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From the Editors …

Welcome to the April 2012 issue of the Learning Technology newsletter on Social Networks and Social Computing in Technology-Enhanced Learning.

Since the birth of social networks and social computing many investigations have been conducted on how to utilize and use social networks and social computing efficiently for different purposes. One of such purposes is education and many studies have been done on using social networking/computing in the classroom and, in general, for enhancing education. This includes the development of concepts, educational strategies, and applications of social networks/computing in formal, informal and non-formal educational settings as well as their evaluations, and case studies and exploratory studies on how learning can take place and be facilitated in social networks and through social computing.

In this issue, we look into current research on social networks and social computing in technology-enhanced learning and introduce research works on using new concepts, teaching strategies and tools/technologies that support the use of social networks/computing to enhance learning.

Hernández-Leo et al. present two social tools for educators which have been developed through Spanish- and NSF-funded projects. Terantino discusses the potential benefits and deterrents to using social media for education. Santana-Mancilla & García-Ruiz discuss creation of a social TEL platform that supports the teaching process of a competence-based learning approach using cloud computing for the School of Telematics of the University of Colima. Hines & Jensen discuss the use of Pinterest as an online discussion forum in an attempt to inspire discussion. Silva et al. propose an ontology-oriented architecture for platform-independent multi-user choreographies. Choudhury et al. describe a novel application that will use the audio, image and GPS information from our smart phone and with the help of our clever input, turns it into more useful representation, either to be used as a fun for our family or being a meaningful representation of our business activities. Finally, Mavrommati & Fotaris describe a virtual design studio case study through deviantArt, an online social platform for artists and designers, used as a learning environment in a Graphic Design Course.

The issue also includes a section with regular articles (i.e. articles that are not related to the special theme). Casany, Alier & Mayolpresent the Moodbile project which aims to enable mobile learning applications to work together with the Moodle Learning Management System. Moutushy, Rifat & Ferdous describe a location-based game ‘Guess or Locate’ especially for children as an effective, attractive, and real life learning solution for them. Soualah-Alila, Nicolle & Gebers describe work under progress in combining semantic and recommendation technologies for supporting mobile learning applications. Finally, Dominguez & Peña propose a holistic model of the metacognitive activity through a systemic approach.

Special theme of the next issue: Data mining and web mining for educational purposes

Deadline for submission of articles: June 15, 2012

Articles that are not in the area of the special theme are most welcome as well and will be published in the regular article section.

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Special Theme Section: Social Networks and Social Computing in Technology-Enhanced Learning

Social Tools for Educators: Supporting the Needs of Specific Communities

Introduction

Social tools can play an important role supporting educators' tasks. In particular, an extensive literature elaborates the benefits that accrue when educators share learning resources [1]; however, educators do not share resources as often as we might expect given the positive outcomes of such sharing. Relevant obstacles seem to include lack of time, lack of confidence about the quality of their resources, and the desire to preserve and control ownership [2] combined with a lack of incentives for sharing either from the educational institution or from peer practice.

A number of current research projects use social media strategies to promote sharing by making it easier and promoting confidence in the materials. These projects differ in the scale of the educator community supported (e.g., institution, subject area across institutions, etc.), their open or closed nature (open access or constrained to the members of the community), and the intensity of their social functionality (e.g., co-editing, commenting, social-tagging, rating, etc.). LdShake and Ensemble are two such new tools for educators. The former emphasizes cooperation within small communities while the latter supports large-scale sharing. They represent current trends towards improving the support offered to communities of educators.

LdShake

LdShake is a closed social network platform for sharing and co-editing learning design solutions (resources and activities) by teams of educators. Each installation of LdShake is for the specific community of teachers registered in that platform [3]. Use cases for LdShake include (1) supporting intra-institutional teams of educators with distinct expertise that are expected to create integrated multidisciplinary activities, (2) teams in charge of teaching the same course with different groups of students, and (3) supporting inter-institutional teams of educators interested in activity co-design.

Educators can create and share *learning designs* with other educators (Figure 1). Each design solution is associated with a team of teachers able to cooperate on the authoring of the design, and possibly with another group that can see but not edit. Different access rights allow reading, commenting or co-editing. Designs can be found either by browsing via access rights, or by examining a social network of registered educators. The community can also customize the views with either community-specific or free tags. A design can be accessed outside the community via a URL only if the educator starting the design publishes it.

A *learning design* consists of supporting documents, computational representations of educational activities, tags and shared commentary. Different instances of LdShake can be particularized according to the needs of specific communities of educators. Examples of LdShake instances currently in use by different communities provide pre-formatted designs structured according to specific didactic methods (e.g., Problem-Based Learning) or integrate existing learning design editors relevant to a particular community (e.g WebCollage and eXeLearning).

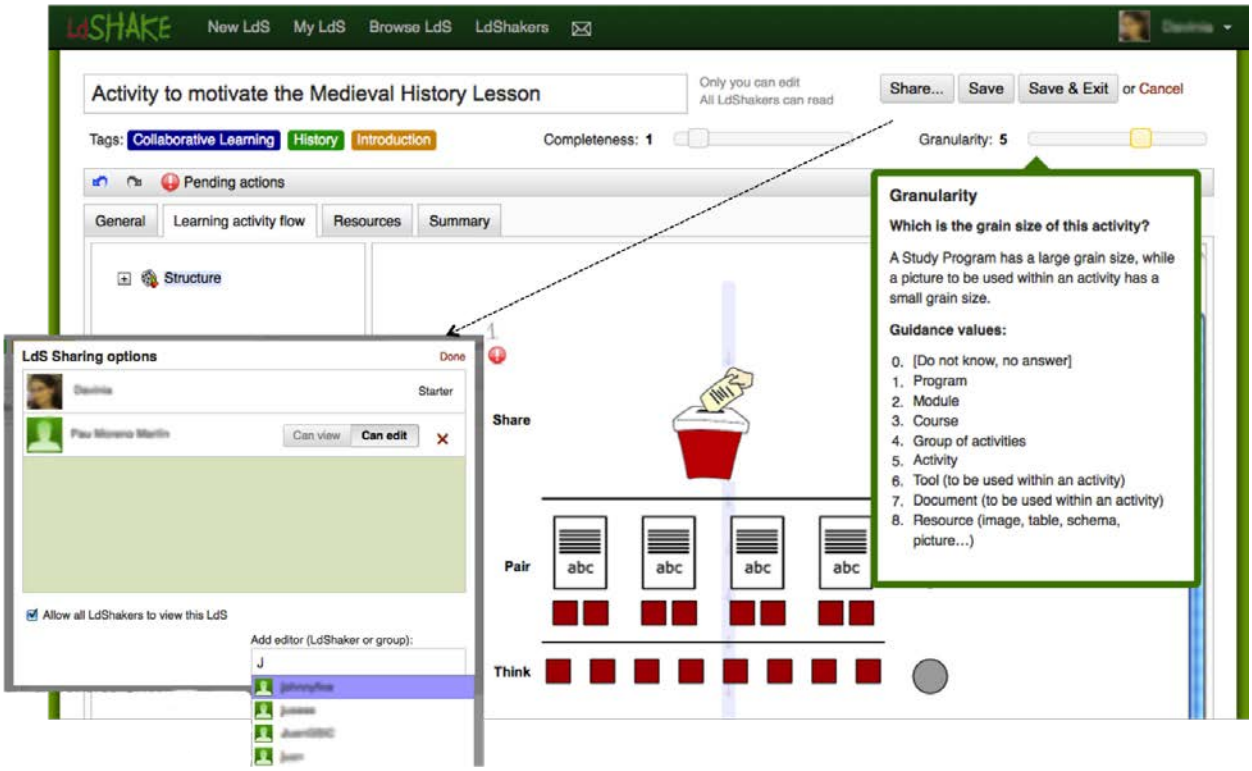

Figure 1: LdShake interface showing a tagged and shared design edited and presented in WebCollage (intances of LdShake supporting several communities are available at http://ldshake.upf.edu)

Ensemble

Ensemble is a distributed educational portal focused on computing education resources [4]. It collects educational resources from various sites and provides a number of services related to those resources (e.g., search, browse, rate, comment, etc.). As with other large-scale educational repositories [2], the main use cases for Ensemble include educators sharing and using existing educational resources, submitting new resources, and so forth. However, Ensemble is also a community of communities.

The Ensemble portal shows all of its communities, but they can be public (open to all users, registered or anonymous) or private (closed). Private communities require the manager's permission to join. Users within a community have the ability to use existing utilities (e.g., a forum) or they can create custom content types (e.g. a repository for syllabus) for their specific needs and preferences.

Usually a community has a description followed by various contents and tailored options (Figure 2). For example, facilities for the "CS1 Community Site" group include Group Forums and Syllabus creation facilities. A member can create a new forum post, create content (e.g., Teaching Strategy) or invite people to join the community. Ensemble also allows communities to have their own tags (right-side block in Figure 2).

