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Ubiquitous Inspiration: A field study of artists and creative environments

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There is a need for a greater understanding of how information technology can best support the creative user. In this paper, we consider the possible influence of the environment on creativity and how this might in the future be supported by ubiquitous computing technology. We present a number of case studies of artists, focusing in particular on their different creative environments and what inspires them. Our findings suggest that artists can be grouped into those that are internally inspired and those that are inspired by external influences. This division suggests a connection to the influence of micro and macro environments. We attempt to derive a number of insights on creativity and creative environments from our investigations.

Creativity, Creative environments, Computer-enhanced creative environments, Ubiquitous computing

1. INTRODUCTION

We consider the technological support of creativity to be a particularly important and interesting area for research. For more and more people, creativity is playing an increasing part in their working lives as well as in their leisure activities. In HCI, designing for the creative user is likely to become an increasingly important issue [2]. Creative industries are expanding rapidly. Indeed, Florida [6] argues that creativity is the driving force of economic growth. He suggests that regions and countries that do not embrace creative communities – in all their various facets and dimensions – are doomed to economic stagnation.

Researching the area of computer-supported creativity is largely a case of exploring an uncharted territory. There are few theories, studies or even concepts to guide us. The study, outlined in this particular paper, was inspired by a quote from Czikszentmihalyi, "It is easier to enhance creativity by changing conditions in the environment than by trying to make people think more creatively." ([3], Pg. 1). Candy and Edmonds [1] have also suggested that outstandingly creative people seem to be able to arrange for their own creative conditions to be available. The development or enhancement of creative environments may perhaps be the best way to approach the difficult task of technologically supporting or stimulating creativity. And perhaps the most productive way to apply or utilise computing power and resources is to embed computers in our natural movements and interactions with our environment, so that we can seamlessly interact with a technologically-enhanced "world at large", i.e., the ubiquitous and pervasive computing paradigm [9]. If we merge these two perspectives, we can conceive of computer-enhanced creative environments; Spaces that support creative thought and activity by embedding computing power within the general fabric of the environment and the artefacts associated with an environment. In this paper, we set out to explore the general prospects for computer-enhanced creative environments.

2. CREATIVITY SUPPORT SYSTEMS

Our long-term research plan focuses on the information technology (IT)-based support of creativity [8]. We emphasise the term support because we are certainly not attempting to develop software or hardware incorporating creativity. We do however believe that IT has an important potential role as a tool or system to support people working in many different areas of creative endeavour. Our specific objective is the design and development of what we term creativity support systems (see figure 1). This diagram, our model, although simple, has proved a valuable aid in this uncharted research territory. There are many avenues to explore, in this paper, we consider the possible application of technology to creative environments, and because we are considering artists, our focus is mostly on individual environments (the top left quadrant of our diagram). However, we are also interested in a whole range of technological applications, from environments to special-purpose tools. We are also interested in a wide range of creative practice from very individual instances of creativity to examples of collective creativity.
To advance our general understanding of this research area we have initially set out to study examples of creativity in action in various natural settings. An important part of our investigation is to ascertain the particular needs of the creative person. Although people's creativity may be very different, our hope is that the attributes of IT that creative users find useful may be reasonably constant and generalisable. At this stage in our research, we are primarily studying the creative practice of acknowledged artists. Even at the best of times creativity is hard to find. We consider artists to be specialists in creativity, normally with clearly defined creative output and well-developed and largely stable creative processes, so artists offer a number of advantages when studying creativity in action.

3. STUDYING CREATIVITY

In spite of considerable research effort, human creativity is still not fully understood. Mayer ([7], p. 458) suggests that “although creativity researchers have managed to ask some deep questions. They have generally not succeeded in answering them.” However, there does seem to be a general consensus that the two defining characteristics of creativity are originality and usefulness or value. But there is no single indisputable theory or model of creativity that can form the basis for the design of technology to support creativity. In this study, we focus on two related research questions:

- How are creative people inspired?
- What makes a creative environment?

