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From the Editors ...

Welcome to the January 2011 issue of the Learning Technology newsletter.

Semantic web technologies have the potential to improve the quality of ICT applications and services in many application domains. In the context of TEL, they are extensively used to mainly improve the quality of searching and retrieving learning resources. This issue introduces some papers which describe research semantic web technologies for TEL. Celino et al., describes the PANDORA project which is creating a training environment to coach Crisis Managers. Azevedo et al., describe the usage of ontologies in learning object repositories and discusses how to improve keyword specification and query expansion through ontologies. Finally, Ruiz-Calleja et al., propose a methodology which is based on Linked Data to improve the retrieval of educational tools. The issue also includes a section with regular articles (i.e. articles that are not related to the special theme). Iskandar et al., outline a machine-processable model of learning outcomes, aiming to provide a better understanding of teaching and learning; and Moradi et al., describe a project which aims to evaluate the effects of educational games on (the working memory of) children under age of 7.

We sincerely hope that this issue will help in keeping you abreast of the current research and developments in usability aspects of TEL. In our effort to improve the usefulness of the newsletter, this issue also includes an annex with a list of conferences related to Learning Technology (the list is taken from ASK's Web-Site, at http://www.ask4research.info).

We also would like to take the opportunity to invite you to contribute your own work on technology enhanced learning (e.g., work in progress, project reports, case studies, and event announcements) in this newsletter, if you are involved in research and/or implementation of any aspect of advanced learning technologies. For more details, please refer to the author guidelines at http://www.ieeetclt.org/content/authors-guidelines.

Deadline for submission of articles: **March 15, 2011**

Special theme of the next issue: **Advanced Learning Technologies for Disabled and Non-Disabled People**

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: Semantic Web Technologies for Technology Enhanced Learning

Ontologies, rules and linked data to support Crisis Managers Training

Introduction

In a catastrophic event, human behaviour determines the efficacy of crisis management. Timeliness of reactions and exactness of decisions are the most relevant factors. In this context, training plays an important role to prepare Crisis Managers.

Technology-enhanced Learning (TEL) bridges the gap between *table-top exercises* – low-cost preparation testing the theoretical responsiveness to a situation – and *real-world simulations* – very effective and expensive exercises to gain valuable skills. TEL provides a near-real training environment at affordable costs. The PANDORA project (http://www.pandoraproject.eu/) is creating a training environment to coach Crisis Managers.

Modelling a Crisis Knowledge Base

To re-create crisis scenarios, PANDORA employs a Crisis Planner based on Timeline-based Planning and Scheduling technologies [4]. This Planner creates training storyboards of "events" for the trainees (e.g. news videos, phone calls or e-mails) and "reacts" to trainees' strategic decisions, triggering consequent events to continue the training session.

To simulate such scenario, a great effort is required to understand the problem specificity and to model the relevant aspects [3]. Within the PANDORA project, we are building the Crisis Knowledge Base (CKB) collecting and maintaining the "knowledge" about crisis scenarios and training sessions. The CKB illustrated in Figure 1:

- models the trainer knowledge about scenarios and training path alternative options;
- provides the Crisis Planner with "events" to be triggered during the training sessions;
- supplies other PANDORA components with information about the training session;
- records each session's events and decisions, to create individual trainee reports at the end of the training.

To fulfil those requirements, the CKB should model the crisis scenarios, the training events, the trainees' behaviour, etc. This is an opportunity to exploit Semantic Web Technologies (SWT) for TEL.

The Crisis Knowledge Base Ontologies

SWT call for the adoption of *ontologies* [11] to explicitly formalise shared knowledge conceptualizations. Moreover, developing *modular ontologies* [10] allows for an improved reuse of such modelling.

We designed two modular OWL [12] ontologies to model the CKB knowledge:

- A *Timeline-based Planning Ontology* (http://swa.cefriel.it/ontologies/tplanning), reflecting the basic conceptualization of Planning Applications based on Timeline Representations; and
- A *PANDORA Ontology* (http://swa.cefriel.it/ontologies/pandora), specifying the Crisis Management Training entities (training events, trainees, crisis situations, etc.).