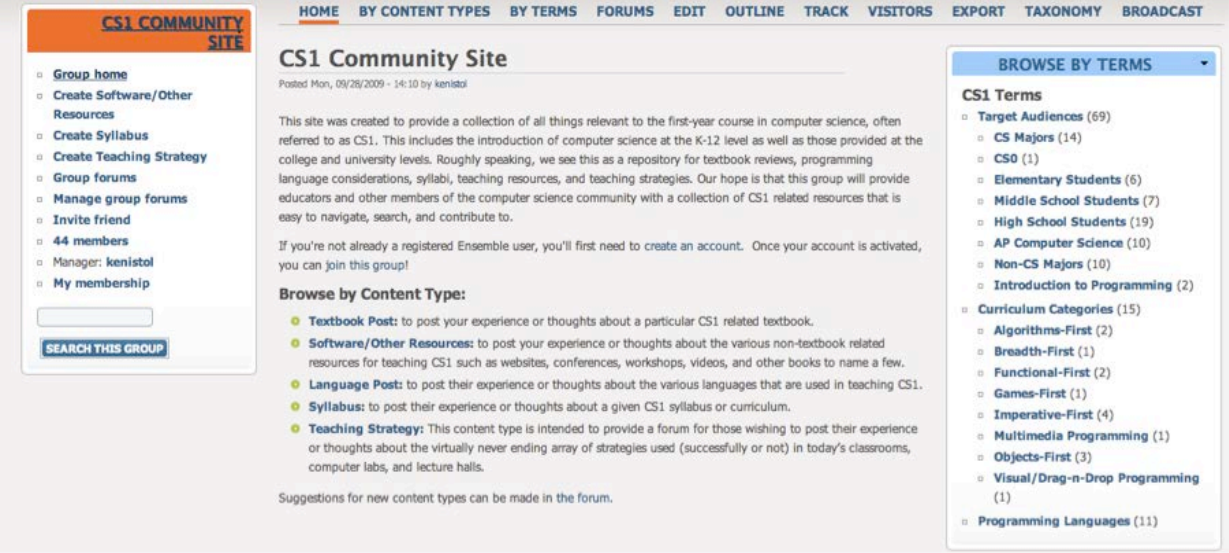

Figure 2: Options for creating and managing a specific community within Ensemble (list of communities in Ensemble is available at http://www.computingportal.org/community)

Conclusion

Both LdShake and Ensemble attempt to support the needs of specific communities of educators. Both enable the customization of shared content types and pre-defined tags, and feature social sharing and commenting. However, LdShake emphasizes the support of the social network in the reuse, co-editing and discussion of specific resources using integrated editing tools. Ensemble supports a larger collaborative network, consisting of a community of communities, and perhaps entailing collaborations that go beyond design conversations about specific resources. However, it appears to focus more on shared approaches and concerns than specific plans for classroom enactment.

Neither LdShake nor Ensemble addresses all the obstacles to the widespread adoption of resource sharing among educators, but they do reduce important barriers to ease of use, confidence in the quality of the materials. Because they utilize social features they also move a step towards the creation of a peer community in support of sharing. Ultimately, a strong peer community may break down larger institutional barriers to sharing.

Acknowledgements

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850 Million Users Worldwide: Should we use Facebook for Education?

Introduction

Would *you* use Facebook for education?

As of March 2012, roughly 850 million active users have a Facebook account and there are more than one billion posts per day [1]. Facebook now permeates nearly every aspect of our society. However, even though Facebook is by far the most popular and most widely used social media site in the world, the question remains, "should we use Facebook for education?"

Rather than provide an unequivocal response to the question, which supports or refutes the idea, this article presents a brief discussion about the potential benefits and deterrents to using the social media for education. This approach aims to allow the readers to formulate their own decision about whether to utilize Facebook for educational purposes.

Potential Benefits of Using Facebook

When considering whether to use Facebook for education it is important to keep in mind its practical advantages. First, Facebook provides access to an assortment of tools, and most students are already familiar with the platform. This aids in constructing a highly social and interactive environment. Also, some researchers have reported evidence of enhanced communication, student-to-student and student-to-instructor [2]. Second, the platform provides random and instant access to a plethora of information, which enables the implementation of a variety of projects and activities including study groups, class socialization, student role playing, tracking important figures, collaborative projects, etc. Third, in an experimental study it was found that students who accessed the Facebook site of their teacher who practiced high self-disclosure reported higher levels of motivation and affective learning in addition to experiencing a more positive classroom atmosphere [3]. Similarly, another study found that the students view their teacher as more credible if the teacher practices higher self-disclosure in Facebook [4].

Deterrents to Using Facebook

On the other hand, distinct deterrents to using Facebook for education have also been identified. First, the privacy and security of the students and the instructors are paramount when using Facebook. Students in particular are at a higher risk because they disclose more information about themselves [5]. Second, two important studies reported that students and instructors have mixed feelings about using Facebook to support classwork [6] [7]. Thus, it is not a foregone conclusion that students are willing to use this social media outside of their personal, social circles. Third, in terms of academic performance, one study found that Facebook users reported having lower GPAs and studying less than students who do not use Facebook [8].

Conclusion

As have been described there are definite benefits and deterrents to utilizing Facebook to support coursework. Based on this brief discussion of several relevant factors, would *you* use Facebook for education? Deciding whether to utilize Facebook for education depends greatly

on the nature and comfort of the students and the instructor. In many ways it is a personal decision each instructor has to make. However, when contemplating this decision, remember there are no easy solutions in education. Facebook will not be *the solution* to all educational problems; however, it may prove to be a useful tool.

As is often the case in education, selecting the right tools is a delicate balancing act. Tip the scales too far in one direction and teaching becomes much more difficult. For this reason it is imperative that educators make informed decisions. In conclusion, and reiterating the warning of others, be sure to approach "the use of Facebook for instruction with a sense of adventure and potential, but with eyes wide open and with caution" [9].

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Enhancing Social Interaction in Technology Enhanced Competence Based Learning

Introduction

Nowadays, Institutions of Higher Education (IHE) face the complex task of integrating virtual learning with the traditional context of the academic courses [1]. One of the greater supports for educational institutions that have helped to bridge the gap between face education and virtual education is the Technology-Enhanced Learning (TEL).

One of the main demands and, therefore a challenge for the IHE and the productive sector must be a close relationship to agree on the current demands of the future professionals. Argudín [2] talks about establishing a common language between educational institutions and companies with the purpose of succeeding on the formation of the current student profile. In our days, these profiles should be designed in competences.

The School of Telematics at the University of Colima (UCOL) in Mexico has adopted the competence-based model following the institutional curricular model in order to avoid content overload in the academic programs, as well as strengthen the University identity in the students and the growth of learning skills, new attitudes, and the ability to communicate and evaluate critically the information. To achieve this, the school currently uses TEL with e-learning platforms such Moodle and EDUC (UCOL proprietary), but such systems are limited in important features of competency-based model, and as Brown *et. al.* said that despite the tendency to shut ourselves away and sit in Rodinesque isolation when we have to learn, learning is a remarkably social process [3]. Thus, in order to create a successful TEL experience, it would have to include mechanism through which can foster social interactions to generate relationships between learners and professors including the competence-based approach.

Cloud social education

Cloud computing is defined as a paradigm that can provide computing services through Internet [4]. Through the cloud, the system (figure 1) will provide tools to support school activities and means of interaction with teachers and peers.

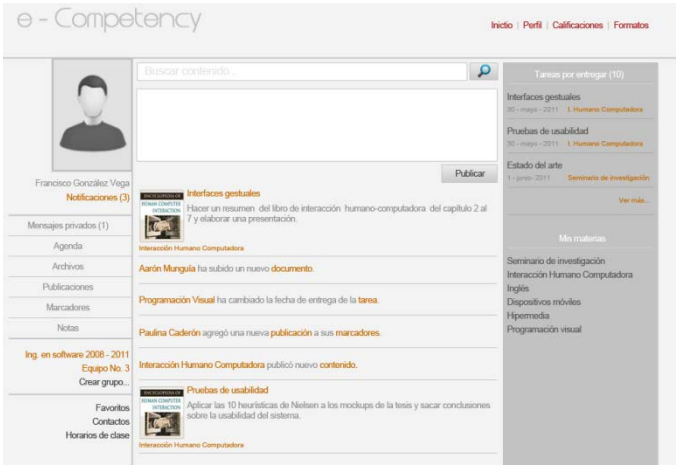

Figure 1: Students main screen

Architecture

In order to achieve the system's functionality we are proposing a cloud architecture. Next, we describe it services (figure 2).

Figure 2: Architecture overview

Publish homework: Professors will be able to publish homework.

Update subject profile information: Professors may update the general information of the subjects.

Upload grades: Professors may upload the evaluations grades.

Update the competency based format: Professors will be able fill competence-based formats of the subject.

Upload files: Users of the system have the option to upload files, each user will have its own repository of information to share files with other users.

Add contacts: The users of the system may add other users creating a growing network of contacts for projects or homework cooperation.

Search documents: Within the files repository, users may search for documents to use them as useful information for homework.

Publish content: Users will have the option to publish information.

