Designing and Evaluating Systems to Support Emotional and Social Wellbeing

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ABSTRACT
Software engineers traditionally come from abstract, analytical backgrounds such as Computer Science. Such training leaves them highly equipped to design and build software architectures, but doesn't necessarily support them in designing in a way that is aware of users' emotions, or of the social aspects of experience. This paper presents Teasing Apart, Piecing Together (TAPT), a redesign technique intended to help people understand experiences in a way that incorporates social and emotional aspects, and to redesign experiences in an emotionally-aware way. TAPT is a tool that can help people from an engineering background in the context of designing wellbeing.

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Design, evaluation, TAPT, wellbeing, emotions, social

ACM Classification Keywords
H5.2. Information interfaces and presentation (e.g., HCI): User Interfaces. User-centered design.

INTRODUCTION
Wellbeing is deeply important, and is arguably rooted in three arenas: the cognitive, the emotional and the social. It has been observed that current work on interaction design for emotional health is at a very early stage [2], and although there are a plethora of design tools and techniques that have a cognition-based philosophy, few tools acknowledge emotional or social facets of experience.

Teasing Apart, Piecing Together (TAPT) is an experience-oriented design and evaluation method that is suitable for use in the arena of emotionally- and socially-aware designs: this paper explains TAPT and its relevance.

TEASING APART, PIECING TOGETHER
There exist many methods for understanding UX, from interviews and observation to experience prototyping [1], contextmapping [8] and cultural probes [4]. TAPT, inspired by Dix's deconstruction and reconstruction [3], is different in two key ways: it provides constructs for redesigning existing experiences, and it aims to support understanding of social and emotional facets. Like contextmapping, it accesses deep knowledge about latent feelings (Figure 1).

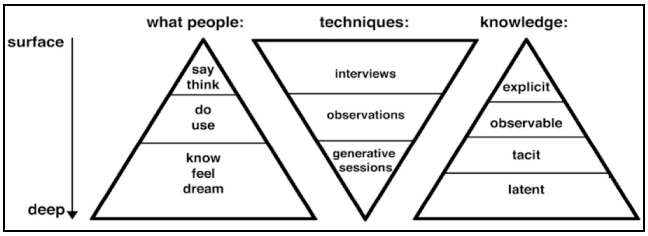

Figure 1. Contextmapping and TAPT access deep knowledge.

TAPT falls into two halves, shown in Figure 2. Phase one, Teasing Apart, involves a structured analysis of an experience: it results in an abstracted description of that experience, focused on emotional and social (not physical or digital) elements. Piecing Together takes the output of Teasing Apart and uses it as a springboard for redesign [5].

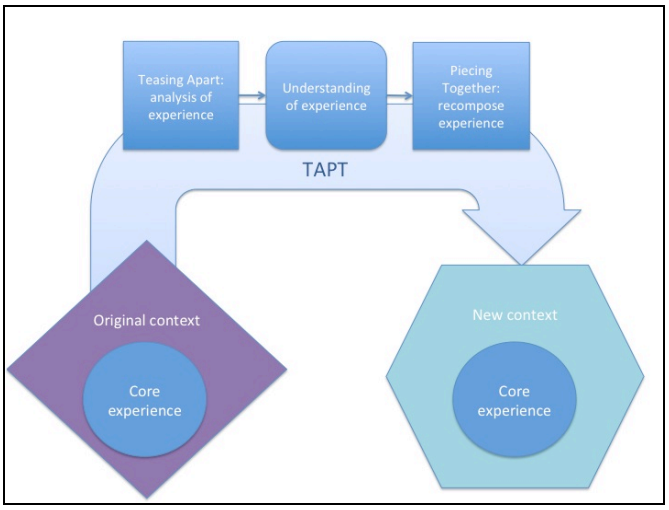

Figure 2. TAPT involves analysing the experiential effects of an interaction, to redesign that interaction for a new context.

In brief, Teasing Apart involves: writing a brief description of the chosen experience; listing 'surface elements' of the experience (relevant nouns and adjectives); listing 'experienced effects' (physical, social, intellectual and emotional effects); identifying key effects; describing the

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abstracted experience neutrally. Piecing Together involves: brainstorming; building sample scenarios; refining the scenarios, checking that they include desired elements and do not introduce unintended key effects.

TAPT was originally developed to support software engineers in redesigning web-based social experiences (for example, using social networking websites) for new contexts (such as care homes for the elderly, or voice-only social networks). TAPT has been used to redesign various experiences including social networking, to evaluate newly designed systems, and to analyse digital social experiences.

TAPT AND WELLBEING

TAPT's Efficacy

Software engineers find TAPT helpful for understanding emotional and social facets of experience. A 43-participant evaluation compared TAPT with Scenarios and Personas: participants rated (with statistical significance) TAPT as better at raising awareness of emotional aspects, and at improving overall understanding of an experience.

A 2011 study compared TAPT and Contextmapping [7]. Eight postgraduate students of Industrial Design and User System Interaction worked in pairs, with each pair producing two designs. They gave positive comments about TAPT's support for understanding emotional and social aspects, rating 7 of 8 TAPT designs (compared to 4/8 Contextmapping designs) as supporting these aspects well. Comments included that TAPT helped "distinguish the emotional aspects of [experiences] much easier".

TAPT for Design

We can Tease Apart experiences relevant to the desired end experience, then redesign them in Piecing Together. TAPT was used to design two IBM tools [5], a spoken social network (aimed at illiterate people in rural India) and a tool for location-based updates in an office environment.

TAPT can help us design for wellbeing by letting us identify key aspects of experiences that promote wellbeing (e.g. meditation, social interactions, sport). For instance, we might redesign playing tennis for people with particular physical disabilities, focusing on social and physical elements but adjusting them for the new context.

TAPT for Evaluation

TAPT can be used to evaluate TAPT-designed systems, and to evaluate systems in their own right. The Blapr team used TAPT to conduct an experiential evaluation of their system eight months after using TAPT to understand their chosen experiences. They found it a useful tool for comparing their end product with their initial analyses and aspirations.

TAPT has also been used to compare experiences with systems. For example, a study involved analysing people's experiences with geosocial services, specifically Gowalla and geocaching[1] [6]. Two focus groups collaboratively Teaseed Apart their experiences, coming to a consensus about what was key to using that particular service. The researchers conducted a structured review of those analyses to draw conclusions about how the services compared.

CONCLUSIONS

TAPT can and has been used to understand and design experiences. Practitioners can apply TAPT to their own experiences, or recruit focus groups. They can use TAPT to understand experiences related to the their design problem; experiences to be redesigned for new contexts; and experiences to be investigated in their own right.

Users of TAPT have described it as efficient, precise and clear, with advantages being that it elicits user-generated terms; supports creativity in design; structures an implicit process in design; and focused upon user experience.

TAPT is highly relevant to design for wellbeing. It helps us understand emotional and social facets of experience. This understanding can be used to understand how existing systems support wellbeing; to support the design of new systems that target wellbeing; and to evaluate such systems.

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