Virtual flock adviser

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Abstract
This paper analyzed a variety of instances of both creative and collaborative learning. It simultaneously developed and presented a framework for analysis of practice and research in these areas. Illustrative examples of the implementation of specific electronic networked projects in the Russian context are being presented. We live in times that require high levels of creative thinking for the citizens of the planet to work together. There is a great need for communication tools and shared spaces in which people can collaborate. Fortunately, we also have powerful tools that can help facilitate processes of creative and collaborative learning.

Key words: social software, hypertext, sociability, shareability, creativity.

Introduction

The process of creativity is an integral part of human interaction with social and ecological systems. Interestingly, the speed of social evolution has soared over the past decades. Cultural character itself has changed greatly as a result. The process of scientific data accumulation, inventive activity, and the speed of elaboration of new technological approaches have quickened. The world has entered a new stage of its evolution where cultural phenomena are regarded as a process of communication and knowledge acquisition. Scientific work and creativity are no longer possible without considerable changes in the ways in which we communicate and think. The development of telecommunications provided a common platform for human interaction. Computers and computer networks integrate all possible kinds of media. Modern computer tools allow for the integration of a number of different techniques for creativity and expression within the context of a single project. These technologies easily facilitate the integration of texts, graphics, animation, sounds and video. Nowadays, successful creativity – where it is defined as the activity of producing new, unique and effective results - is rarely possible outside of the context of networked communities that use telecommunications and involve intellectual agents providing an opportunity for creativity on a higher level.

Social Software

This paper presents and discusses creative learning in the context of three main types of social software: WikiWiki, blogs and tagging technology. Asynchronous collaborative tools WikiWiki are well known by the project

Wikipedia. The Wiki technology [Leuf, Cunningham 2001] can seriously affect the way computers are used in education as it permits to create and discuss content within the same space. The WikiWiki space is a counterpart of school blackboard where students and teachers exchange their knowledge. Self published on-line journals or Weblogs are well known by the popular blogging site LiveJournal.com. A huge number of communities whose members create their content has appeared recently [Rosenbloom A., 2004]. Readers publish news and comment them themselves. Remarkably, readers are allowed to not only carry out discussions but also estimate the quality of posts and comments. The mechanism of collective filtration ensures high quality of published material. Many researchers show interest in blogs due to their clarity and availability; they regard blogs as a type of personal e-learning spaces [Tepper M., 2003]. Tagging technologies are well known by the projects Del.icio.us and Flickr.com. The achievements of social software were recognized in 2004 when the projects WikiPedia.org and LiveJournal.com were awarded a Webby-Award for Best Communities.

The processes of community building with social software elements are more like the process of flocking because they are bottom-up and self-organizing. In fact, most bird flocks don't have leaders at all. Rather, each bird follows a set of simple rules, reacting to the movements of the birds nearby it [Resnick, 2003]. Each user of social software like a bird follows a set of simple rules, reacting to the behavior of the other users in virtual community. The behaviors of the overall system in all these cases like Wikipedia, LiveJournal or Del.icio.us arise from interactions among the users of the system.

New tools and new ways of leaning

According to Engelbart [1988] our tools and media are influencing our ways of doing and our ways of viewing the world. According to Turchin [1993] the same action may be a creative act when it is done for the first time and mechanical repetition of the past when it is done according to established, known rules, by applying standard procedures. Machines will rid the human being of that sort of work and transfer human activity to that level of the hierarchy which is still creative at the given moment. To illustrate this further, let us consider the case study of the building of several collaborative hypermedia projects. These projects were complex and creative two yeas ago. But now they are simple and obvious. When we look on them through the lens of social software we can see how to preserve our previous experience and how to improve our ways of collaborative learning.

The *Rural Media Library*[1] project got its start in 2002, it joined the teams of 14 villages, 60 senior pupils participated in the projects. Their objective was to create a collective hypertext representing the life in villages of Nizhni Novgorod region. At the initial stage of the project the teachers from the participating schools draw up a list of objects to be presented by each village —

the list contained 70 objects. In the course of discussion only most important objects remained and their total number amounted to 50. During the spring expeditions of April-May 2002 the participants made digital photographs, audio- and video records of the objects they were exploring. As a result, we got media objects collections specific to each village. The students' task was then to complete their digital materials with their own descriptions or stories. As we had already got exhaustive information about the objects, the students were asked to describe only their personal recollections and attitude towards the object. This seemingly easy task completely conflicted with students' previous learning experience. The following stage of the project consisted in writing essays on the topic "One schoolboy's day in Nizhni Novgorod village…" These were stories where characters are a part of village landscape with its pits, roads, rivers, and bridges, and they meet with teachers, old residents, and skilled craftsmen. As we have at our disposal several photographs and records describing people and objects from different villages, we can complete the stories made by the participants from one village with records from another village.

The second project "Collective hypertext of the biological station in the village of Staraya Pustyn"[2] started in the summer 2003; 30 senior pupils from Nizhni Novgorod and its outskirts took part in the project. The students used digital materials prepared for the National Park. Every student described one of his school mates, one site in the outskirts of the biological station, one animal and plant species prevailing thereabout. The texts were automatically supplemented with photographs and video streams from the digital collection. The students were requested to mention names of other objects when describing theirs; for instance, describing the road leading to the lake it was important to mention the plants which grow around. References among separate entries were established and supported by special program agents; our students were concerned only with the contents of their texts. It is important to note that not only the essence of the project was related to ecological problems but also its tools and forms were focused on the formation of collective self-organization experience. The project ended up as a network of interconnected objects as a result of individual activity.

The third project carried out in the autumn of 2003 resulted in an open hypertext encyclopedia about cities, regions, schools, and school pupils[3]. The information was gathered and selected by senior pupils from 12 schools of Nizhni Novgorod, Saransk, and Cheboksary. The project made use of the technology of automated text linking with the help of the program agent designed for the *Village Media Library* project. The list of objects to be described contained 70 objects connected with learning and cultural life of school pupils in different cities. The articles of the encyclopedia appear on the computer screen as a collection of all entries made by different authors on a given subject. The

encyclopedia is available as a web-site open for add-ins or an accomplished compact disk. A lot of articles of the CD encyclopedia are completed with photographs and videostreams made in the autumn of 2003 in the outskirts of the schools. All the encyclopedia entries are connected with others by means of references. The entries of the Internet version can be specified, modified, or supplemented. Moreover, the encyclopedia is now open for new entries; everyone who wants to complete it with some pieces of information can do this. If an author creates a new entry or a new notion which cites existed entries, the references between the notions will be made automatically.

The projects described above are based on the concept of regional network communities of learning. Collective activity of a regional network community of learning presupposes the presence of a common space equally accessible to all the participants where they could express their thoughts, connect different entries with each other. Such an electronic media comes to take place of a conventional blackboard where everyone can write and draw. It is important question who start to write first and who will be a leader-bird in the process of collaborative writing. At the initial stage of all these projects the teachers draw up a list of objects to be presented. It was done every time because we were worried about process of learning and try to control this process. As we see now through the lens of social software the new way of doing and learning gives to learners the control of information and lets them use their own words for creating collaborative hypertext. In this model of learning teacher is not a leader of the flock but rather virtual flock adviser or school adviser.

References

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