficiency* and *satisfaction* in a specified context of use [3; p.7] (emphasis by M. Glanznig).

I call this *Engineer's definition*. It emphasizes goal achievement and contains quantitatively measurable behavioural variables, with one exception: satisfaction. While effectiveness and efficiency are measured with error rates and task completion times satisfaction is approached with thinking aloud techniques and questionnaires. In usability engineering satisfaction was, with some exceptions, traditionally seen as a mere add-on, a nice-to-have feature, possibly because it was more difficult to measure.

Largely neglecting satisfaction became more and more unsatisfactory over time, because use of technology changed. Computers moved out of the workplace and entered the homes. Leisure usage (e.g. multimedia, games) became more important. Recently, ubiquitous computing (e.g. smartphones) added to this progress. All this contributed to a shift of focus from efficiency to satisfaction, which in turn caused the emergence of user experience as distinct concept [4, 5, 6]. Some have seen the emergence of UX as "old wine in new bottles", which in my opinion overemphasizes the utility of the satisfaction part of usability and underestimates the shift of focus that has occurred.

If we look at the definition of user experience in ISO 9241-210 we find the following:

> A person's perceptions and responses that result from the use or anticipated use of a product, system or service. [3; p.7]

While this gives us a general idea it is very vague, which continues throughout the document. The contribution of UX towards (perceived) product quality is recognized, but details are missing. For me the Engineer's definition is the old way, but this should not render usability irrelevant. It is an important, established and quite easily testable concept, which just does not tell us much about satisfaction or even experience of technology interaction. For that reason it is important that UX and usability are not being confused, which sometimes happens. Some people talk about UX but essentially mean usability, which contributed to the buzzword character of UX.

DIFFERENT VIEWS ON USER EXPERIENCE

Even when we are clear about the name of the concept there are different views on it. In UX research there is currently a vivid discussion in progress how the phenomenon should be researched. At least two movements are competing and are viewed by their proponents to be more or less opposing [2]. Sometimes the need for a unified view is expressed [2, 7, 8]. At first sight this might be beneficial, because the field would seem less confusing and efforts could be bundled. On the other hand the field would loose some of its diversity. For me the question remains open if such unified view would be possible or even desirable. To illustrate the two competing approaches let us now move to two other definitions of UX. They are by authors that assume a key position in the discussion about the direction of UX research.

> An experience is an episode, a chunk of time that one went through-with sights and sounds, feelings and thoughts, motives and actions; they are closely knitted together, **stored** in memory, **labelled**, **relived** and **communicated** to others. An experience is a **story**, emerging from the **dialogue** of a person with her or his world through **action**. *User Experience* is not much different from experience *per se* [9; p.8] (emphasis in bold by M. Glanznig).

In what I call *Psychologist's Definition* Marc Hassenzahl [9] emphasizes that an experience is a complex construct, which emerges through interacting with the world. User experience is very similar to experience in general.

> For [John] Dewey, experience is constituted by the **relationship between self and object**, where the self is always already engaged and comes to every situation with personal interests and ideologies. ... **action is situated** and creative. ... For [Mikhail] Bakhtin, the unity of felt experience and the meaning made of it are never available *a priori* but must always be accomplished **dialogically**. [10; pp.17-18] (emphasis in bold by M. Glanznig).

In what I call *Humanist's Definition* John McCarthy and Peter Wright [10] place the focus on the holistic nature of an experience and how meaning is made of it. Both definitions use overlapping vocabulary (e.g. dialogue), but they attach different meaning to it. While Hassenzahl stays heavily grounded in psychological research and its methods McCarthy & Wright take a more interpretive and qualitative approach towards user experience. We will come back to the two accounts and their differences and similarities later.

UX RESEARCH & ENGINEERING – THEORY VS. PRACTICE?