Create work groups: Competency based learning is mainly done in teams, so the users have the possibility to create their own work groups.

Upload homework: Students may upload their homework previously published by professors.

See grades: Students will be able to check their grades.

See documents used: The system will have curricular documents available for the students in order to see what it is expected to be achieved by the end of the school term.

Update curricular documents about the Integrating Project: Authorized users can modify the content of the curricular documents for the Integrating Project.

Create syllabus: The professors may add the syllabus.

Evaluation

The objective of the evaluation is to know the viability of the system. The evaluation was performed as follows: Both professors and students were taken into account with a group of 6 people: 4 students and 2 professors.

Both groups had to go through an initial interview to know about their context and opinions in relation to the competence-based learning and about TEL. Subsequently, we presented the scenarios, two for students and one for teachers. After that, they tried the platform prototype, carrying out the tasks described in the scenarios. Once they were finished, they answered a Technology Acceptance Model (TAM) questionnaire about their opinions regarding the usability and acceptance of use.

About cloud computing, 80% of the participants have the perception of good experience, in relation to the competence-based learning, their agreed on the fact that this approach promotes self-learning. About TEL they have good experience using it for homework outside the classroom and they believe that a specific TEL platform for competence-based social learning will help them.

The TAM generated the following results.

The utility perception of the platform was high, matching with the improvements in efficiency, performance and utility (figure 3). The attitude towards the use was also acceptable, the participants mainly considered the use a good idea, apart from considering it useful to its proposes. The participants showed high intentions about the use, indicating that they would use it again whenever they needed to, apart from taking it to different school environments.

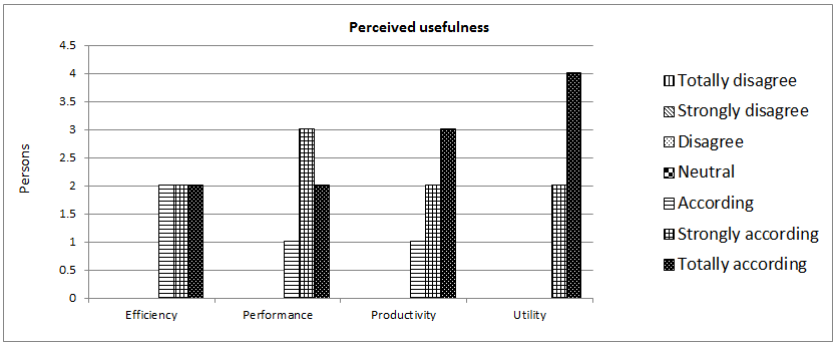

Figure 3.- Perception of usefulness

Conclusions

This work represents the creation of a social TEL platform that supports the teaching process of a competence-based learning approach using cloud computing for the School of Telematics of the University of Colima. The evaluation of this platform gave as a result that the platform is useful and allows a greater performance and efficiency, and it is also considered a good idea. Thus, this created good intentions in the users of using it again.

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On Using Pinterest to Create Visual Discussion Forums

Online discussion forums are the *de rigueur* method of generating and facilitating discussions in asynchronous online classes (Hew, Cheung, & Ng, 2010), though they often present a significant hurdle to online instructors with regards to student participation (Mazzolini & Maddison, 2003; Rossman, 1999). Though writing in online discussions can help students think through and formulate ideas as well as wrestle and work through higher-order concepts, participation and motivation in these forums is fickle dependent on a variety of factors, including student interest in the topics discussed (Mazzolini & Maddison, 2003; Newman & Johnson, 1997; Vonderwell, 2003). A higher amount of posts can self-generate interest in the discussion as well. To be successful, online discussion forums require a sizeable amount of posts (Hew et al., 2010; Mazzolini & Maddison, 2003). However, online discussion postings are often rife with quick, superficial responses–so-called "drive-by postings"–to initial student postings on a topic, wherein students do the bare minimum to meet the course requirements for posting.

A new paradigm in online education, the concept of Personal Learning Environments (PLEs), attempts to ameliorate this lack of participation by encouraging instructors and students alike to move online education into an environment more congruent with their actual

Another Web 2.0 value that aligns with discussion-based Web lies in the new conception of the Web as a curatorial space. In 2010, Facebook introduced the "like button" to the Internet outside its walls (Fletcher, 2010). This move was hugely successful and indicative of a greater shift in values to a more discussion-based and curatorial Web. What the Facebook "like button" does is shunt content toward a person's Facebook page, which now becomes an expression of their identity beyond a listing of their interests, photos, and interaction with their friends. Similarly, Pinterest is one of the Web's fastest growing social media networks, where users can pin pictures and links to virtual "pinboards" with commentary (Aronica, 2012; Manjoo, 2011). Other users can follow these pinboards and even take content and "repin" it to their own boards. In a short time, it has amassed a huge following, and is now one of the top referral sites on the Internet, meaning that it sends lots of users to other sites besides Pinterest (Aronica, 2012). One reason for its success is Pinterest's acknowledgment that the new Web 2.0 Internet has strong curatorial tendencies. Along with Tumblr, Facebook, and Twitter, the new social media give users quick and easy curatorial powers, wherein content can be "repinned" or "reblogged" or "retweeted" quickly and then shared with peers and the public, where it is placed up for discussion. This is the new, curatorial Web, where users construct this identity out of the media they choose to share, "like," and discuss via social media.

Because of its rise in popularity, the instructor in an online course in gifted and creative education at the University of Georgia called *The Social and Emotional Development for the Gifted* utilized Pinterest as an online discussion forum in an attempt to inspire discussion. Students were asked to join the site, "follow" their instructor, and participate in a discussion whereby they pinned images centered on course concepts and readings. Pinboards were created for special populations of the gifted that included gifted males, gifted females, students with twice exceptionality, students from culturally or ethnically different backgrounds, and students who underachieve. There were five boards in total and students were asked to pin two images to each board and share their reasoning for the pin as it related to course topics and readings during that week. Particular attention was paid by the instructor

to encourage students to really select items that represented the concepts of the readings, not just images taken a "face value."

This idea of an alternative, visual discussion forum was as an ongoing effort on the part of the instructor to frame the discourse of the class in ways other than traditional online discussion board format. The instructor observed that two major pieces of useful data emerged as a result of this discussion format. The first was that students demonstrated high engagement during this course discussion. Secondly, the idea of utilizing images as a way of capturing course concepts was introduced as a new idea in the continuum of discussion options for the instructor.

High engagement and motivation for this discussion session were observed in the quality of pins, number of pins, pinboard responses, and commentary shared outside of the discussion forum by students with the course instructor. Students' pins exhibited careful thinking and consideration in selecting images to demonstrate a particular idea or concept from the week's topics. Some images elicited lots of conversation about the topic because of the image selected and prompted richer, more meaningful discussion responses about the ways in which the students (as teachers and persons) had worked with or experienced the particular board's topic. Lastly, students shared with the instructor the enjoyment and meaningful way in which Pinterest allowed them to expand their understanding of the concepts through visual representation and discussion. Overall, the Web 2.0 tool Pinterest has presented an interesting new method of online discussion, one that is grounded in how many students already use the Internet.

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An Ontology-Oriented Architecture for Platform-Independent Multi-User Choreographies

Introduction

Virtual worlds have achieved significant levels of interest for supporting teaching and learning activities [1], [2]. In particular, they have been used as platforms for multi-user educational simulations and as virtual environments for educational role-playing activities [3], [4]. As social network platforms, virtual worlds allow deploying immersive learning choreographies that promote collaborative learning between friends/partners. On the other hand, the analysis of the social networks inherent to any virtual world allows (or facilitates) establishing learning relations between users/avatars that would not be possible otherwise.

Choreographies of virtual actors are a specific type of content, leveraging the availability of simulation or role-playing environments, populating them. This content requires planning, coordination of actors, sequencing actions and defining constraints, so that all individual components are consistently organized as a whole [5]. Further, choreographies of virtual actors can be seen not just as automated behaviors, but as actions that can be performed simultaneously by human users and virtual computer-controlled characters endowed with autonomy and ability of interaction.

Because designing a choreography is a resource-intensive effort, it would be desirable for the result not to be hostage to a specific virtual world platform, but rather deployable on potentially any virtual world platform. However, because virtual platforms are very heterogeneous in terms of features, data model, execution engine, and programing/scripting language, deploying a platform-based choreography into another platform is difficult and time-consuming.

Our main objective is to find a way to design/model, and represent mixed human/automation choreographies that enable their deployment on distinct virtual world platforms with minimal effort and time.

Description

The proposed approach is based on three main components (Figure 1): A generic high-level and independent data model that represents the choreography; a mapping component that establishes links between the generic data model and the specific data model of each virtual world, and performs all the necessary data transformations; A player component that has the ability to interpret the high-level language of the choreography, transform it into lower-level platform-specific commands and control its execution.

