Information Systems as a Reference Discipline for Visual Design

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ABSTRACT

This paper proposes that the Information Systems (IS) discipline can serve as a reference discipline for the Visual Design discipline and vice versa. To this end, this work tries to offer a pluralistic framework of visual design systems (VSD) where the primary focus is on how the Visual Design discipline utilizes the intellectual know-how of IS concerning systems of development. Because visual design is part of the aesthetic paradigm where interpretivism rules and IS is contained in the positivist paradigm, we employ a multi-paradigm approach to bridge these two paradigms and their constituent disciplines. The implications of VSD are discussed in the remainder of this paper.

Keywords: Aesthetics, Bridge, Framework, Paradigm, Pluralism, Positivism, Visual Design, Visual Systems Design

INTRODUCTION

In the past decade, system interface design has become an increasingly relevant topic in IS. This is evidenced by a plethora of relevant studies (e.g., Benbasat, 2010; Prestopnik et al., 2010; Zhang & Li, 2005; Zhang et al., 2002, 2009). Generally, there are two research streams addressing system interface design (Cyr et al., 2009). One of those streams holds that interface usability is the key, emphasizing a behavioral or cognitive focus (Babu et al., 2010; Palmer, 2002; Reber et al., 2004; Teo et al., 2003; Venkatesh, 2006). The second research stream contends that attention to hedonic aspects of human-computer interaction, with human needs such as emotion, affect, and experience is important (Agarwal & Karahanna, 2000; Beaudry & Pinsonneault, 2010; Schrepp et al., 2006). Hedonic IS research shows that the well-executed visual design of a website or any other information system has the potential to evoke responses in users, which subsequently impact their cognitive processes and behavioral intentions (Campbell et al.,

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Because visual impressions are both instantaneous and persistent in memory (Lindgaard et al., 2006), practitioners are encouraged to manage the visual impressions of their websites, because essentially, “… there is no second chance to make a first impression (Tractinsky et al., 2006, p. 1080).” Together, visual designers and IT developers use their expertise to build more visually-appealing information systems.

Historically, visual design and IS were philosophically and functionally independent from each other (Tractinsky, 2006). Specifically, the former is rooted in aesthetics with loose links to science, whereas the latter is positioned as hard science, taking positivism as its dominant research approach. Examination of the visual design discipline produced insights.

First, aesthetics contends that people exhibit a fundamental preference for all things beautiful (Beryls & Lopes, 2006; Copleston, 1962; Graham, 2003; Hofstadter & Kuhns, 1976; Runes, 1977), where advocates have arrived at this conclusion through observation and reasoning. In practice, designers create visually appealing products based on classic principles derived from this innate human preference, conditioned by the personal taste and requirements of the client (Lidwell et al., 2003; Krug, 2006). When the visual designers are called on by IS developers to provide a visual interface, they apply the same aesthetic principles, conditioned by the requirements of the system user. User requirements are conditioned by the users’ own experiences, and research indicates that users are continually increasing their visual sophistication through cumulative exposure to technology (Hartmann et al., 2008). As a result, a democratization of visual design has occurred through media exposure, because the public has gained a sense of the language of graphic design, delivered by technology (Postrel, 2002). The more visually sophisticated users become, the greater their demand for quality visual design (Tractinsky, 2006). Therefore, with the ever-increasing number of design-savvy users, research suggests it imprudent to overlook prospective users’ informed visual preferences, lest the system fail to reach its potential (Cai et al., 2008).

Second, aesthetics is theoretically and methodically different from hard science, even though many concepts are shared. By itself, aesthetics lacks the mechanisms needed to integrate visual design into IS research and the system development processes. Researchers familiar with aesthetics bemoan this deficiency, stating “… there is … an obvious lack of a scientific and theoretical foundation or framework to organize, communicate, and explain related ideas and concepts” of aesthetics—foundations necessary to achieve wanted user perceptions (Liu, 2003a, p. 1274). The foregoing insights call for a guiding framework to help visual designers create systems that better serve user requirements and maximize system functionality, a framework that “elevates communication over expression, but without forsaking aesthetic values (Mullet & Sano, 1995, p. 9).” We recall the Baskerville and Myers (2002)’s proposition that the time has come for IS to become a reference discipline, and believe that IS could be a reference discipline for the visual design by offering the matured, rigorous, IS research and systems development methodologies.

Visual design research centers on a broad spectrum of visual concerns and characteristics, and its major contributions deal with appearance. When visual design collaborates with technology, functionality is guided by the methods of an engineering component, such as IS (Rand, 1993). The method described by March and Storey (2008), enumerates six steps to achieving a IS research product: “1) identify and clearly describe a relevant organizational IT problem, 2) demonstrate that no adequate solutions exist in the extant IT knowledge-base, 3) develop and present a novel IT artifact (constructs, models, methods or instantiations) that can address the problem, 4) evaluate rigorously the IT artifact to enable the assessment of its utility, 5) articulate the value added to the IT knowledge-base and to practice, and 6) explain the implications for IT management and practice” (p. 726). For the visual design discipline to enjoy a research process that can
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