Transformative Experience Design
Designing with Interactive Technologies to Support Transformative Experiences

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ABSTRACT

Some life experiences can generate profound and long-lasting shifts in core beliefs and attitudes, including subjective transformation. These experiences can change what individuals know and value, their perspective on the world and life, evolving them as a grown person. For these characteristics, transformative experiences are gaining increasing attention in psychology, neuroscience, and philosophy. One potentially interesting question related to transformative experiences concerns how they can be invited by means of interactive technologies. This question lies at the center of a new research program, transformative experience design, which has two aims: (1) to investigate phenomenological

and neurocognitive aspects of transformative experiences, as well as their implications for individual growth and psychological well-being; and (2) to translate such knowledge into tentative design principles for developing experiences that aim to support meaning in life and personal growth. Our goal for this SIG is to discuss challenges and opportunities for transformative experiences in the context of interactive technologies.

INTRODUCTION

Transformative experience design is a topic in Human-Computer Interaction (HCI) of increasing interest and relevance given the growing need for technology that respects and supports our mental and physical well-being. Yet, despite its popularity, there is no unified approach for how to design technology-mediated experiences that provide the conditions to support a transformative experience. In a recent review of interactive technologies for positive change, researchers describe a wide range of domains all aiming toward the common goal of using technology to support positive experiences, such as transformative ones [7]. Yet, there exist a challenge in trying to integrate all the existing knowledge across the various domains because they are using different terminology, frameworks, and theoretical lenses to approach the same topic.

A transformative experience is defined as an event in which a person's worldview is reconstructed, resulting in a shift in perspective or change to their identity [5]; for example, seeing the overwhelmingly beautiful view of Earth from outer space and then feeling compelled to help preserve the environment [12]. Transformative experiences are often preceded by transcendent experiences—a mental state of deep connection with something greater than oneself that gives life meaning. Self-transcendence is a variety of transcendence that incorporates more general and milder experiences, such as mindfulness, flow, positive emotions, awe, peak experiences, and mystical experiences [13]. There are many different theories on transcendence and self-transcendence, and for the purposes of brevity in this paper we will refer to all these terms simply as *transformative*, although this is not limited to the experiences we describe.

Research shows transformative experiences are associated with multiple indicators of well-being including positive emotions, positive behaviour change, acceptance, pro-sociality, self-management, and life quality and satisfaction [6, 13]. Technology is one tool we can use to help foster transformative experiences [2]. For example, both augmented and virtual reality can transform our external experience through the high level of personal efficacy and self-reflectiveness generated by their sense of presence and emotional engagement [10]. It is important to note that although we can use technology to design for transformative experiences, we do not design the experiences themselves but rather create the conditions to invite them.

Several research groups have aimed to define specific transformative affordances, or theoretically-based design guidelines for inviting a transformative experience with interactive technology. Gaggioli

proposes *Transformative Experience Design* or TED, a framework comprised of four aspects: medium, content, form, and purpose [5]. Mossbridge presents a research-based model where actions or experiences facilitate the path to full transformation [8]. One other example is from Stepanova and colleagues, who have devised a framework that outlines the progression of transformative experience in 3 stages: perceptual dissonance, cognitive shift, and behavioral change [11]. Other researchers have explored designing for specific types of transformative experiences because of their great transformative potential, such as awe [4, 9].

Transformative experiences are often described as ineffable [13], so trying to derive design guidelines is very challenging. Designing technology that facilitates tranformation is not the same as ordinary experiences where we would normally be able to articulate what we want, i.e., HCI user studies. In an attempt to study transformative experience design from another perspective, Buie [1] used a research through design approach to actively engage participants throughout the design process of creating a game that supports a transformative experience. Chen et al. [3] took another approach to exploring transformative experience in HCI by studying individuals travelling on a long-haul solo trip .

Despite these recent efforts to design for transformative experience, still a lot more research is required in order to verify the feasibility of technology-based approach for inviting transformative experiences and develop reliable design guidelines for it. This SIG is designed to bring together the researchers in this field from across multiple disciplines so that we can weave together a more coherent and clear picture of what transformative experience design looks like before moving forward.

TOPICS OF DISCUSSION

Through this SIG, we want to build a community of researchers, designers, and artists with expertise in transformative experience design. The session will enable networking, collaborating, and exploring innovative ways of applying transformative experience design. The session will include a brief introduction and presentations from hosts, followed by group brainstorming and discussion sessions in small groups. Each small group will discuss a topic in depth. The results of the discussion will be presented and followed by discussion and planning for future steps. We will discuss four topics:

(1) Scenarios, use cases, and opportunities for transformative experience design in a variety of different fields.
(2) Interactive technologies for supporting self-transcendent experiences.
(3) Challenges and potential solutions to theoretical and methodological challenges of transformative experience design.
(4) Evaluation methods for understanding the effectiveness and progression of a technology-mediated transformative experience.

GOALS AND OUTCOMES

Our objectives in organizing this SIG include, but are not limited to the following:

(1) Discuss the definitions and related concepts of transformation, transcendence, and self-transcendence.
(2) Discuss the importance of transformative experience design and the opportunities it offers. We will brainstorm new use cases and applications using interactive technologies.
(3) Explore the theoretical and methodological challenges associated to transformative experience design. We will also brainstorm ideas to address these challenges.

Through and after this SIG, we will continue to build a multidisciplinary network to encourage communication and collaboration for research and practice. We will promote more awareness of transformative experience design to help advance the field. Given the pace of development in this area, we will also consider a workshop on transformative experience design at CHI 2020.

We encourage attendees to also consider the CHI 2019 workshop on *Designing for Digital Wellbeing: A Research and Practice Agenda* (May 4), the *4th Computing and Mental Health Symposium* (May 4), the course *Design for wellbeing—tools for research, practice and ethics* led by Rafael Calvo and Dorian Peters (May 7), and the alt.chi talk *Let Us Say What We Mean: Towards Operational Definitions for Techno-Spirituality Research* by Elizabeth Buie.

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