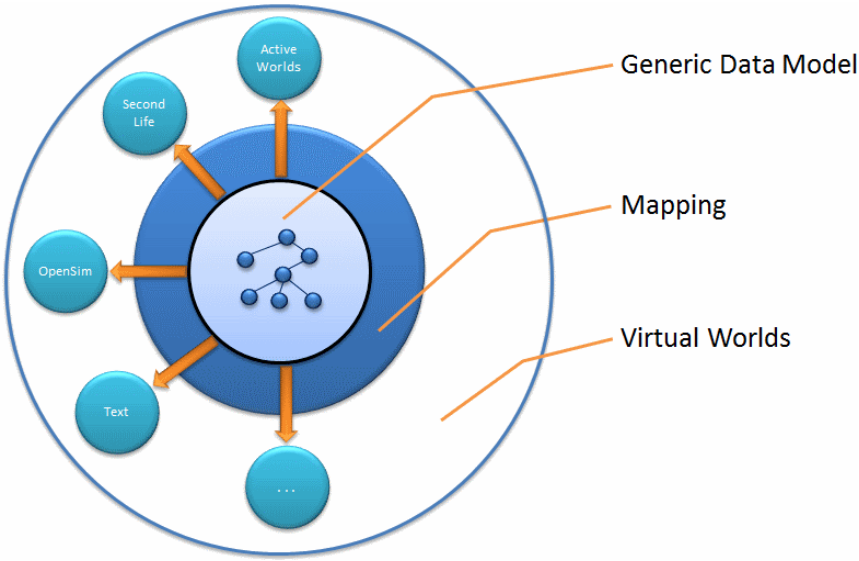

Figure 1 – Diagrammatic representation of conceptual proposal.

For the data model we envisage the adoption of ontologies due to the fact that ontologies have an adequate compromise between representation and expressiveness of information. When combined with an inference engine, an ontology gains particular relevance because it is endowed with a capacity to obtain new information implicitly from that declared explicitly.

The overall scheme of the proposed process of creating choreographies as well as its portability for any virtual world is illustrated in Figure 2.

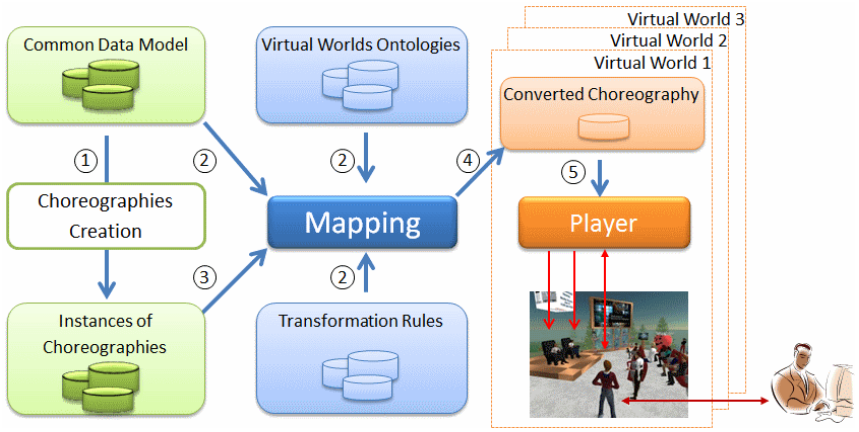

Figure 2 - Process of creation, transformation and staging of choreographies for any virtual world.

Firstly, we define the common data model that will serve as a reference to all virtual worlds. The ontology should focus on a particular domain of application and must represent the relevant concepts and properties in this field that may be the object of staging, namely the actions and characters.

We propose that the actions must be modeled as concepts, contemplating different degrees of detail to enable its use with different levels of granularity. Relationships between actions should be modeled as properties. The relationships between actions indicate the sequence of execution, such as concurrency or precedence relationships.

In addition and whenever is possible internal rules should be added to the ontology to increase the capacity of inference and obtaining new implicit information, avoiding its explicit declaration.

The content authoring process by choreographers consists of instantiating concepts and relations defined in the common data model (1), and to define who are the characters that should perform each action.

Given the profusion of distinct virtual worlds in terms of functionalities and vocabulary, the representation of a domain of application can be made in very different ways. In order to know exactly how a domain of application is represented on a particular virtual world, one must set up an ontology to describe the concepts and properties, the relationships between concepts and the used terminology.

In our approach, it is a necessary condition that each virtual world has an associated ontology containing the information required for the domain of application.

Then, the transformation rules should be created, containing instructions for conducting the matching of concepts and properties between ontologies. They will act as a bridge between the ontology of the common model and the ontology of the virtual world.

Finally, the mapping process would convert the generic information into the specific information of an implementation environment.

From the common model ontology, the destination virtual world ontology, and in accordance with the transformation rules between these two ontologies, the instance of a choreography would be dealt with by mapping (2) and transformed into a choreography converted (3) into the desired format, suitable for the concerned virtual world.

For staging a choreography within a virtual world, it is necessary that its contents is interpreted and executed through a Player compatible with that specific virtual world (4).

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RetrospectGallery: Create Stories from Your Life

Try to remember, how many times you have heard fairy tales from your grandma, or made up a bedtime story to put your child to sleep. Surely, most of us have heard a lot of common stories, and when we run out of our stock, often we make allegorical stories out of our daily experiences. The charm with these fairy tales is that, though imaginary, they have some common logic, resemblance, matching with our daily experience, so they do not sound absurd even to the children. That's why we have long seen the effort to generate stories automatically using smart software, and today's modern marvels, the smart phones/pads added what we required to make it more attractive - multi-modal sensors to capture the real world around us, and convert it to the augmented reality world.

Human knowledge is based on stories and the human brain consists of cognitive machinery necessary to understand, remember and tell stories.[1]A story can be used as an effective educative tool for children as it is engaging, has natural appeal to children and inspires imagination. Also, a large amount of information can be provided in more attractive way through stories, thus making *storytelling* an indispensible part of the learning tools. In our research, we are trying to make a novel application, that will use the audio, image and location information from our smart phone and with the help of our clever input, turns it into more useful representation, either to be used as a fun for our family or being a meaningful representation of our business activities. Before going in depth about our proposal, let's discuss some existing applications and their features.

Applications that use geo-location information for entertainment purpose is not very uncommon. *Foursquare* is one of the first commercially viable location based social networking site. It uses the location data from user's smart phone and presents his activities to his friend network. *Dailyplaces* and *OpenPaths* are two more applications to share location data and experience in a social network.

Existing works on digital storytelling have many variations in presenting the story. An example of solely textual representation is the story maker application of the British Council for children to learn English[2]. The user can quickly create a short story by selecting the genre, some characters and some other objects of the story.

Another example is to create the story as comic strips in *story strips*[3]. One can edit the speech bubbles and change the expression of the characters in some provided screen templates. A more flexible application, *2simple*,[4] provides options to draw pictures, add transition of frames, add text and finally produces a video of the story.

Storyboard Generator[5] provides a script, some related background and characters. *Toontastic*[6] is another application that creates an animated story made up of selecting different scenes and characters. The characters can be moved, scaled and rotated with multi-

[1] Wyer, Robert (1995). *Knowledge and Memory: The Real Story*.
[2] http://learnenglishkids.britishcouncil.org/en/make-your-own/story-maker
[3] http://pbskids.org/itsmylife/games/story_strips_flash.html
[4] http://www.2simple.com.au/2createastory/video/index.html
[5] http://generator.acmi.net.au/storyboard/
[6] http://launchpadtoys.com/toontastic

touch gestures around the screen, and sound can be recorded with microphone. Finally, the created animated video can be shared online.

All the existing applications have their own interesting features, but none of them has combined real position data of users with story making. With the use of geo-location data, the created stories will combine the essence of real world with the imaginary world. At the end of the day, you can retrospect what have you done and that can help to make a direction of your life. You can show your child how you have been all day, and with your creativity, can turn your daily mistakes a teaching lesson to the child. The collaborative story making with the people you are related with can help you to value their individual contribution in a group work, and also their contributions in your life.

One can use our story making application from his smart phone. The user's location and the amount of time spent in that location is periodically recorded through GPS. A recorded location can be added or discarded from the story. The user can associate a task with each location. A task list related to the location is suggested for user convenience. For example, if the user is in a college campus, then the related tasks can be attending a class, attending an exam, studying in the library, etc. He can introduce any new characters, objects and add recorded sounds in the story.

A story is created based on these locations, the amount of time spent, and the associated inputs. The story can be a real representation of the user's daily life, like a diary. Also, the user can work with his creativity and can blend the story with real locations and imaginary inputs. The user can edit the created story any time.

The stories can be shared with others via social networks. These introduces a new option in the application, called collaborative story making, where authorized users will be able to make a contribution in one another's story. The application can be used to tell the gradual accomplishment story of any particular work by collaboration. The idea is to combine the story of the people, who are related by doing something together. If a user is in the same place as any of his social network friends, and doing the same thing, he can link that friend with that activity. The story will be focused on the common activities of these persons. With proper contribution of each involved persons in this story making process, finally it will become the story of how that work has gradually been done. It will not only help to retrospect, but also to improve teamwork.