Our ultimate and still remote research question is how might computing power best be used to enhance creative environments? In an attempt to answer these questions we conducted a number of contextual interviews with a variety of artists. The artists described are real people and the names used are their real names. The interviews were tape-recorded and later transcribed. As we were particularly interested in creative environments, we also engaged in observation whenever possible. These observations were recorded as notes, diagrams and digital photographs. We chose to focus on traditional rather than digital artists partly because of opportunity and partly because we believe that the influence of environments and tools is easier to observe in the creation of non-digital art. We also plan to study digital artists.

4. CASE STUDY 1 – JILL

Jill is a full-time Australian artist working in the traditional medium of paint on canvas. She regularly exhibits in Melbourne, Sydney and Brisbane. Jill’s paintings are generally large colourful canvases depicting primitive animal characters and human figures. These images represent people and situations from Jill’s memories, dreams and relationships. This undoubtedly has implications for her general creative practice since she needs to create the conditions for these images to emerge from her conscious and unconscious mind. Jill has created a large studio in her house. Jill uses her computer and peripherals, situated in a corner of the studio, to assist her in her painting. We have described Jill’s creative process in more detail in previous publications [4],[5]. In our study of Jill’s interesting use of digital technology, two significant and separate areas were evident. Sometimes, when she is in need of fresh inspiration, Jill will investigate ideas for new paintings using her computer. We have described this as electronic collaging. She may spend a week on the computer just playing with ideas. She generally starts by collecting a series of mostly random scanned images. For example, she will open a magazine at a random page and scan that page. She will also scan random images from books, her paintings, her sketchbook and even physical objects such as leaves. These images, or more likely just parts of these images, will be arranged into collages on the computer screen. If she particularly likes an image generated on the computer this will
form the basis of a new painting. Sometimes during the painting of a canvas, switching from paint on canvas to a digital representation offers her a number of advantages. We have termed this *media switching*. To achieve this she takes a photograph of her painting using a standard digital camera. She uploads this image into image editing software on her computer. Jill then uses the software tools to work on the digital image in various ways exploring possible compositional changes.

In our previous studies of Jill’s use of digital technology we became aware of a significant split between her initial *inspirational* and subsequent *functional* needs. Although such divisions are never clean cut, when Jill uses her digital technology for electronic collaging she is essentially fulfilling an inspirational need, whereas when she does media switching she is primarily making use of the functional digital advantage of experimentation with conservation. This case study particularly focused our attention on the importance of inspirational rather than functional factors in the development of creative environments. In addition, when Jill is using the computer for inspirational purposes she attaches great value in the ability of the computer to introduce (usually accidental) *randomness*, chance and choice as she refers to it. One of the most significant ways that computing power may be used in the support of creative inspiration may well be to introduce randomness or chance into an environment.

5. CASE STUDY 2 – FAYE

Faye is a trained visual artist living in Melbourne, Australia. She creates mainly landscape and cityscape paintings using oil or acrylic paint on canvas. Although Faye has a small purpose-built studio at her home, most of her paintings are produced in an outdoor setting. For the purposes of this research we observed Faye both in the field and in her studio. Faye particularly looks for artistic inspiration in the physical environment. She is always looking for a scene to paint. “I really like the outdoors. The light, clouds, rain, the atmosphere, people, it’s got to look alive; that’s what I look for.” In the country, Faye looks for interestingly shaped trees, different colours of the leaves, the shape of the terrain, different weather conditions, and so on. In the city she likes to paint old buildings, lampposts and trams. In the country, Faye usually sets up her easel away from her car. In the city, she normally uses her car as a mobile studio. She uses her car to carry her tools such as paint, easel and brushes, but also uses the tail-gate as cover when painting in adverse weather conditions and for privacy. When painting in the outdoors, the only significant distraction Faye faces is strangers that ask her questions about her painting. Faye has a small purpose-built studio at the back of her house. The studio has little natural lighting; so artificial lighting is usually required. The walls of the studio are decorated with her own and other paintings. She usually listens to the radio and television when working in the studio. This studio is mostly used for finishing off landscapes that were started in the field. She often uses photographs to add detail to these paintings. Things that distract Faye when painting in her studio are the telephone and friends or family members dropping-in for visits.