When we look at the two latter definitions of user experience and the definitions of usability and UX in ISO 9241-210 we notice that there are quite some differences between the engineer's point of view and that of UX researchers. These differences result in difficulties when engineers and UX researchers talk to each other and also when results of UX research try to influence software or systems engineering. UX researchers criticize engineering for still not looking beyond functionalism: "When the focus of a community is so tightly trained on the functionality of systems and how they can be made more accessible and usable, experience is an outsider concept" [11; p.3], "a product should not longer be seen as simply delivering a bundle of functional features and benefits" [12]. The response then may sound polemic like: "Don't have to know what it is like to be a bat to build a radar reflector" [13]. Both positions seem reasonable. Researchers worked hard to justify the claim "functionality and usability is just not enough" [12] and create what is known as user-centred design [9-11, 14]. In contrast engineering often calls for a pragmatic concept [13] that can be embraced in a cost-effective and easy way.

So far the focus has been more on the problematic relationship between user experience and usability and the debate between UX research and engineering. This enabled us to see the area of tension in which UX research as (still) emerging field finds itself. For an excellent critical analysis of empirical studies in UX that addresses these issues see [5]. For an overview of the history of HCI that also mentions these issues see [6]. Let us now move on to explore the two different strands of UX research we looked at earlier.

MODELLING USER EXPERIENCE

The psychologist Marc Hassenzahl [9] uses James Russell's account on emotional experience, hierarchical goals and related action theories to develop his own model of user experience. As stated above in his definition he views UX as not being very different from experience as such, the difference being the focus on a specific mediator of experiences (e.g. interactive products). He stays heavily grounded in psychological research and its methods. While he explicitly distinguishes himself from authors such as John McCarthy and Peter Wright [10, 11], who are proponents of a holistic and dialogical, as the author calls it – "phenomenological" [9; p.73], approach, he also hints at a possible extension with such approaches [9; p.74].

A main point of critique towards Hassenzahl's research is its reductionist nature [14] that sees the user as action/reaction system [11; p.6] while UX being a complex and possibly irreducible construct. In this vein the validity of the model is questioned. The author's argument against this kind of critique is that his research is not so much a reduction than a necessary categorization and use of well-researched (psychological) models and theories. Additionally, he suspects experiences with technology to be far less unique and variable as the critics might imply [16]. Following psychologist James Russell [15] Hassenzahl views emotional experience as consequence of self-perception and categorization and as construction of a coherent and emergent, albeit complex, narrative in dialogue with the world. The great amount of single aspects that are integrated into an experience let it appear so unique and irreducible. Emotions and experiences may not be fully explainable and predictable from single underlying elements but they are not detached from them [9; p.4].

ESSENTIAL PROPERTIES OF EXPERIENCE

Hassenzahl gives experience the following attributes: subjective, holistic, situated, dynamic and positive (in the sense of worthwhile) [9; pp.9-31]. *Subjective* [9; pp.9-11] means that experience is created and remains in the experientor's head. Objective values (e.g. task completion time) may be experienced differently (subjectively). However, this gap or mismatch can be described by rules. Therefore it is possible to shape experiences by knowing and using these rules.

Given a hierarchy of goals such as motor-goals, do-goals and be-goals (listed bottom to top), which may be "dialling in numbers", "making a telephone call" and "feeling related to others", interaction design traditionally focused only on do-goals and below (see above). The author refers to the necessary extension of HCI with the meaning providing be-goals as *holistic* [9; pp.11-16].

He also acknowledges the *situatedness* [9; pp.16-19] of single experiences – two of them are never alike. Descriptive approaches are therefore at a lost position [9; p.17]. Instead, categorization of experiences enables us to compare reality to prototypes of experiences, which is possible because accounts of particular experiences might differ, but the essence of the experience itself does not. Hassenzahl develops a form of categorization based on needs which he calls experience patterns [9; p.17, p.76]. It has been shown that needs are relatively independent

from each other and (positive) experiences are often marked by a particular need [9; p.47]. Experience patterns can be seen as a blueprint of various experiences, a condensed, idealized and optimized version.

Experiences change over time. They are *dynamic* [9; pp.19-27]. Hassenzahl sees an experience as story. It is packaged, interpreted and labelled and is an construction, but not an objective account of the experience. However, he views the actual construction as only happening once and then being remembered unaltered.