- The Timeline-based Planning Ontology models the knowledge handled by a Timeline-based Planner; this ontology represents a valuable foundation for a systematic use of SWT in Planning research. The PANDORA Ontology represents the domain-specific modelling of crisis scenarios. Finally, our ontologies refer to pre-existing models, like the Time Ontology (http://www.w3.org/TR/owl-time/) or the WGS84 Geo-Positioning vocabulary (http://www.w3.org/2003/01/geo/), thus linking the CKB to other datasets.
- Still SWT offer further opportunities: we are extending our CKB by modelling the logical "consequences" between the crisis events in rule languages like RIF [2] or the SPARQL 1.1 Entailment Regimes [5]; we are exploring existing implementations using SPARQL [9] for inference, like SPIN [6].

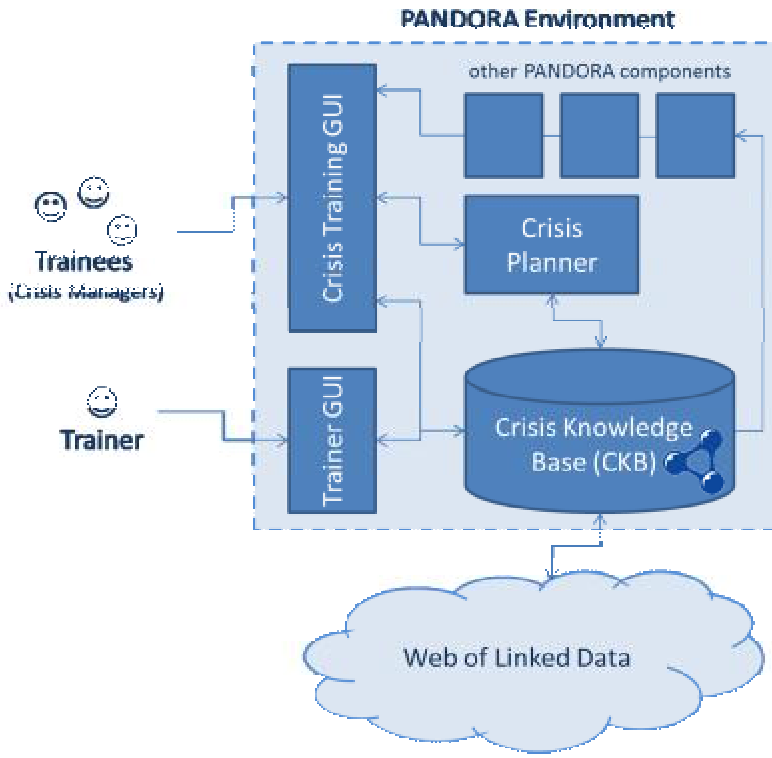

Figure 1 - The Crisis Knowledge Base.

Populating the Crisis Knowledge Base

The CKB stores the crisis data as RDF triples [8] described in the aforementioned ontologies. While the basic data are provided by the trainers, who hold the experience to model such knowledge, they cannot insert all the potentially useful information to describe a crisis scenario (e.g. a town topology); still, such elements can be crucial to make the training realistic.

We adopted Linked Data principles [1] to connect our CKB to the Web of Data. Linking to GeoNames, for example, lets our CKB to directly benefit from a geographical database containing over 10 million geographical names. Similarly, the CKB is linked to other general-purpose datasets like Freebase (http://freebase.com/) or DBpedia [7] (http://dbpedia.org/).

We will also publish our CKB as Linked Data. This brings two advantages: we provide our contribution to the Web of Data, enabling other researchers to re-use our knowledge base; and we open the CKB to the community contribution, which can extend our knowledge base.

Conclusions and future works

In this paper we presented our work towards a comprehensive Crisis Knowledge for the Crisis Managers Training. We explained how we employ SWT to enhance this TEL environment. Our future activities include the CKB deployment as Linked Data and the development of a read/write REST API to let external components interact with the CKB. Our approach will be tested and validated in the PANDORA environment.

