Chapter 10

Visual IHME: Co-Designing Meaningful Places for Sustainability

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ABSTRACT

In the context of human-driven design and environmental sustainability, the authors have developed a computer-based platform concept for studying and co-designing places (i.e. socially meaningful locations). The Visual IHME platform provides a photo-based, interactive spherical panorama environment with a set of co-creative interaction tools such as discussion boards, questionnaires, and polls on-screen. All creative content can be pinned to specific spatial spots on the image. In a preliminary end-user evaluation of the concept demonstration, the authors found that the participants valued the co-design platform, though many doubted the role of this kind of social technology in terms of real impact on issues that are important to people. They discuss how co-design platforms like Visual IHME can have an impact on environmental sustainability and the evolving role of human-computer interaction research and design in addressing sustainability problems.

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INTRODUCTION

Human-driven design builds on understanding people and deploying this knowledge in design. From this background, we have developed a computer-based platform concept, Visual IHME, for studying and co-designing places, i.e. understanding, co-creating and sharing meanings bound to or growing from specific locations. The second part of the platform name comes from Finnish: IHME is an acronym for ‘IHmislähtöiset MEnetelmät’ (human-driven methods). This reflects our aim to develop and apply technology from a deeply human point of view. In the end, our aim is to study how this kind of human-computer interaction application could work for environmental sustainability – as a persuasive technology yet taking seriously the criticism and constructive suggestions raised by a number of researchers (e.g. DiSalvo & al., 2010; Dourish, 2010; Brynjarsdóttir & al., 2012; Mankoff, 2012). In this article, we describe the platform as a concept demonstration and discuss the theoretical backgrounds to why and how co-design could support sustainable behaviour.

Co-design refers to a collective and creative design approach in which people who are not trained in design create together with designers and researchers (Sanders & Stappers, 2008). In the last decade, a number of different computer-based collaborative platforms have emerged that could be applied to co-designing places. For instance, there are platforms that build on abstract communicative features of social media (e.g. IdeaMarket in Holtzblatt & Tierney, 2011; Owela in Nääkki & Antikainen, 2008; Kaasinen & al., 2012), and those that, similarly to Visual IHME, aim to provide users specifically with location-based co-design. Some platforms are based on map portrayals (e.g. Urban Mediator in Botero & Saad-Sulonen, 2008) or represent the environment as virtual reality (e.g. StringCVE in Moloney & Amor, 2003). Some focus on creating meaning by enabling users to share, comment on and re-mix their experiences with rich multimedia elements (but in abstract social space only) (e.g. SparkInfo in Hwang & Holtzman, 2012). Yet another way to co-design places would be augmented reality, which allows virtual objects to be positioned ‘on’ real environments (e.g. Oksman & al., 2012).

When trying to understand and design a place with meaning, experiences and personal attachment and not just mere space as a physical and geometrical opportunity (for a deeper analysis, see Harrison & Dourish, 1996; Dourish 2006), we need to focus on supporting the social meaning-making that makes spaces places. It is for this purpose that we have developed Visual IHME, a platform that aims to awaken and encourage people’s associations and stories attached to locations by showing a realistic image of the location (unlike map- or VR-based tools) and letting people concretely pin their acts of co-creation to any spot in the place that is meaningful to them (unlike social media tools): a building, a park, or an event that took place in the park. Visual IHME co-design can also be done fully remotely with any computing device with an Internet connection and browser (unlike augmented reality, which requires a mobile device with a camera).

Our hypothesis is that realistic, photo-based platforms such as Visual IHME allow studying, understanding and designing of places and related experiences and social meanings in a usable and rich manner that promotes sustainability.

We start this article by reviewing recent work on human-computer interaction (HCI) for sustainability and the resulting insights into the question of how more sustainable behaviour could be achieved with the help of information and communication technologies, and interaction design. We then present the Visual IHME platform concept with its co-design features and the technical implementation of the current demonstration. We proceed to presenting the results of a preliminary end-user evaluation we have carried out to study the user experience and perceived usefulness of the platform. Finally, we discuss how to apply the platform as an interactive, persuasive technology for sustainability.
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