In contrast to usability engineering, which focuses on problems and their removal (the difference between a bad and acceptable experience), an experiential approach strives to make an experience *positive* (pleasurable, good) [9; pp.27-31]. "Positive experiences we went through hold more power to increase well-being than any material possession." [9; p.40]. In this remark Hassenzahl touches upon the shift towards a post-materialistic society, which also partly may explain why experience is emphasized nowadays. He also notes that need satisfaction (as motivation for an experience) is rarely an explicit goal. It is an emergent property.

THE MODEL

Hassenzahl calls his model the hedonic/pragmatic model of user experience [12, 17]. It has two different quality dimensions: *pragmatic* and *hedonic quality*. We already learned about the hierarchy of goals he builds upon: motor-goals, do-goals and be-goals (bottom to top). Pragmatic quality now refers to the product's perceived ability to support the achievement of do-goals (e.g. making a telephone call). Hedonic quality means the product's perceived ability to support the achievement of be-goals (e.g. being related to others). [9; p.49] These dimensions open up a two dimensional space in which a product can be placed with high values on both dimensions being desirable [18]. Pragmatic quality is more focussed on the product, while hedonic quality focuses on the Self [17]. The main assumption of the model is that these dimensions are viewed as unrelated by people. Hassenzahl: "In fact, all studies published so far support this notion." [9; p.50].

How does usability relate to user experience in this model? Hassenzahl argues that the fulfilment of be-goals is the driver of experience [16]. Usability is more associated to the product and to do-goals. User experience is associated to the Self and be-goals. Lack of usability can be a barrier to the fulfilment of be-goals, but it is in itself not desired [16]. In other words, (good) usability is only a precondition of (good) UX.

Now we have to face the question how the product's perceived ability to support the achievement of do- and be-goals can be assessed. Here Hassenzahl believes that it is possible to describe and characterize people's experiences with the help of a questionnaire, which he sees as promising strategy for HCI [9; p.56]. For this purpose the AttrakDiff [18] questionnaire has been developed and validated. It comes in the form of a so-called semantic differential with twenty-one seven-point Likert scaled bipolar items with verbal anchors (e.g. confusing – clear, good – bad, ugly – beautiful etc.) [18]. The questionnaire has three subscales: perceived pragmatic quality (PQ), perceived hedonic quality-stimulation (HQ-S) and perceived hedonic quality-identification (HQ-I).

THE MODEL IN USE

We now leave the theoretical realm of Hassenzahl's model but kind of stay in the lab to look at some work that has been done with the AttrakDiff questionnaire. We start with two studies by Marc Hassenzahl [19] where the interplay between perceived pragmatic attributes (PQ), hedonic attributes (HQ) and beauty of MP3-player skins has been investigated. Related work on beauty and usability has been done by Tractinsky *et. al.* on ATM layouts [20]. While

pragmatic and hedonic attributes are perceived qualities beauty is an evaluative construct. Hassenzahl emphasizes the fact that “perceptions of hedonic or pragmatic attributes can *potentially* lead to a positive evaluation but they must not necessarily do so.” [19; pp.322-323] (emphasis in original).

The results of the first study did not support the clear relation between usability (PQ) and beauty that has been reported by Tractinsky *et. al.* [20]. Comparing ugly and beautiful skins (rated by participants) revealed greatest differences for HQ-I (hedonic quality-identification), followed by HQ-S (hedonic quality-stimulation) and PQ (pragmatic quality). As a major limitation participants in the first study only saw the interfaces, but never interacted with them [19; p.333]. Therefore, in the second study participants also interacted with the product after rating the interface and were allowed to revise their rating after interaction. [19; p.335] Interestingly, pragmatic attributes where affected by experience, but hedonic attributes remained stable in both ratings [19; p.340]. A related study further investigated the constructs beauty and goodness using websites [21].