Acknowledgments

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Using ontologies in Learning Objects Repositories

Introduction

Semantic metadata for the organization of resources in repositories currently represents a major application area of semantic technologies among Semantic Web researchers. Under the CASPOE project we have used ontologies in the TREE (Teaching Resources for Engineering Education) repository [1, 2] for two main reasons:

- Allow a more detailed description of the resources, suggesting additional terms that can be used as keywords; and
- Expand the initial query terms provided by users, using ontologies to have related terms added to the query.

Improving keywords specification

To avoid an inadequate representation of the contents of the resources uploaded to the TREE repository in the form of keywords, we considered two complementary steps. At first, the relevant keywords are extracted from textual resources (pdf, doc or txt files) using XtraK4Me [3], which makes use of many GATE (General Architecture for Text Engineering) components. Then, using those keywords we submit SPARQL queries to a Sesame (http://sourceforge.net/projects/sesame) repository where we store some selected ontologies assigned to each community (civil engineering, informatics, mathematics, etc).

In an ontology we have a set of concepts and relationships between them, which we use to obtain additional possible keywords. All these keywords are put under user consideration and he/she can modify them or add new ones. However, that processing is just like it was described when the language of the resource is English. It is common the use of two other languages, Portuguese and Spanish, in the TREE repository. Thus, in that case, we use the Google Translate 0.7 API (http://code.google.com/p/google-api-translate-java) to translate the resources provided in other languages, and then the process continues as explained before. Although that approach was tested with resources written in Portuguese, Spanish and English, any of the languages supported by the Google Translate API can be used (more than 50). Google Translate received the best rank in a recent study, among 10 free machine translators, in the translations of sentences in a formal style [4].

With this kind of processing for the keywords specification we were able to obtain a usable representation of the resources' contents. Although it did not represent a problem during our experiments, the main drawback is that the Google Translation service may not be always available within an adequate timeframe.

Use of ontologies for query expansion

Keyword-based search is very common in many popular search engines on Internet. People are used to submitting keywords to a search engine, which in turn returns a ranked list of documents to the user. However, when a user specifies keywords in a query in order to retrieve the desired documents, many relevant documents can be disregarded because they do not contain the exact keywords specified. The expansion of queries based on formal domain ontologies is used in the TREE repository to overcome that limitation.

For the query expansion we considered IsPartOf/hasPart relations, as well as simple taxonomy relations, up to two levels, but also equivalence relations and instance data. One advantage of considering query expansion techniques is that it is not necessary to change the internal functioning of the query processing, since we just add other terms to be considered in each query. We developed a module to expand the query terms provided by the TREE users, but allowing the users to agree or not with the use of the additional terms.

The architecture of the query expansion module is detailed in Figure 1. The fundamental element of the architecture is the domain ontologies repository, in which all relevant knowledge is stored.

