
On positive emotions and design: a game card tool to increase the participatory design activity

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Abstract

In interaction design, attention has shifted from quantified-self and monitoring interfaces to wider gamified systems that challenge people to heal their lifestyle. This change has forced the promotion of task accomplishments, and the quantification of daily achievements and social relationships. While fostering self-learning in some cases is the key to reinforce thoughts, actions and behaviours, it is less clear how to practically translate people digital engagement in a more effective daily life toward wellbeing. To understand how to favour people's creativity and a positive state of mind this contribution introduces DEmo game card as a participatory design tool and describes the fundamentals for applying it in a specific case of pre-performance stress. This contribution is a first step for exploring design possibilities and focusing on important aspects of the daily interactions between emotions, cognitive processes and effective actions.

Author Keywords

User-centered design, probes, user experience, stress release, positive emotions.

ACM Classification Keywords

H.5.2. User Interfaces

Introduction

Design is a way of creating meaningful interactions. Considering alternatives, cultivating a self-development approach and practicing the attitude of contribution are part of that process. This experience is an iterative activity. In this way mobile technologies can move people to be part of the design process, more effective in their daily life and involved into a positive revolution - that De Bono defines as a progress on a global scale sharpened by positive and constructive energies [3]. Proceeding from this point, the design of mobile technologies toward wellbeing can extend the theoretical findings of positive psychology to produce significant results. The problem is that attention and effort interactive interfaces require by themselves are not constructive. People can use their mobile devices for hours getting inspired on how to keep fit without doing a step forward exercising and be effective daily. This is way motivating behavioural change through persuasive technologies stimulates fresh interest in the design community [2]. The new interfaces are engaging, playful and social [15], and a new territory of emotions recognition technologies emerges in the design as an opportunity to energize and direct behaviors [6]. Assuming emotional-based interfaces as one of the near future development, we want to explore new ways to approach the design process by seeking to practically understand how to drive effective positive emotional experiences beyond tech constrictions. With this purpose the paper introduces DEmo a game card, a design probe to support the creation of a shared listening territory among users, designer, researchers and to understand the cultural desirability of positive emotions. The DEmo has been designed for participative activities in the context of behavioral patterns analysis for stress management.

Background

How to drive everyday life toward creativity and a positive state of mind? Affective studies traditionally rooted in cognitive and behavioural psychology, have established a solid scientific background around the importance of experiencing positive emotions to release stress, optimize emotional, mental and social resilience and to increase health benefits and even longevity [17] [7] [5] [11]. We can argue that today this awareness opportunity is offered by self-learning and gamified interfaces that amplify personal achievements and experience acquired in terms of meaningful numbers and data visualizations [19]. Interfaces has been made more intuitive and affordable by sensors-based technologies and tracking systems incorporated into mobile devices [20]. These tools are becoming sharper and intelligent, combining facial or voices detection, skin temperature changes, perspiration, heart rate, nervous system signals and enabling emotional analysis, predictions and a more affective evaluation of the user's stress level. Aside from a computational approach, emotional-based interfaces and prototypes show that address interaction design toward emotional experiences is extremely difficult as each emotion is specific to its circumstances and personal user setting [8]. The main risk is to focus on technology development overlooking important aspects of the interaction between emotions, cognitive processes, physiological aspects and personal experiences. This interactive loop, more and more digitally connected, is also part of people's adaptation to daily challenges [16]. In a paradigm shift in which users can interact directly with sensors technologies through their mood and feelings design has the potential to capture people's emotions and behaviours but also the risk to limit the user's self-expression. Following the design



Figure 1: DEmo card tool focuses on two parts and a: a structured question (on behaviours) and a drawing task (inspiring objects). The first part includes three options that could help mastering anxiety and emotions in a pre-performance context: 1) Physical activity and exercise; 2) Social connectedness; 3) Rituals and symbolic actions. The second part asks for an object of desire that inspire user's positive feeling.

approach of using open-ended tools that evoke/provoke users' invention, creativity and participation in the design process [12] [8] and the game design tradition [9] [14] this paper proposes a game design tool for understanding how to enhance positive experience. This tool can be used for inspiring the design of new interfaces and digital services.

DEmo game card

To practically approach the design of interfaces for enhancing positive experience, we can start focusing on a specific instrumental use case situation. For example, a time-limited context in which people feel high-level anxiety, such as public speaking, musical or acting performance, job interview or a life-time challenge. In this situation engaging in preparatory activities can induce a feeling of relaxation, reduce uncertainty offering a sense of structure and stability that could increase concentration. Those patterns can be used as model to inspire scenario design. Recent studies and prototypes are starting also to explore routine interactions through objects [4]: Chung et al. proposed an haptic social network via crowdsourcing [1]; McCallum shows the use of gamification and serious game for improving physical, cognitive and emotional health [13]; while Levy et al. experiment demonstrate the positive effect of mindfulness meditation on group relaxation [10]. From the literature study, the detected popular relieving stress patterns have been grouped in: physical exercising, social connectedness and rituals. From an users point of view those become functional habits that provide comfort and confidence before a stressful activity. By a design perspective how to create a wider understanding of these experience possibilities? Whereas traditional interviews, a more dialogical tool between users and design participants is needed.

Exploring the large context of users' creativity and individual differences extends design opportunities for the next future interfaces [18]. In this sense, as information gathering probe, the DEmo card has an exploratory design-oriented goal, it is designed to investigate the positive behavioural aspects of people's life in stressful situations (figure 1). That probe aims to inspire professionals and researchers who want to strengthen and improve co-design practice and the users' participation. Cards can be collectively discussed, shared or combined with other data.

Proposed framework

There is a generative and contagious side of positive emotions. Users create their own personal ways to face life-challenges and stressful situations. And what design can provide is tools and methods to facilitate this human creative thinking. The paper aims to foster the discussion about a possibility-oriented approach to stimulate a participatory design activity around near future mobile technologies for wellbeing. Investigating positive emotions and self-awareness, various design approaches and research communities become engaged together encouraging practical ways to address well-being perspective. DEmo card is a tool for participative activities oriented to support the design of positive emotions. As next step we are applying the DEmo in different high-level performance contexts - music playing, test-taking, academic conferences, sport competitions - and start an iterative process to reshape, improve and further develop creative tools for different and specific design for well-being purpose.

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