Another study investigated the influence of usage mode (explorative vs. task-oriented) on perceived quality [22]. The research question was motivated out of the impression that “it is likely that success rates in traditional usability tests are higher than in natural settings.” [22] The participants interacted with an “ultra mobile personal computer” and had either to perform a task-oriented block and then an explorative block or vice versa. Additionally, they could choose between the input modalities touch input or voice control. The results showed that task-oriented settings reduce the experienced identification with the system and the overall attractiveness [22]. Pragmatic quality was strongly correlated to overall attractiveness in both usage modes, which is contradictory to what has been found by Hassenzahl [19; p.323].

DESCRIBING USER EXPERIENCE

The computer scientist Peter Wright and the psychologist John McCarthy [10, 11] use John Dewey's pragmatist philosophy of experience and aesthetics [23] and Mikhail Bakhtin's account of dialogue as grounding to develop their approach towards experience centred design. They see the term “user” in user experience as problematic as it suggests a limited view on a person, like that of a tool user. In their view one has to think of persons holistically: what they do, how they feel about it and how they give meaning to it. People have a past, a present and a future. Their history is part of what defines them as a person, embedded in complex and changing social networks [11; p.63].

The authors therefore suggest taking a more interpretive and qualitative approach towards user experience. They see experience centred design as designing for the richness of human experience [11; p.2]. For them experience centred design is not simply about technology, it is about people's lived and felt experience (their felt life), which is sometimes mediated by technology [11; p.3]. The authors despise any attempts to exploit their concept for business use only: “Experience-centred design must not become exclusively a business strategy” [11; p.9]. McCarthy & Wright also reject the usage of methods as recipes [11; p.90], because they think that research on experience is particularly difficult to express in a procedure. It is “not suited to fixed research designs and procedures” [11; p.83].

In the authors' view an individual is embodied in her lifeworld [11; p.14] and has to make sense of it. This sense making is a highly subjective and introspective process, which is also irreducibly social and is connected to voice and narrative [11; p.19]. In this sense sharing an experience involves a common history, a common ground, something, of which stories can be made. Stories can be seen as edited versions of our lived experience [11; p.20]. Meaning is

not inherent in them (and in experience) and cannot be a logical inference of it [11; p.21]. Therefore, separations and reductions (e.g. as in usability engineering and affective computing) oversimplify the lived experience and miss the crucial point [11; p.14]. Also, the user is traditionally seen as subject and the designer as objective gatherer of data, which is problematic. Understanding experience requires involvement and not just observation [11; p.23]. It requires dialogue and not just surveying [11; p.70].

Doing research in experience centred design can be viewed as the construction and reconstruction of stories of people's experiences with technology [11; p.37]. However, stories of experiences come not ready-formed. Instead, they are brought into being in dialogue and emerge between speaker and listener(s) [11; p.39]. Dialogue or dialogism puts the emphasis on the process between communicating people instead of what happens within each of them [11; p.51]. There is also a similar notion in art theory that is named dialogical or relational aesthetics (also compare Dewey's [23] notion of interaction between subject and object in art). The authors believe that new meaning arises through engagement with the other person [11; p.54]. The dialogical approach treats relationships and communication as privileged to understanding experience [11; p.86]. But simply sitting down with people saying, “tell us your story” will not work. That is because people are used to construct scripted and stereotypical accounts of themselves (cf. Jerome Bruner’s research on life narratives [24]). The result may be accounts that are carefully tailored to what the person thinks is needed by the researcher. In addition the whole picture also entails much that is not even obvious to the person herself. [11; p.64] Other researchers use similar notions. For example Russell Hurlburt *et. al.* use something they call “expositional interview” for their descriptive experience sampling [25] technique: “We call it the expositional interview to indicate that our intent is to expose (to make known, bring to light) what is hidden from us but present to the subject (though not necessarily, at first, clearly known to the subject either).” [25; p.86].

McCarthy & Wright’s work [10] has received some criticism questioning the reliability of their approach. They used [11] to clarify their position, but did not explicitly respond to their critics. Hassenzahl [9, 16] tried to distinguish his own research from McCarthy & Wright’s position. He doubts that the immense richness and diversity in experience as suggested by McCarthy & Wright exists in that way. In addition accounts of experiences might differ (“a poet may find beautiful words” [16]), but experience or at least the essence of it does not. At the same time Hassenzahl also acknowledges that a “phenomenological-oriented” approach is better suited to provide a detailed understanding of the people and the context [16].