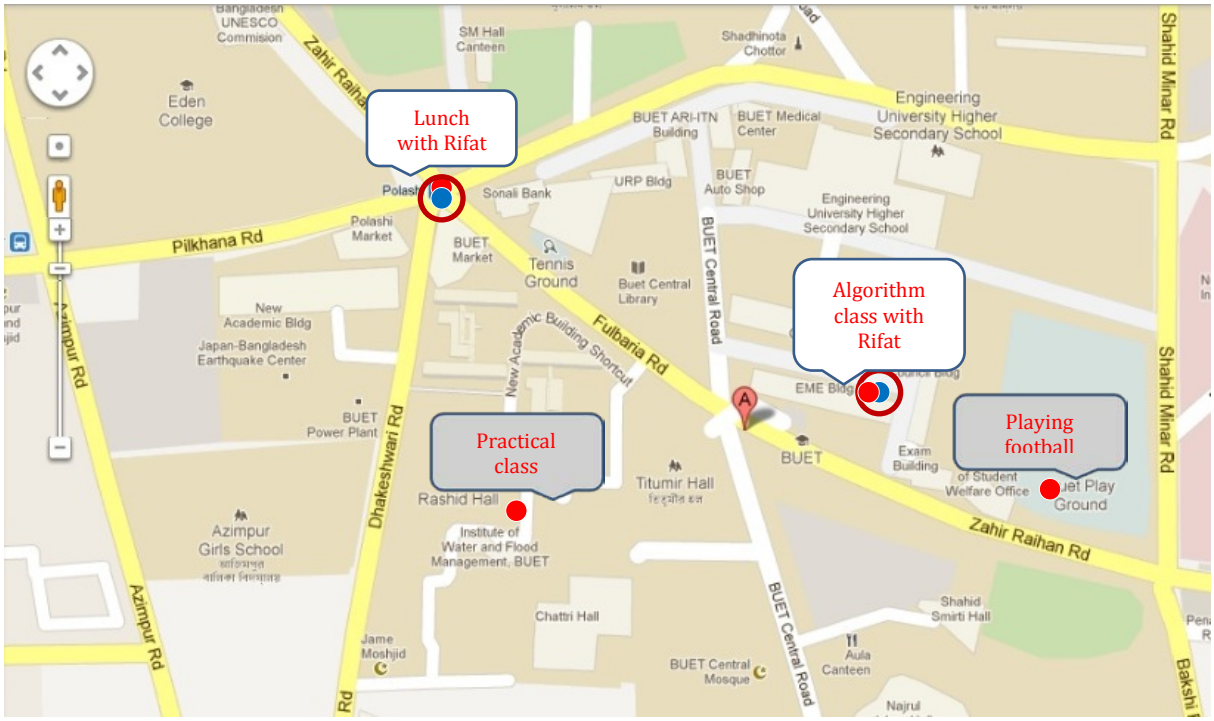

Figure 1 - Individual and group activities of a user in different locations.

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Teaching design from a distance: the deviantArt case of Virtual Design Studio

Design studio is a dominant teaching method for art and design, promoting exploration and peer learning. Virtual Design Studio (VDS) addresses the needs of distance learners. A VDS case study using deviantArt (an online platform for designers) during a Graphic Design Course, is presented.

Design Studio has been dominant in design education for the Arts, Architecture, and Design since the the Bauhaus School in the 1940s. Studio is a space for discussions and experimentation, emphasizing communication and cooperation between peers. Students learn by experiencing (hands-on), while tutors monitor their progress and make observations which guide their analytical and synthetic skills.

For the needs of distance learners and through the advances of ICT technology, several ways of VDS practice have emerged [2], yet, there is no single established model that replicates the design studio method in a digital context. VDS has three significant differences to the traditional design studio [3]: participants are geographically distributed; the teaching and learning occur via digital objects; and the communication can be either asynchronous or synchronous. Asynchronous communication increases the tutors' schedule flexibility. However, written communication tends to be more time-consuming than discussion and the large amount of data to be processed and of feedback required, can increase the tutor's workload [1]. Feedback in VCD is not immediate, and is limited to only the uploaded designs. The development of subsequent drafts by students is thus affected [5]. Interaction between participants (partly dependant on their ICT skills) may not be as rich or immediate as in the traditional design studio, and is affected by factors such as limited screen resolution, bandwidth, as well as the psychological and practical constraints of virtual communication.

A pilot use of a *deviantArt*-based VDS was set up aiming to facilitate a distance learners course in Graphic Design of the Hellenic Open University (HOU). At the end of the academic year an evaluation was carried out in order to assess its validity as a distance teaching method for design and identify its weaknesses, strengths and improvement opportunities.

DeviantArt was used as a delivery platform, as it directly displayed visuals without the navigation overload of other online collaborative virtual environments. Fifty multidisciplinary students from three classes (guided by three tutors), geographically disperse, participated in the 2010-2011 academic year. The students were treated as a single group in the context of VDS. A total of 5 assignment folders were created, 720 images were posted in academic year 2010-11, with 6,321 page views. Many images were left without any comments, which upset the students, as the availability of feedback from peers and tutors was seen as an important and necessary part of the design studio process. Nevertheless, the possibility to see an overview of design solutions in each assignment and to compare one's work against others', was taken up by students and was regarded favorably. This was particularly beneficial for the weaker students, especially those with backgrounds not related to arts, as it improved their understanding of the assignments requirements, and made them more aware of quality and assessment criteria. Finally, 27 students responded in 32 questions (using Likert scale) of an online questionnaire set up by the HOU Evaluation Unit.

The findings report that most of the responding students have used deviantArt to upload designs in 3 to 4 assignments. They received -mostly from their peers- a satisfactory amount of comments per overall assignment (2,7 comments per assignment) although some of the designs were left uncommented. Although they consider the amount of comments beyond average (2,3/5) they reported benefits from being able to view all comments but mostly from viewing other designs (average response exceeding 'enough': 3,4/5).

Most students viewed positively their participation in a single VDS group. The discussion and commenting process online seemed to help a satisfactory establishment of group spirit (2,9/5), between the geographically disperse students of the participating classes.

On the negative side, there was not enough dissemination of the deviantArt global design community and the students. Exhibiting the students designs online (initially regarded as a benefit for using this platform), was not regarded successful. Views from other 'Deviants' into the course-designs scored very low and so did the students views to other designers outside their team.

Overall positive responses were gathered (3,4/5) for using deviantArt, when compared to other social networks, it's use sees as overall beneficial, and positively encouraging its future use for the course. In questions relating to 'ease of use' of the platform, the overall usability and the uploading images was considered satisfactory (3,4 /5), while adding comments scored high in ease of use (4,4 /5) and so did the viewing of both comments (4,2 /5) and images (3,9 /5).

Conclusions

Teaching design to a multi-disciplinary group of students in a distance education context marked by the lack of an established physical community of peers and by limited opportunities for face-to-face tuition is a significant challenge. An advantage of using the deviantArt platform is providing students with an overview of the work of their peers and peer-review comments, both acting as stimuli. A sense of student community is gained, which may otherwise be unattainable.

We would like to thank students, tutors of Graphic Design, and the HOU Evaluation Unit. Assignments can be accessed at http://gtp-eap.deviantart.com/ .

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Regular Articles Section

The Moodbile Project: Extending Moodle to Mobiles

A rapid development and popularization of mobile technology has produced an increasing demand of applications for mobile devices, commonly known as “apps”. Current mobile devices have access to great computing power on unprecedented small sized devices, multimedia capabilities, network connectivity, GPS, motion sensors and camera. Apps feature functionalities that traditionally were provided by desktop computer software. Mobile devices and apps are taking users away from desktop computers and making IT ubiquitous and part of the user’s everyday life.

In e-learning, mobile devices are also becoming a complementary way to access learning contents, learning communities and to participate to e-learning activities from a mobile context (this is one approach to m-learning). M-learning may also enhance e-learning by increasing communication and conversation opportunities; it convents the learning process to be more collaborative and learner-centred [STV05].

The Moodbile project (http://docs.moodbile.org/index.php/Moodbile_Documentation) is a Free/Libre and Open Source Software (FLOSS) project initiated by the SUSHITOS Research Group (http://sushitos.essi.upc.edu/) at the Universitat Politècnica de Catalunya - Barcelona Tech (UPC) with the participation of the GRIAL Research Group (http://grial.usal.es/grial/) at the Universidad de Salamanca. Participants in the project are active members of the Moodle.org community since 2004. We are the main contributors in the development of the Moodle 2.0 Wiki, the Moodle’s webservices subsystem and the upcoming IMS LTI consumer. The aim of the Moodbile project is to enable mobile learning applications to work together with a Learning Management System (LMS). Rather than just creating mobile apps that replicates LMS functionalities on a mobile device, Moodbile provides to m-learning developers with the necessary tools to allow mobile devices to interact with the LMS.

Although there are many LMS available on the market, in its first stage, Moodbile is based on the integration of m-learning applications and Moodle. The main reasons for this choice are that Moodle is the most used open source LMS, it is supported by a large international community of members, it has been translated to more than 75 languages, many Spanish educational institutions, including our universities, use it [ACC+10] and [Abe07].

