Well-being, need fulfillment, and Experience Design

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ABSTRACT
Any positive experience eventually stems from psychological need fulfillment. Consequently, we understand well-being as a consequence of fulfilled needs, such as competence, relatedness, popularity, stimulation, and security. The paper discusses how needs can serve as basis for the design of meaningful experiences, being created, shaped and mediated through technology.

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Well-being, human needs, Experience Design.

ACM Classification Keywords
H5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous.

INTRODUCTION
Well-being is the central to Experience Design [4]. As we put it elsewhere: "Usability wants us to die rich; Experience wants us to die happy" [2]. Accordingly, creating, shaping and mediating meaningful experiences through technology is prime. This in turn requires an appropriate and design-oriented understanding of what well-being actually is.

In line with a number of psychological theories (e.g., Self-Determination Theory; [6]), we understand well-being as a result of fulfilling universal psychological needs. Sheldon and colleagues [7] concisely summarized according approaches to a starting set of ten psychological needs. Studies and practical design work in the context of interactive products further narrowed this set down to competence, relatedness, popularity, stimulation, and security (see [3] and Table 1). With such a set of needs at hand, we can characterize many experiences – including those created and mediated through technology – by their specific 'need profile', which reveals most and least salient needs. In fact, single positive experiences are often marked by one especially salient need. Thus, needs provide categories of experiences, such as 'competence experiences' or 'relatedness experiences'.

In the practice of Experience Design, we use needs as a guide and as an inspiration for the design work [4]. In the remainder of the paper we briefly discuss both practices.

<table>
<thead>
<tr>
<th>Need</th>
<th>Description</th>
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<tbody>
<tr>
<td>Competence</td>
<td>Feeling that you are very capable and effective in your actions rather than feeling incompetent or ineffective</td>
</tr>
<tr>
<td>Relatedness</td>
<td>Feeling that you have regular intimate contact with people who care about you rather than feeling lonely and uncared of</td>
</tr>
<tr>
<td>Popularity</td>
<td>Feeling that you are liked, respected, and have influence over others rather than feeling like a person whose advice or opinion nobody is interested in</td>
</tr>
<tr>
<td>Stimulation</td>
<td>Feeling that you get plenty of enjoyment and pleasure rather than feeling bored and understimulated by life</td>
</tr>
<tr>
<td>Security</td>
<td>Feeling safe and in control of your life rather than feeling uncertain and threatened by your circumstances</td>
</tr>
</tbody>
</table>

Table 1: Overview of a selection of psychological needs [3,7]

NEEDS AS GUIDES
Obviously, experiences differ immensely depending on the needs salient (i.e., fulfilled). Need saliency in turn depends on the kind of activities a product suggests. Typical pairs of salient needs and activities are stimulation and playing, competence and (mastering) tasks, popularity and helping others. A design decision for or against a particular activity (implied by functionality) is therefore always also a decisions to push a particular need to the fore and others to the back. For example, applications documenting personal effort and success in a certain domains (e.g., sports, healthy nutrition) may primarily create competence experiences. However, an additional feature that allows sharing and comparing data with others may shift this slightly from competence to popularity. Thus, depending on which need the designer wants to make salient, he or she may even eliminate seemingly essential functions.

For example, Eva Lenz recently suggested Mo, a sociable mp3 player, designed for small parties ([5], Figure 1, see also [1], pp. 64). People put their favorite (and appropriate) music on Mo and take it to a party. There it acts as a connected music system simply playing the combined playlist of all Mos present.

Mo was foremost designed as a creator of relatedness and popularity experiences rather than as a music player. This had a profound impact on any detail of its functionality and
interactivity. For example, other than most mp3 players, it has no display. Obviously, now and then one might want to know the title of the current song. But since Mo always plays the favorite songs of at least one of the people present, the one who brought the song could give the answer as well. The lack of a display, thus, is a deliberate decision to support conversation, creating a feeling of popularity for the one knowing the song, or a special kind of relatedness if two people know the song and answer simultaneously. In the same vein, Mo has no skip button, because skipping someone's favorite song is always rude – a sure way to destroy a social experience. At the same time, Eva included functionality to pre-listen songs on a Mo and to slip one song (and only one) into the current playlist. This is a way to participate and to contribute to the party, a way to experience popularity and meaning through deliberately influencing what is going on.