THREADS OF EXPERIENCE

The authors provide us with some guiding threads to describe experiencing of technology (see e.g. [10; pp.79-104]). These threads should not be understood as fundamental elements or categories. The four threads are: the sensual, the emotional, the compositional and the spatio-temporal [10; p.80].

Trough our sense organs we participate directly in the world around us. The *sensual thread* of experience is about our sensory engagement with our environment, which orients us to the visceral character of experience. Part of this sensory engagement and therefore the interaction is also the body and the physicality of the technology. [10; pp.80-83].

The *emotional thread* refers to value judgements that, according to our needs and desires, make other people and things important to us. Perceiving, thinking, deciding are not the computational processes we might think, instead they are influenced by values, needs, desires and goals. Thus, we do not perceive an objective representation of the world but a unique version that is coloured by our values [10; pp.83-85].

The *compositional thread* refers to relationships between the parts and the whole of an experience (like the relation between elements of a painting and between painting, viewer and setting) [10; pp.87-91].

A *spatio-temporal* component is inherent in all experiences. For example our sense of time might change when we are bored or within an intense experience. Frustrating experiences can transform a space into something confining [10; pp.91-94]. We might first enjoy the vastness of the landscape on a mountaintop and later be frightened by the steepness of a cliff edge on the same mountain.

MAKING SENSE OF EXPERIENCE

McCarthy & Wright emphasize the sense making process of experience that occurs dialogically: "understanding or making sense of an experience occurs in the tension between self and other." [10; p.73]. In this dialogue the experience is relived and also altered. The produced narratives of experience are selective interpretations that are tailored to a specific audience [10; pp.118-119]. The authors present six processes of sense making with no implication of linear and causal relations between these processes. They are: anticipating, connecting, interpreting, reflecting, appropriating and recounting [10; pp.124-127].

We do not arrive at an experience without expectations. We *anticipate* something. This not only happens prior the experience but also continues later on [10; p.124].

The term *connecting* refers to the immediate, pre-conceptual and pre-linguistic sense of an encountered situation. This may be an apprehension of speed or movement or stillness. It may also mean an immediate sense of tension or a thrill of novelty, a sense of relief or anticipation of something happening [10; p.125].

When *interpreting* an occurring experience we have to discern the narrative structure, the involved agents and action possibilities. We look at what has happened and think about what is likely to happen. This can result in anxiety of not knowing. We may feel disappointment at unmet expectations [10; p.125].

At the same time we interpret an experience we may also *reflect* on it and make judgements about it. We may want to see how we feel about things and if we have reached our goals (if there were any). This is like an inner dialogue that is going on and that helps us to meaningfully recount the experience to others later on [10; p.126].

Appropriating means making the experience our own by relating it to our Self, our personal history and our anticipated future. By putting the experience in the context of a past and a future we create a meaning that is more personal to us [10; p.126].

Recounting involves telling the experience to others or ourselves. It gives us the opportunity to savour it again, place it in the context of other experiences and find new meanings in it [10; p.127].

A TOOLBOX FOR PRACTICE

As already noted McCarthy & Wright think that research on experience is "particularly difficult to express in a procedure" [11; p.83]. And indeed, they don't offer one. What they are offering is more a framework of thought where certain methods fit into. Namely, methods that "open up dialogue between designers, researchers and participants" [11; p.83]. These methods mostly originate in art practice, in the humanities and in the social sciences. They note that researching experience "requires an individual to develop the sensibilities of a good ethnographic researcher" [11; p.83]. Apart from some "homegrown" methods the authors list

some methods from the social sciences: ethnography, interviewing, diary studies, focus groups, repertory grids and card sorting.