Two strategies are established to gather functional requirements to the project: 1) we have considered related work and similar projects in this field [CF07], [MDS10], [Tho10] and 2) we have performed a log analysis of the Moodle server used at the UPC. From both analyses, we have considered the basic Moodle features necessary to be included in the Moodbile project first step.

Moodbile architecture

The Moodbile Arquitecture description includes three main components: Moodbile Webservices, Moodbile Server and Moodbile Clients.

- **Moodbile Webservices** component corresponds to the specification of webservices for supporting the integration of external apps with the LMS. These services are not bound to any specific webservices protocol. A detailed description and specification of these services may be found in http://docs.moodbile.org/index.php/Moodbile_WS_Documentation_v0.2

- **Moodbile Server.** The LMS considered at this step of the Moodbile project is Moodle v.2.0.x. This version of Moodbile Server has been tested for Moodle 2.0.5 and can work on Moodle 2.0.x. A plug-in that implements the Moodbile webservices for Moodle 2.0.x may be download in the following url: http://docs.moodbile.org/index.php/Moodbile_Server_for_Moodle

- **Moodbile Apps**. Several clients or apps has been developed in the project to evaluate functionality and usability of our m-learning proposal:

    - **Moodbile HTML 5 Client**. Moodbile Client that runs on most mobile browsers. Moodbile HTML 5 Client runs on the same web server as the LMS and provides a Mobile Web friendly limited front, using the Moodbile Webservices specification. Moodbile HTML 5 Client is intended also to be a reference implementation of how to access the Moodbile Webservices from HTML5 / Ajax. Detailed information may be found at: http://docs.moodbile.org/index.php/Moodbile_HTML_5_Client.
    - **Moodbile Android Client**. This client is an Android App that provides a limited front end to the LMS written on native Android code. Moodbile Android Client is intended also to be a reference implementation of how to access the Moodbile Webservices specification from Android clients. Detailed information may be found at: http://docs.moodbile.org/index.php/Moodbile_Android_Client.
    - **Moodbile iOS Client**. This client is under development and we expect to have a pilot for iOS devices very soon. Please, check the Moodbile iOs page (http://docs.moodbile.org/index.php/Moodbile_iOS_Client) for details.

The Moodbile project aims to propose an interoperability solution to integrate m-learning applications with the LMS, incorporating m-learning into the learning process of educational institutions. This will allow m-learning applications to widen their scope instead of being isolated from the learning process. It also will allow LMS to be more flexible e-learning platforms.

Moodbile aims to propose an open specification of webservices to support the integration of external applications with the LMS [CAC09]. The initial version of the specification works for Moodle, but authors are working to adapt this specification to other LMS, to create an LMS-independent specification. Since this specification is open-source, it is open for developers of third-part applications to use it. Authors are also working in the design of special m-learning activities inside the LMS.

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Guess or Locate: A Location based Gaming Approach to Teach Children Collaborating with the Real World

It is often said that today's modern technological marvels have detracted our children from physical activities. Social networking and gaming consoles preoccupy their leisure and the amount of physical activities decreased significantly raising many potential health risks. On the other hand, these people love gaming, so it may not be suitable to tell them leave gaming altogether. So introducing location based learning games suitable for kids are the answer to get them on their bums and out of the house again, and at the same time, making it happen in their way. In early experiments and research, location-based media have focused on marketing and advertisement, but now educational applications are also emerging rapidly. Location based gaming makes the communication richer and increases awareness of physical and temporal constraints. It also improves confidence to draw on perceived experience, making it important in education as well as recreation.

There are some existing location based learning applications we can talk about. *CEOlutions* is such an apps running in Singapore. Initially *CEOlutions* had the opportunity to get involved with a program to teach military history to the schoolchildren. Next, the Ministry of Education in Singapore decided to extend their support of students learning outside the classroom. *Citizens Commons* game is another location based learning game. Here, the players are given the task of finding solutions to community problems in the New York city. Players take photos and add a description of their ideas about it. The entry was uploaded to the game server with GPS coordinates pulled from the players' phones. Other players voted on entries and suggested their own ideas for improvement. Although the game could be performed solo, players often teamed up to create their own social experience, thus exploiting the power of social networks. *Parallel Kingdom* is another mobile, location based, massively multiplayer game that uses GPS location and Google Maps to place users in a virtual world. The other location-based games we can state for example are *Zombie, Run!*, *CYA (Claim Your Area), Tourality GPS Treasure Hunt*, *Where You Go*, *Geocaching*, etc.

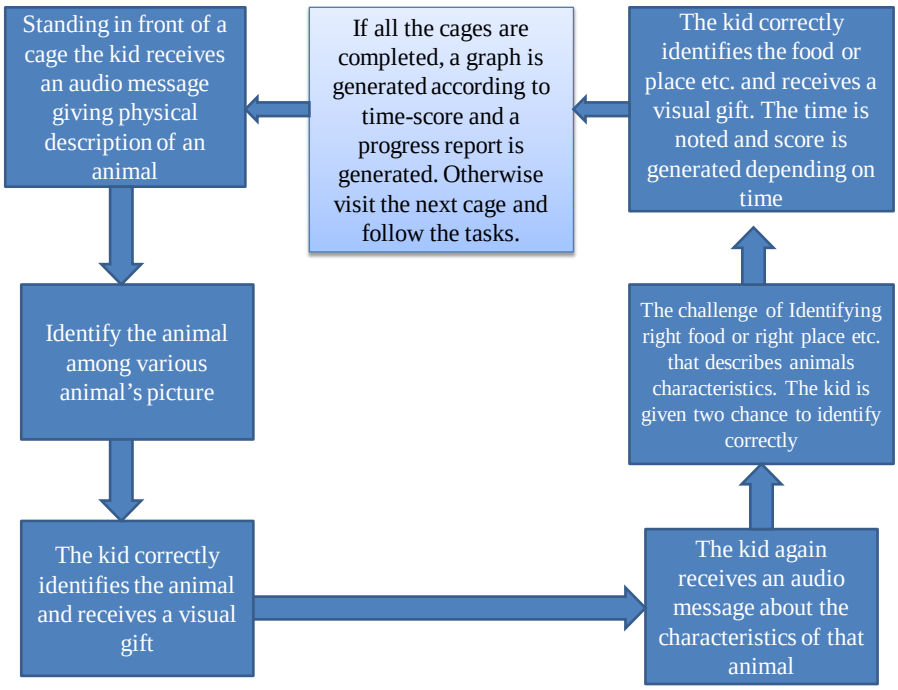
The above stated games do not specially focus on kids and their learning procedure collaborating with the real world is not considered. Children are more enthusiasts about new things, specially using multimedia contents nowadays. But in most of the typical learning systems, learning elements are static rather than participative. For example, often children are taught about animals, trees or other substances from their neighborhood through conventional books. But learning would be much more attractive and interactive for a child if the learning system is designed as participative through the use of technology. Now-a-days mobile games and different cartoon characters are becoming more and more popular amongst children. If we can make learning system little bit realistic integrating with games and collaborating with the real world, teaching will be much more effective.

Taking all these facts into account, we propose our location-based game '*Guess or Locate*' especially for children as an effective, attractive, and real life learning solution for them. In our application we are using a real life scenario, suppose "A ZOO" and integrating it in the game to help kids learn about animals. The application is divided into two segments. First segment is for 3-6 years old children and the second segment starts from 7 years old children. The adult can also play it for fun.

A kid, standing in front of an animal's cage will receive an audio message describing the physical attributes of that animal. The location of the cage will be tracked by that kid's phone

using GPS. Next, the kid will receive a challenge to indentify that animal among various animals' picture. If the kid can identify the animal correctly, the response time will be recorded and she will receive a congratulating message from her favorite cartoon character. In the 2nd level the player will again receive an audio message about the behavioral characteristics of that animal, i.e., the animal is wild or gentle, what kind of food it eats, where it can be found, etc. Then she will again receive a challenge, like to choose the right food for that animal from a list of image or right place to find it from a list. In each level, the player will receive two chances to answer. Her choice with response time will be noted and she will be rewarded a visual gift of her choice. After completing the zoo tour, or choosing to finish the game, players or their guardians can see summary or detailed graphical report depicting their performance to measure progress.

The following block diagram shows the flow of control in this game segment:



In the second segment, the player will receive a list of animals divided into different levels. Then they will receive a map indicating the cages of the animals in level-1. Players have to find out each cage and input the name of these animals through their phone standing in front of that cage. Then they will receive the map for the subsequent levels. After completing each level, the players receive their score depending on their required time to complete the level. There is an option to upload their score in facebook where players can compare their performance against their friends.

We are building the game on android 2.2 platform and connecting it with facebook using the facebook android API. The main challenge of our approach is the price and availability of a smartphone for a child. But with the rapid growth in smartphone users we hope that this issue will alleviate in near future.

