

Using Ambient Technology to Support the Social Creative Process

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ABSTRACT

Many researchers refer to activities such as design as creative processes, yet provide little definition of what they mean by creativity or how people go about being creative. Our research has led us to looking at such activities as social creative processes, involving communication and creative insight among a group of participants. During this workshop we intend to develop a definition of what it is to be creative and identify how ambient technology can support the social creative process.

Keywords

Ambient Technology, Creativity, Social Creative Process.

BACKGROUND TO WORKSHOP

Creativity has been an essential part of human life, without it we would not be at the technological development that we are today or have experienced the work of many famous artists, such as Mozart and van Gogh. However, there are many outstanding issues concerning creativity and how it works. Such questions are challenging as creativity often comes to one spontaneously and without explanation. This has been the work of many psychologists [2, 3, 7] for many years, and while many have developed various definitions for this phenomenon, no unified definition has yet been established.

Many researchers [1, 4, 6, 8, 9, 10] use terms such as 'creativity' when referring to activities such as the design process, but provide little definition of what such a term means. With such a lack of understanding in what is involved in being creative, we are left with the questions: What is creativity?; and how can an understanding of creativity influence the creative process?

Bonnardel [5] describes the creative activity of design as a specific problem-solving situation. Within problem solving there are two approaches to solving problems: algorithmically and creatively [2].

Algorithmic problem solving is when some pre-defined paths exist which can be executed to reach an end goal. The main characteristics of this approach are that there is only one end goal/state to a problem and there can be one or more paths which lead to the end goal.

The characteristics of *creative problem solving* are that there are no pre-defined paths which lead to end goals; therefore the problem solvers must generate their own paths. Within creative problem solving there may also be one or more end goals, dependent on the characteristics of our end goals which are defined during problem definition and preparation, determining the size of the 'domain of end goals'.

Viewing design as a creative process and following previous creativity research [2, 3, 7], we have developed a definition of creativity which can be applied to creative problem solving:

'Creativity is the generation of ideas, which are a combination of two or more matrices of knowledge, that are considered unusual or new to the mind the ideas arose in and conform to the characteristics defined during problem definition and preparation.'

Creativity in an activity such as design is the generation of ideas which allows the designers to define a path leading to an end goal belonging to some 'domain of end goals' dependent on the characteristics of the problem.

AIMS OF THE WORKSHOP

Ambient technology is increasingly being proposed to develop environments to support the creative process, for approaches such as participatory design, e.g. Alborzi [1] and Buur [6]. However, participatory design practice in general and these environments in particular tend to be founded not on theory but on practical experience. In our research we propose using a theory of creativity as a basis for the social creative process of design. With such a

theoretical basis we can propose and empirically test how ambient technologies may best support creative processes.

Key issues that we wish to discuss with respect to design during this workshop are:

- What is creativity?
- What is the process of being creative?
- Can ambient technology support this creative process?
- How can ambient technology support this creative process?
- What advantages and disadvantages exist in using ambient technology over others available?
- Can our new knowledge of creativity enhance the use of ambient technology or can ambient technology give a better understanding of creativity?

BEFORE THE WORKSHOP

To establish common ground between potential participants and to refine key issues related to this workshop a web forum will be established, allowing discussions between potential participants. Participants wishing to share their ideas and research at the workshop will have the opportunity to submit a 2 to 4 page position paper which will be reviewed by the workshop organizers, with a maximum of 20 participants being accepted. Accepted position papers will be posted on the workshop web site allowing for further discussion prior to the workshop.

WORKSHOP PROGRAM

The workshop will last one day, with the following provisional format:

The workshop will start by introducing the participants, followed by an overview of the day and what we hope to achieve from this workshop.

Before beginning the discussion on how ambient technology can support the creative process, the organizers will provide an overview of literature on what creativity is; the process of being creative; and other topics of interest which were raised on the web forum.

The next stage of this workshop will be for the participants to split into groups of about 5, dependent on their interests, to tackle key issues to be addressed by the workshop. For the most part, these issues shall have been highlighted previously on the website. Each group will formulate a brief presentation to allow for each group's findings to be disseminated to the other participants in the workshop.

To conclude the workshop we shall reform as one group. The organizers shall summarize what has been discussed and the workshop shall agree on directions for what we as a community need next to work on to develop ambient technologies to support creativity.

AFTER THE WORKSHOP

It is planned to report the outcomes of this workshop in a journal special issue, allowing our findings to be distributed to relevant communities. In addition to this, summarized reports will be submitted to the British HCI Group's *Interfaces* magazine and original papers and other relevant material will be made available via the workshop web site.

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