There are a variety of other methods for design or evaluation (see [26] for a more detailed overview) that can be used. Quite well known are Gaver *et. al.*'s *cultural probes* [27], where participants are given probe packages to provoke inspirational responses from them. Another popular method is Buchenau & Suri's *experience prototyping* [28] that builds upon the "experience it yourself" stance. McCarthy & Wright do not mention it, but it certainly fits here: the already mentioned *descriptive experience sampling* (DES) [25] by Hurlburt *et. al.*, where participant's experiences are randomly sampled and later on it is tried to uncover the essence of the sampled experiences through interviews. Not that different to DES is Kahneman *et. al.*'s *day reconstruction method* [29]. Here participants systematically reconstruct their activities and experiences of the preceding day while trying to minimize recall biases. The *fictional inquiry technique* [30] by Dindler & Iversen tries to create partially fictional settings and artefacts through a shared narrative. This should provide a space for collaborative design activities and help participants imagine desirable futures. Blythe & Wright use fiction as a resource in their *pastiche scenarios* [31] method to write character-based scenarios. They re-use existing (well-known) characters from fiction to recruit "a pre-existing rich understanding of the character-users and the use context" [31]. Bertelsen & Pold draw upon aesthetics and literary or art criticism to advance their *interface criticism* [32] technique. Swallow *et. al.* [33] developed techniques such as *persona matching*, where participants are recruited according to predefined personas and *"Do something"-challenges*. Here participants were able to select some emotional adjectives from a list and then carry out activities with the artefact they found to be representative with these descriptions (e.g. Do something funny / sexy / surprising … with your mobile phone.).

Let us now look at how to analyse the data. The above-mentioned methods mostly produce qualitative data so the researcher ends up with field notes or some transcript. This data could then be analysed with e.g. Grounded Theory, Content Analysis, Narrative Analysis etc. Whatever method is used, it should be able to capture the holistic and dialogical qualities of experience [11; p.85]. McCarthy & Wright stress the point that, when analysing the data, one has to bear in mind that design implications cannot be inferred without any creative or imaginative intervention of the person doing it. It is not possible to do it in a logical deductive manner. It is more like seeing a situation from different perspectives. Theories can serve as a guiding filter and a resource for dialogue but one should avoid the finalizing tendencies of approaches that assume that there is one correct theory or one possible best solution [11; p.67].

UNIFIED VIEW OR COMBINED APPROACH?

Both accounts that have been described so far start from the same premise: usability (focusing on performance) is not enough. It is only part of the interaction with technological artefacts. And further: user experience is not very different from experience in general. Admittedly, this is not so difficult to agree on if we ignore the debate between engineering and user experience research for a moment. Then they develop quite different approaches. While Marc Hassenzahl [9, 12, 16, 17]. focuses more on uncovering the objective in the subjective, on the precise and the formal, John McCarthy & Peter Wright [10, 11] stress the ambiguous, the human and suggest to live with the subjectivity that is inherent in the concept of (user) experience. Hassenzahl's model is more product-centred [12] and focuses more on evaluation rather than design. On the other hand McCarthy & Wright's approach is more a framework of thought that focuses on the human and more on design rather than evaluation.

In the beginning we have learned that some emphasize the need for a unified view [2, 7, 8] in user experience research. I doubt that it is possible to unify both approaches, because they build upon different epistemological foundations. These foundations are subject to intense debate. For example, Cockton expresses his displeasure on determinism in computer science: "Objectivity is preferred over subjectivity, precision over looseness, automation over human agency, and formality over ambiguity." [6]. While I agree with his concerns others might as well citicise this subjectivity, looseness and ambiguity as unscientificial. It is all a matter of worldview and worldviews change very slowly (in whatever direction). If we now leave ideology aside, what is left? We have two approaches that try to investigate the same concept and focus on slightly different aspects. Both can be criticised. Hassenzahl's work can be criticised in terms of how valid his model is. On the other hand, McCarthy & Wright's approach can be criticised in terms of reliability because the results do not easily generalize across different contexts. While I doubt the possibility of a unified view I think it is possible to combine the two approaches. This is also acknowledged by Hassenzahl [9; p.74, 16]. However, in his view this combination takes the form of an extension of his own method.