![Image](image1.png)

Figure 1: Mo - shared moment, shared music

As we put it: "An experience designer is foremost an author of experience. Only after having outlined the desired emotional and cognitive content of an experience, the action involved, its context and temporal structure, we may start designing the product. And then, each and every detail (content, functionality, presentation, interaction) has to be scrutinized according to its potential to create or destroy the desired experience" ([4], pp 68). Thinking about interactive products in terms of needs fulfilled and experiences created thus raises awareness of the delicate connections between particular design decisions and resulting experiences. While the needs approach cannot answer concrete design questions, it creates a strong human-centered frame of reference – a compass so desperately needed to design technology from a perspective of well-being.

NEEDS AS INSPIRATION

Needs can not only guide design, they can also support design through inspiration. Experiences in which psychological needs are fulfilled will always be perceived as meaningful. Thinking of experiences and needs before activities and technologies creates opportunities to broaden the design space, that is, to innovate, but without the danger to lose grounding in human practices, experience and, thus, well-being.

Take the example of brewing a coffee in the morning. There are a number of technologies available to support this, ranging from Senseo, to French Press or a fancy, fully automatic Jura. In the end, we produce a more or less tasty coffee (the outcome). But along the line, depending on how we are supposed to do it (the process), different experiences are created through interacting with the respective technology.

Using a fully-automatic espresso brewer deprives me of the whole activity of preparing a coffee, while the French Press requires me to even control the time the coffee simmers. Obviously, the first involves no competence at all (except pushing the right button, which can be a challenge in itself), whereas the more manual preparation needs some expertise, which creates a potential for competence experiences. But even further: Can one be proud of making a coffee with a fully automatic machine? Will anybody praise you for your coffee, when it was brewed by a machine? People will certainly want to know where you bought the machine, but may never show up again. This is different for the more manual approach. Here personal agency implies personal expertise. Guests who praise your coffee must come again to enjoy it. They can't just buy it.

Obviously, technology shapes experiences through fulfilling (or not fulfilling) certain needs, even when the outcome or the solved "problem" is quite similar. So why not turn it on its head? Why not designing positive experiences by deliberately separating the needs to fulfill from the actual output to create? We just have to take a need (e.g., being popular) as inspirational starting point and to combine it with a concrete goal (e.g., a cup of coffee).

Severin Luy did this in a course on Experience Design at the Folkwang University of Arts. He wanted to design a popularity experience and chose coffee making as his arena. He then looked for examples, "images", where people make a show of preparing something and decided for the bartender mixing cocktails. He used this as a blue print for his new coffee maker, called Coffee Shaker.

Coffee Shaker is a variant of French Press. However, it allows for grinding the coffee by shaking (see Figure 2) in
an impressing, dynamic way (beware, some training is required). Later the water is boiled by "hot cubes" put into the shaker rather than by pouring boiling water from a kettle. Obviously, this is a concept only. However, it is able to demonstrate what happens, when a designer takes a need as inspiration rather than a technology.

CONCLUSION
Nowadays, a desire for meaningful positive experiences created through technology slowly replaces our obsession with efficient output. It is not only about the most perfect coffee, but also about creating this coffee in a meaningful way.

"Meaning" as well as "well-being" are grand words, which require further qualification before they can be addressed through design. We found psychological needs in their role as potential sources of positive feelings and – ultimately – well-being especially helpful. They act not only as guides for aligning design decisions but also as inspirations – as a way to innovate through experientially-grounded possibilities rather than efficiently solved problems [1].

But the advantages of needs as frame of reference go even further. They refer to at least 60 years of psychological research into well-being and are well supported by empirical research. The five needs we use (sometimes complemented by collecting, autonomy and physical striving) form a differentiated yet exhaustive set, which lends itself to empirical evaluation. Thus, needs not only serve as guides and inspiration, but also as yardstick for successfully designed experiences.

REFERENCES