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Semantic and Contextual Approach for the Recommendation of Learning Modules in Mobility

Many researchers argue that mobile learning is just an adaptation of e-learning on mobile technology, but far from a simple extension of e-learning, m-learning raises original issues in technological and pedagogical terms. M-learning is usually based on the consideration of a context rich on information and interactions. The challenge of m-learning is therefore, not simply to transfer on mobile content designed primarily for e-learning. This concept implies that we must rethink the entire process of the learning experience in mobility to maximize its efficiency.

The influence of learning context in a situation of mobility, gives rise to the concept of contextual awareness which stands for the use of "context to provide relevant information and/or services to the user, where relevancy depends on the user's task" (Dey, 2001). Beyond a simple formatting of education, mobile environment requires an adaptive system that can dynamically combine instructions elements in a learning context.

E-learning refers to training devices, which main objectives are: autonomous learning, distance learning, individualization of training and development of online educational relations. Two major players in the system should be defined: the e-trainer and the e-learner. The e-trainer acts as a pedagogical expert in a given domain. His function is essentially to transfer knowledge into blocks of learning modules or answer questions from learners with chat tools or forums. At the same time, the e-learner becomes an actor of this learning. All the tools at his disposal allow him a more accurate and direct access to information. Nevertheless, the learning situation is not controlled. The distance between the two actors reduces the motivation of the learner and the constantly changing learning context makes sometimes the learning content itself inappropriate.

Mobile learning cannot be reduced to the use of e-learning content on a mobile system. Mobile learning requires both a dynamic adaptation of the learning process to the context and a redefinition of the usual process of creating learning modules.

Three key words can describe m-learning: content, context (defined by environmental constraints and learner's profile) and collaboration. The environment of the mobile learner imposes specific constraints on the learning experience. M-learning requires first a better organization of knowledge, for a better rendering in a mobile situation. In addition, mobile devices inherently encourage learners and educators to communicate and collaborate.

In this new environment, the trainer must find another way to build his training modules, favoring collaborative teaching and considering the situation in which the learner is located. Now, the key point of our approach is whether trainers are culturally ready to face this jump, and if so what tools to provide them?

In partnership with the company "CrossKnowledge", the European leader in the field of e-learning, we are working on a new approach to mobile learning, combining both technologies like the semantic web and recommender systems with socio-technical analysis of the relationship between trainers and learners.

This new approach is based on the recommendation of combinations of teaching units. This recommendation is made in real time; it is scalable and determined according to the learning context defined by the situation of mobility.

To answer to the cultural gap for the trainer and the requirements of m-learning, we propose a new methodology for describing their teaching modules using ontologies.

The term ontology, conceived by Aristote and democratized in the domain of semantic web by (Gruber, 1991) is a model of knowledge representation based on the meaning of things. Ontologies can then be used both for modeling context and for organizing learning materials around small pieces of learning objects (atoms) semantically annotated by the pedagogical expert. To exploit the potential of this type of ontology, we will develop a set of weighted rules that help trainers to design learning modules aiming at situations of mobile learning. This design process will be performed using a monitoring tool that builds rules by combining learning atoms according to the teaching context. The combination of context (geo-location, learning time, parameters of mobile devices, user profile, etc.) to the field of m-learning, make it possible to understand dynamic requirements and real needs of learners to provide adequate resources.

This architecture forms a recommender system that can be attached to the family of content based recommender systems. This choice depends heavily on the quality of content and organization of learning modules, required for the recommendation of atoms to learners. This architecture is based on three layers: the domain model and user model that corresponds to the static part, and the adaptation model that corresponds to the behavioral part (Soualah-Alila & al, 2012).

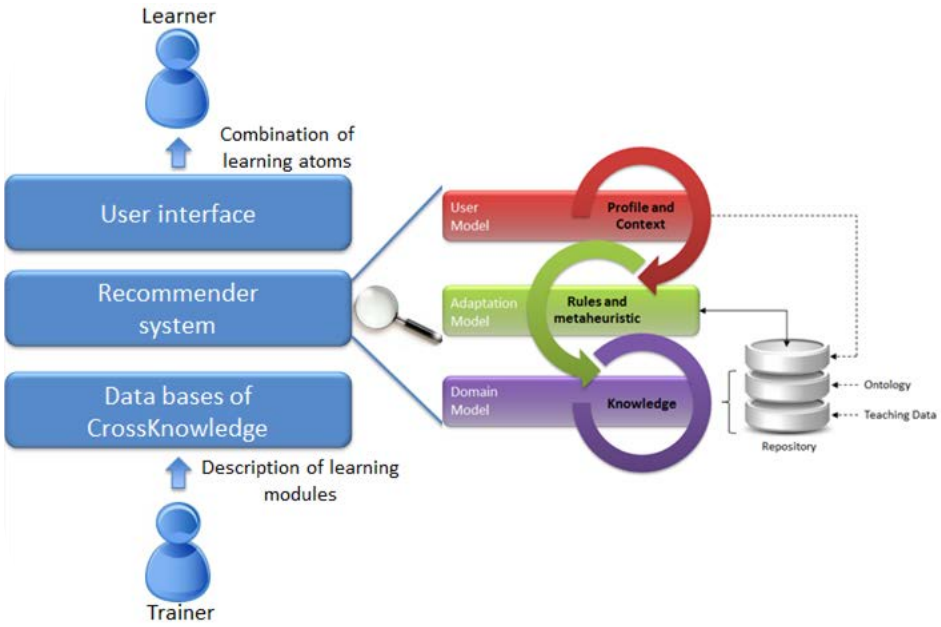

Figure 4. General architecture of our m-learning system

When a learner will use our system, he will have to define his profile. This profile will be completed by context information send by the mobile device. From this profile and contextual constraints, logical rules will be applied to identify and extract pertinent atoms of training course. The association of atoms depending on learning context will be done in real

time by a metaheuristic designed specifically to resolve the combinatorial optimization problem posed by the mobile learning domain.

This metaheuristic will be used to find the best combination of atoms depending on the profile and context. Finally, a proposal of course (made of a combination of elements) will be sent to the learner through the mobile device. If the context changes during the learning, the system can directly switch an element by another, adapting the learning with the new constraints.

Mobile learning presents new technological and pedagogical challenges. Based on the exploitation of semantic and contextual information, our approach aims to adapt learners experience to maximize its efficiency. This project benefits of existing semantic web and recommendation systems technologies, but will provide a new ontological model for learning contents and specific metaheuristical algorithms for real-time adaptation.

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A Holistic Metacognitive Activity Model: A Systemic Approach

Abstract

The purpose of this paper is to present a holistic model of the metacognitive activity through a systemic approach. The proposed model integrates two dimensions of metacognition: knowledge of mental operations and self-regulation. It also incorporates the autopoiesis. We start to see the mind as a system and consciousness as an emergent property. Whereas the cognitive subsystem is one of the living organisms subsystems with greater capacity for self-constructed and metacognitive activity as a cybernetic process of second order, where the individual observes himself. The model accounts autopoiesis to stimulate student's metacognitive skills to improve performance in learning.

Introduction

For over 30 years, since Favell coined the *metacognition* term, most researchers agree to take into account two basic components of existing models: metacognitive knowledge and regulation of cognition.

According to Flavell: "Metacognition refers to knowledge of one's own cognitive processes and all aspects that relate to them…" [1]. Brown et al state: "Metacognition involves the knowledge of one's cognitions and regulation (control) of mental activity before facing a task, observe the effectiveness of the activity started and check the results" [2]. Whereas, Buron asserts: "Metacognition is knowledge of all mental operations, how they are performed, when to use them, factors that help or interfere with its operation" [3]. Gama highlights the importance of reflection in the metacognitive process [4].

A model that provides an additional component to the metacognitive activity is the one proposed by Mayor, where its main components are: consciousness, control and autopoiesis [5].Based on the prior work and using the systemic approach we tailor a model that integrates two dimensions of metacognition and incorporates the autopoiesis, as it is described in the remaining sections of this paper.

Systemic Approach

Our systemic viewpoint of metacognition takes into account several items, such as: Autopoises and consciousness. Concerning the first item, Maturana claims: "Autopoiesis is the ability to organize a system such that the resulting product is only the same" [6]. We acknowledge, metacognitive activity is a second order cybernetic process, where the observer observes himself.

The mind is considered a complex system. For O'Connor, a system functions as a whole, then so has distinct properties of its component parts that make up these properties are known by the name of emergent properties [7]. Consciousness is a mental property, usually about something that has content and intentionality. Consciousness is an emergent property that allows person to generate new thoughts and strategies.

System thinking is a thought in circles, rather than linear thinking. All parts of a system are connected directly or indirectly so that changing a party the effect will spread to all other,

which experience a change and in turn end up affecting the original part. Thus, feedback occurs in a cognitive system because of metacognition.

For Mayor, the cognitive subsystem is one of the subsystems of living organisms with the greatest capacity for self-constructed due to its metacognitive mechanism [5].

Metacognition, analyzed from the auptoises viewpoint, is conscious of itself. It is also self-controlled and goes beyond awareness [6].

Holistic model of metacognitive activity

Related Work

Brown considers regulation as: “A metacognitive skill that allows a learner to think about her own thinking”. Regulation is independent of subject-domains [2].