Bargas-Avila & Hornbæk criticise in an analysis of empirical studies of UX that "some studies overemphasize their methodological stance to the extent of damaging research quality" and that only few studies try to combine what they call "uniqueness studies" (like McCarthy & Wright) and "dimension studies" (like Hassenzahl) [5]. One of these few is Karapanos *et. al.*'s study [34] that investigates the temporality of user experience (i.e. its development over time) with iPhone users. They used the day reconstruction method to capture "rich qualitative accounts" of experience. Participants were asked to pick the three most impactful experiences of one day and write a small story about it, which the authors call experience narration. For each narration participants rated the product using a shortened version of the AttrakDiff questionnaire. The collected experience narratives were analysed using a conventional qualitative content analysis and different phases of product adoption were identifyed. These phases were then related to the overall perceived quality of the product using the results of the questionnaire.

CONCLUSION

User experience research is a young and still emerging field that exists in an area of tension. There is no consensus on how the concept of user experience should be defined or on how it should be researched. The two major strands of research that are competing are quite different. One focuses more on uncovering the objective in the subjective, on the precise and the formal, while the other one stresses the ambiguous, the human and suggests to live with the subjectivity that is inherent in the concept of (user) experience. One focuses more on evaluation rather than design and the other more on design than evaluation. One is a model and the other one more a framework of thought not to say a philosophy. Both can be criticised. The model can be questioned in terms of validity and the results of the other approach do not easily generalize across contexts – the reliability can be questioned. While sometimes a unified view in user experience research is emphasized as desirable I think that it is not possible to unify both approaches, because they build upon different epistemological foundations. However, a combination of both approaches should be possible and this has actually already been done (e.g. [34]).

What is lacking so far is reflecting on how well this combination of approaches works in practice and what kind of data are more helpful for which questions and for which stakeholders. Methodological comparisons are rare. As Bargas-Avila & Hornbæk note: "New methods are merely used without comparison to other methods, or the comparisons are weak. We see much opportunity here to improve our understanding of the relative merits of

methods aimed at assessing or evaluating UX." [5]. I plan to address this methodological comparison in further research with a study that evaluates the user experience of a product with both approaches and compares results.

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ISTRAŽIVANJA ISKUSTVA KORISNIKA: MODELIRANJE I OPIS SUBJEKTIVNOGA

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SAŽETAK

Istraživanja iskustva korisnika, u području međudjelovanja ljudi i računala, nastoji razumjeti kako ljudi doživljavaju međudjelovanje s tehnološkim artefaktima. To je novo, još izviruće područje koje prate unutarnje napetosti. Nema konsenzusa oko toga kako definirati i istraživati koncept iskustva korisnika. Ovaj članak fokusira se na dva glavna pristupa istraživanju. Nastoji dati pregled oba pristupa i međusobno ih povezati.

Polazište oba pristupa je isto: korisnost (uz fokusiranje na karakteristike) nije dostatna. To je samo dio međudjelovanja s tehnološkim artefaktima. Nadalje, iskustvo korisnika nije bitno različito od iskustva općenito. Nakon toga, u pristupima se razvijaju bitno različiti koncepti. Dok se jedan fokusira na razotkrivanju objektivnoga u subjektivnome, na preciznosti i formalnosti, drugi naglašava višeznačnost, ljudski pristup i predlaže uključivanje subjektivnosti koja je inherentna konceptu isksutva (korisnika). Jedan se pristup fokusira više na evaluaciju nego dizajn, a drugi više ne dizajn nego na evaluaciju. Jedan pristup je model a drugi više okvir razmišljanja.

Oba pristupa može se kritizirati. Model se može preispitati sa stajališta valjanosti dok rezultate drugog pristupa nije jednostavno generalizirati po konceptima – pa mu je pouzdanost upitna. Ponekad je naglašena potreba za unificiranjem gledišta u istraživanju iskustva korisnika. Iako sumnjam u mogućnost unificiranja tih pristupa smatram kako ih je moguće povezati. Njihovo je kombiniranje rijetko pokušavano te nije bilo kritički razmotreno.

KLJUČNE RIJEČI

međudjelovanje čovjeka i računala, iskustvo korisnika, metoda usporedbe, pregled