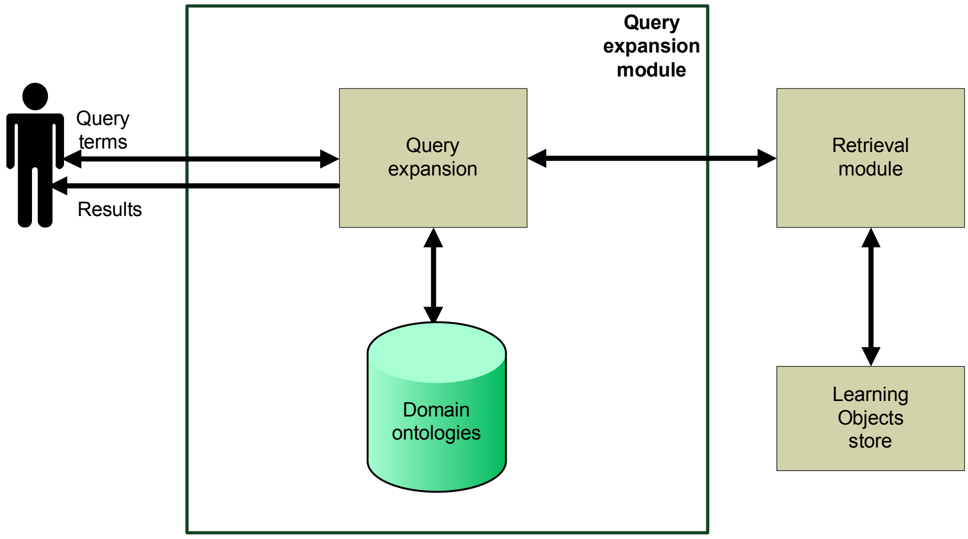

Figure 1. Architecture of the query expansion module.

Some final remarks

CASPOE project ends in December 2010. We found that ontological query expansion can improve the results provided. Also, the keyword specification with the suggestion of terms from ontologies, together with their automatic extraction, allows better characterization of the resources. However, it is important the quality of the ontologies applied.

In [1, 5] we described our approach to reuse online ontologies. Different from other approaches [6] [7] [8], our does not rely on a single ontology specifically developed for its application in the repository or a well-validated by the scientific community in the area, which makes the quality of the ontologies considered even more important.

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A Linked-Data based infrastructure for the retrieval of educational tools

Nowadays, Information and Communication Technologies (ICTs) are becoming ubiquitous in education [1]. The emergence of the Web 2.0 movement [2] and the proliferation of Web-based applications have boosted the adoption of ICTs to support learning scenarios. In this sense, tools not specifically designed for educational purposes have been successfully introduced in the classroom, as in the case of wikis or blogs [3]. Given this situation, there are many opportunities to leverage current learning scenarios with technology, although teachers need some support to be aware of available tools that can be employed in their classroom.

Specifically, there are very few search systems that guide teachers in the retrieval of educational tool information; that is why most teachers use general purpose search engines, such as Google, when they are looking for education-specific software tools. General purpose search engines provide low precision since they index a huge amount of information that is irrelevant when looking for educational tools. Another possibility is to use domain-specific search engines; they can collect domain knowledge and they only index software tools that can be used in learning settings. Therefore, the results provided by this kind of search engines are more precise and relevant for educators. However, there are very few educational tool search engines and all of them work with isolated data silos that need to be manually updated.

An example of an educational tool search engine is Ontoolsearch (http://www.gsic.uva.es/ontoolsearch), which uses Ontoolcole, an ontology that describes a software tool taxonomy based on the educational tasks that tools can support. Nevertheless, since Ontoolsearch gets information from a data silo, it is unable to automatically import information from external sources, which makes it a very-hard-to-sustain information source. For example, the tool "Microsoft Word" was described in Ontoolsearch but a new version appeared; even if the information related to this new version is published in some accessible data sources (e.g. Wikipedia) it has to be manually published in Ontoolsearch by the search engine administrator.

In order to tackle this data maintenance problem the Linked Data [4] approach has been recently proposed as a way of publishing data to facilitate the automatic access to the information contained in external repositories. The Linked Data methodology consists of four basic principles for publishing data and many providers are linking their datasets according to these principles, building the so-called Web of Data (see http://linkeddata.org/). Indeed, there are updated descriptions of software tools in some repositories of the Web of Data, such as DBpedia (http://dbpedia.org/). However, in the current state of the Web of Data, descriptions of software tools from an educational point of view are scarce (e.g. which educational tasks could be carried out using a particular tool?). Nevertheless, and following the same Linked Data principles, it would be possible to create datasets with education-specific information about software tools. That information could therefore be linked with existing non-educative descriptions of those same tools already available in third-party, potentially updated datasets of the Web of Data. Thus, an educational tool search system using the Web of Data could benefit from this distributed data publication and maintenance approach so as to get a better precision in the results (education-specific information is available) based on more easily updated data (non-educative information is maintained by third-parties).