Flavell outlined a formal model of metacognitive monitoring based on four classes of phenomena: metacognitive knowledge, metacognitive experiences, cognitive strategies and cognitive goals [1].

Nelson and Narens conceptualize cognitive processes into two interrelated levels: the meta-level and the object-level [8]. The meta-level contains a cognitive model of the object-level.

As regards the metacognitive model designed by Schraw, it holds three kinds of metacognitive knowledge: declarative, procedural, and conditional. In addition, the regulation metacognitive skill embraces five main processes: planning, information management strategies, comprehension monitoring, debugging strategies, and evaluation [9].

Model

Based on the prior works, we propose a holistic metacognitive activity model. The model has three components: metacognitive knowledge, metacognitive regulation and autopoiesis.

Metacognitive knowledge consists of five types of knowledge: cognitive activity model, cognitive, strategic, situational, and personal [9].

Our component of metacognitive regulation takes into account the earlier works and tailors a feedback cycle composed by the following processes: monitoring, recognizing, evaluation, reflection, awareness, planning, adjusting, and control [10]. They are explained as follows:

The autopoiesis, through this cycle of metacognitive activity, takes place between the close articulation (back on itself) and openness (to go beyond the given), creating something different from what exists forming a spiral.

Conclusions

Based on the proposed model, we will develop a method to intervene autopoiesis to stimulate student's metacognitive skills and improve their performance in learning. The method will make use of the circular thinking using instructional strategies that activate cognitive reinforcement and feedback compensation more easily lead the student to achieve her learning targets.

Acknowledgments

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Conference Announcements

Intelligent Support for Learning in Groups

Workshop at the 11th International Conference on Intelligent Tutoring Systems
Friday, June 15, 2012, Chania, Crete, Greece

https://sites.google.com/site/islg2012/

A full-day workshop on Intelligent Support for Learning in Groups (ISLG) will be held as a part of the 11th International Conference on Intelligent Tutoring Systems (ITS 2012) in Chania, Greece on June 15th, 2012.

The goal of this workshop is to bring researchers from the fields of Intelligent Tutoring Systems and Collaborative Learning together. We intend to identify a set of scientific questions and technical challenges that can direct the joint efforts of the research community at this intersection.

In the current instantiation, the workshop is organized around the theme of "Web-based Collaborative Learning Tools: Challenges & Opportunities for ITS".

Topics of Interest include (but are not limited to) the following:

- Adaptive support for Groups
- Content creation on the Web
- Instructional strategies for the social web
- Interactive Collaboration systems
- Modeling groups/learners
- Motivational, Cognitive, Social factors in Intelligent Support
- Tools for Educators

The program information is available at https://sites.google.com/site/islg2012/

Organizers

- Jihie Kim, University of Southern California, USA
- Rohit Kumar, Raytheon BBN Technologies, USA

Advisors

- Arthur C. Graesser, University of Memphis, USA
- Frank Fischer, University of Munich, Germany

Program Committee

- Michelene T.H. Chi, Arizona State University, USA
- Sidney D'Mello, University of Notre Dame, USA
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- Charalampos Karagiannidis, University of Thessaly, Greece
- Eleni Kyza, Cyprus University of Technology, Cyprus
- James Lester, North Carolina State University, USA
- Diane Litman, University of Pittsburgh, USA
- Bruce M. McLaren, Carnegie Mellon Univ., USA/Saarland Univ., Germany
- Rada Mihalcea, University of North Texas, USA
- Carolyn P. Rosé, Carnegie Mellon University, USA

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Serious Games for Cultural Heritage

Special Issue of the ACM Journal of Computing and Cultural Heritage
Deadline: June 15, 2012

http://jocch.acm.org/seriousgames

ICTs provide powerful tools to build Cultural Heritage applications enabling a better understanding and appreciation of our present and past both by specialists and the general public, supporting the preservation, reproduction, representation and fruition of artifacts, sites and intangible goods in the form of Virtual Heritage. While multimedia archives and the digitization of artefacts and sites offer easy access of cultural content to people regardless of space and time constraints, it is through game mechanics that a much larger public could be motivated to explore such impressive resources. For this reason, games with educational purposes, namely *Serious Games* (SG), are becoming more and more popular. The target of SGs in the Cultural Heritage domain is to actually spread cultural content at its maximum extent by exploiting this medium's intrinsic features.

The goal of this Special Issue is to collect papers on case studies, perspective applications, technological and methodological issues related to SGs for Cultural Heritage to define the best practices and highlight both the challenges and benefits of SGs in the Cultural Heritage sector. Authors are invited to submit papers on original and unpublished research and practical applications concerning SGs for a range of educational objectives related to tangible and intangible heritage, including history, archaeology, art, cultural awareness, natural/environmental heritage. In particular, we call for contributions on topics including but not limited to:

- Challenges and trends in Serious Games for Cultural Heritage
- User engagement and motivation
- Assessment of the learning impact
- Human-Computer Interaction
- Game mechanics suited for CH education
- Personalization, adaptivity and Artificial Intelligence
- Game architectures
- Psychology and pedagogy
- Best practices in the development and adoption of SGs for CH
- Generation and representation of cultural content in games
- Culturally relevant Non-Player Characters
- Applications and case studies

Accepted papers will be published in the ACM Journal on Computing and Cultural Heritage. See http://www.acm.org/pubs/jocch for further submission instructions.

Guest Editors:

- Michela Mortara, CNR-IMATI, Italy, michela@ge.imati.cnr.it
- Francesco Bellotti, DIBE, University of Genova, Italy franz@elios.unige.it

VS-Games 2012

organized by GaLA
Genoa, Italy, 29-31 October 2012

http://www.vs-games2012.org/

The conference is seeking contributions that advance the state of the art in the technologies and knowledge available to support development and deployment of serious games. The following topics are particularly encouraged:

- Game design
- Gamification
- Platforms and tools for gaming
- AI applications for serious games
- Serious games methodologies
- User-modeling
- User assessment
- Game modeling
- Virtual environments
- Human-computer interaction
- Augmented reality
- Visualization techniques
- Alternate reality games
- Frame games
- Transmedia
- Pervasive Gaming
- Mobile Gaming
- Education and learning
- Educational principles/theories/outcomes
- Serious game mechanics
- Mapping educational outcomes and principles into serious game mechanics
- Case studies in serious games and virtual worlds
- Applications (e.g., areas such as environment, cultural heritage, health, smart buildings, v-commerce, business, management, entrepreneurship, humanities, engineering, manufacturing, security, safety, ethics)
- User studies

Important dates

- Full Papers (8 pages): 18th May 2012
- Short Papers (4 pages): 18th May 2012
- Poster Papers (2 pages): 18th May 2012
- Call for Workshops: 18th May 2012
- Call for Tutorials: 18th May 2012

Journal special issues

The conference organization committee is dealing with scientific publishers for organizing one or more journal special issues hosting the best technical and educational papers of the conference.

User Assessment in Serious Games and Technology-Enhanced Learning

Special issue of the Hindawi Open Journal on Advances in Human-Computer Interaction – organized by GaLA

Extended deadline: May 13

Serious games (SGs) and technology-enhanced learning (TEL) tools are becoming ever more important for education and training. However, their effective application demands appropriate metrics, tools, and techniques for measuring elements such as learning outcomes, engagement, or gameplay performance. Devices like stereo cameras, eye trackers, galvanic skin response sensors, and neural impulse actuators (among others), now available at reasonable prices, not only support innovative interactions, but they also present opportunities to new user monitoring and evaluation.

Due to the complexity of human nature and individual differences, objective and systematic assessment of human behavior and performance remains highly difficult. In addition, data analysis and evaluation methods for technology-assisted learning and assessment are still underdeveloped because of different perspectives in evaluation. Development of systems and tools able to support provision of effective feedback is a major requirement for a new generation of SGs and TEL tools.

Breakthroughs in this area can be made by advancing issues including, but not limited to (a) an efficient and easy-to-use user interface, (b) effective data management, (c) sensor data fusion and integration, (d) data analysis methods, and (e) user feedback mechanisms.

We invite authors to submit original research articles as well as review articles that describe new devices, hardware/software tools, methodologies, systems, applications, and evaluation studies about user assessment in SGs and TEL, with a special perspective on usability and usefulness for learning.

Potential topics include, but are not limited to:

- Automatic/interactive assessment of user performance
- In-game assessment mechanics
- Time and precision effects
- Metrics for measuring fun and/or learning outcomes
- User satisfaction and fun evaluation
- User modeling and profiling
- User adaptivity and personalization
- Score rules and mechanisms
- Automated recommendation mechanisms
- Feedback to the users
- Advanced user interaction
- Advanced user sensors and transducer systems for assessment
- Sensor data fusion

Before submission authors should carefully read over the journal's Author Guidelines, which are located at http://www.hindawi.com/journals/ahci/guidelines. Prospective authors should submit an electronic copy of their complete manuscript through the journal Manuscript Tracking System at http://mts.hindawi.com.

More info online here: http://www.hindawi.com/journals/ahci/si/sgtel/s