Our study of Faye showed even more clearly the split between *inspirational* and *functional* artistic needs. Since the physical environment is her primary source of inspiration, she has to transport her functional requirements to the site of her inspiration. Her car is used to transport these functional requirements and sometimes even acts as a mobile studio. When we compare the creative practice of Jill and Faye we see a marked contrast. Faye does most of her painting away from her studio, whereas Jill rarely paints away from her studio. This suggests a fundamental difference in their inspirational needs.

6. CASE STUDY 3 – KERRY

Kerry is a photographer and photography teacher who has been practising his art for over 20 years. He now takes digital photographs. The darkroom is no longer used for processing photographs; digital photographs are “processed” using a Macintosh computer and Photoshop software. Although his medium has changed to digital format he is still inspired in much the same way as when photography was chemical-based. He is inspired by physical locations and also often uses human models in those landscapes. He is also inspired by the work of other photographers, often displayed on the Internet. Kerry’s case does demonstrate that not all those working in digital media are inspired by sitting at the computer. His inspiration is generally outside, in nature, whereas the computer is mostly used for the functional processing of his images.

7. CASE STUDY 4 – THE VENERABLE BHIKKU SUMEDHA

The Venerable Bhikku Sumedha is a Buddhist monk and artist, who lives in a simple and remote cave near Kandy in Sri Lanka. The cave is used as a place for shelter, a retreat for meditation and also a studio for painting. Bhikku Sumedha creates his paintings in the middle of the night by candlelight. His inspiration
for his paintings comes from his meditation. His paintings act as a form of communication with the outside world for this silent and reserved monk. Although his paintings are sold to eager Western buyers his motivation for conveying these images to the world is his desire to stimulate in the viewer certain thoughts on meditation and reflection. Bhikku Sumedha was not always a Buddhist monk; in his youth, he was a professional artist in Europe. His artistic style has changed significantly in that time, and whereas he used to paint as a career he now paints as a form of meditation.

8. DISCUSSION

From our previous studies we had noted a significant split in the creative process between initial inspiration (finding the problem) and creative development (solving the problem). This distinction was again evident in these studies. Our studies also suggest that these two different stages may require different technological support. Our current studies also indicated another distinction. Weintraub [10] suggests that there are two distinct groups of artists: those who are inspired from within and those that are inspired by external influences. The first group tend to meditate, take drugs, record their dreams or excavate their memories to find inspiration, whereas the second group tend to be more influenced by factors such as nature, politics, injustice etc. Our admittedly small sample of artists tends to confirm Weintraub’s analysis. Jill and Bhikku Sumedha are clear examples of internally inspired individuals. For them, their working creative environment, whether a studio or a cave is their inspirational environment. Jill tries to create the conditions for her memories and dreams to emerge and the Buddhist monk requires the right conditions for meditation as a basis for his painting. Faye and Toby are examples of externally inspired artists. For them it is nature or the human form in nature that inspires them and the studio is simply a place where their inspirations are brought to completion. The internal-external inspirational divide may relate to what Czikszentmihalyi [3] describes as the distinction between micro and macro creative environments. Microenvironments relate to the immediate setting in which the person works whereas macroenvironments include the social, cultural or institutional context. Of course, all people work in both a micro and macro environment, it is just that the dominance of the influence may relate to whether they are internally or externally inspired.

9. IMPLICATIONS FOR UBIQUITOUS INSPIRATIONAL ENVIRONMENTS

Our studies into supporting creativity in general and creative or inspirational environments in particular are in the early stages, however one or two insights have emerged. Clearly the environment does play a significant part in creative inspiration. It seems that both micro and macro environments need to be considered. The relative importance of which will be dependent on the individual dominance of internal or external inspirational factors. Technological (possibly ubiquitous) influences in the microenvironment could be the control of light, sound or random images. Technological support of a macroenvironment is expected to be a more difficult task. It is hard to augment the inspiration of nature, but those whom are inspired by politics, social injustice or similar factors may value the technological connection of their working environment with the outside world. One significant design problem we face is that the conditions or attributes that make an environment inspirational are very personal. Perhaps the most valuable potential role for technology, and in particular ubiquitous technology in our busy and crowded lives, is to transform ordinary spaces into personal inspirational spaces when required.

REFERENCES