

Chapter 75

Designing Ambient Media: A Philosophical Viewpoint of Universal Design

Moyen Mohammad Mustaquim
Uppsala University, Sweden

ABSTRACT

The philosophy of information is the area of research that studies conceptual issues arising at the intersection of computer science, information technology and philosophy. Universal design is a concept that emphasizes the importance of non-specialized features in things and environments. As ambient media is becoming more intelligent and the users are already across a larger part of the population, the path towards achieving universal design and change of attitude in the authors' minds is clear but requires that they think globally and frame the issues a little differently. This article aims to see universal design concept; its principles, uses, design processes, from a philosophical perspective in terms of ambient media design. Principles for designing intelligent user interface are derived from the universal design principles and a framework is proposed. The framework is then verified to see how optimally these intelligent user interface design principles can work to enhance ambient media experience. The paper concludes by arguing that the concept of universal design for ambient media development is not a style but an attitude of accepting the difference and responsibility of ours by proposing what needs to be done further for upholding the universal design concept of ambient media design.

1. INTRODUCTION

The philosophy underlying universal design specifically extends the definition of users to include people who are excluded because of rapidly changing technology, particularly the elderly and aging, and prioritizes the role and value of extreme user groups in innovations, as well as new products and service developments (Mustaquim, in press).

Two major demographic trends underscore the importance of considering technology adoption by older adults: the aging of the population and the rapid dissemination of technology within most societal contexts (Mustaquim, in press). Over the past decade, developments in computer and information technologies have taken place at an unprecedented rate, while technology has become an integral component of work, education,

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healthcare, communication and entertainment (Mustaquim, in press). It is fairly well established that many technology products and systems are not easily accessible to older people. There are of course a myriad number of reasons for this such as cost, lack of access to training programs, etc. Nonetheless, to a large extent this lack of accessibility is due to the fact that designers are unaware of the needs of users with varying abilities, or do not know how to accommodate their needs in the design process (Mustaquim, in press). As ambient media is becoming more popular and at the same time the users of technology become older, it is now time to think about what will happen in the future when the users will be more technologically inclined, but restricted from using ambient media system because they are not properly designed for him or her (Mustaquim, in press; Pogorelc, Bosnic, & Gams, 2011). Regardless of this issue, any age group people can suffer from certain physical disabilities that exclude them from playing games because of the design issue. For this reason, the importance of designing intelligent ambient media is going to become more and more highly valued in the future. If people with physical limitations or people with disabilities due to age can access any ambient media system because it is designed according to their needs, universal access to ambient media and ambient intelligence can be achieved. Also regardless of physical disabilities or limitations considering design for all increases the probability of ambient media system to be intelligent ambient media. This article takes an approach to designing intelligent user interface for ambient media development which is originated from the concept of universal design and its principles.

The paper starts with explaining the present status of universal design and its importance in our society. An introduction of ambient media is then presented. Section 2 presents a through philosophical argument and discussion about universal design. This section also introduces the

discussion of ambient media and universal design, their business prospect and integrated sustainable design opportunities. Section 3 introduces the intelligent user interface, its problems and importance. Section 4 describes the method of deriving intelligent user interface design principles for ambient media. This section describes the proposed principles of intelligent user interface design and shows a model where the proposed principles are explained logically. The model is then verified by empirical data collection and analysis in the same section. Section 5 shows and discusses the results and findings from the collected data and its analysis. Finally, discussion section presents some philosophical arguments based on the findings in the result section and explains what should be done to promote universal design, intelligent user interface design together, for the development of ambient media system.

1.1. Universal Design in Society Today

Design for All or Universal Design is a concept that has more and more support around the world. However, there are still habits, ignorance and wrong priorities that need to be overcome. The challenge is quite vibrant these days that: we need to “mainstream” Design for All. The world is changing faster than ever before. The world today is not anymore made up of different countries. Thanks to the Communication Revolution and Globalization, the world is one. The world is not any more a globe. As Thomas Friedman informed us rightly, the world is flat (Friedman, 2005). Distance is dead and time has become an instant. Information is at the touch of a button and communication is possible ‘anywhere any time.’

Naturally, design cannot remain untouched by this challenge of change. The old notion of design definition has changed. Now design is not a problem solving activity anymore, but people satisfying profession. Form follows neither function nor

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