Figure 1 depicts the linked-data based proposed infrastructure for the retrieval of educational tools. The figure underlines the main actors and components needed to support the publication, linking, updating and searching of education-specific information about software tools. This data is enriched by linking it to an "Educational Data" set that describes the educational capabilities of the tools. Using such infrastructure, a search tool would be able to automatically retrieve updated information about software tools. Moreover, the system includes a publishing tool that allows teachers to create or modify the educational descriptions of the tools; thus, it will be possible to create a community of teachers that enrich the data about software tools available on the Web.

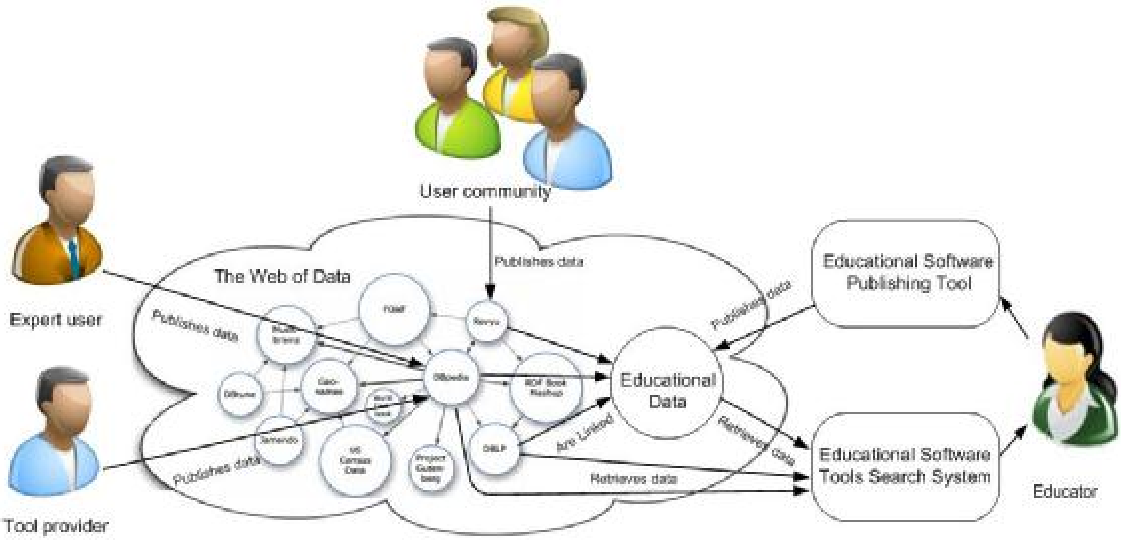

Figure 1. Main actors and components of the proposed infrastructure.

The work already done focuses on the development of the "Educational Data" dataset. For this purpose the Ontoolcole ontology is used as the data model since there is no other ontology specifically developed to describe educational software tools. A key step in the "Educational Data" source development was to define the relationships between Ontoolcole concepts and the conceptualizations of external data. Using these relationships, a software agent can automatically match software tools published in external sources to the educational concepts defined by Ontoolcole.

For example, the relationship 'All the tools described in DBpedia as "Word_Processor" support the task defined in Ontoolcole as "Writing"' can be defined; after that, when educators search for tools that allow their students to write, they will retrieve updated information about several tools from DBpedia. However, since DBpedia does not provide all the data that would be desired about software tools, no results will be found when asking more expressive questions (e.g. 'Tools that support the collaborative edition of documents that can be exported as HTML'). That is why current work aims to design the "Publishing Tool", where teachers could publish new educational metadata related to software tools. For example, a teacher can publish 'Google Docs supports the collaborative edition of text documents' and another teacher (or a technical user) 'Google Docs is able to export data in ODT, RTF, PDF and HTML'. This way, when other teacher asks the aforementioned question, he will realize that Google Docs is a good choice.

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Regular Articles Section

Machine-processable Representation of Training Outcomes

Introduction

Modelling a domain, a process, or data is a common way of understanding it. The purpose of modelling is simplification, so that the domain is easier to understand. Often, models are mathematical because they are predictable and repeatable. There are many teaching and learning theories such as behaviourism, cognitivisim, constructivism, and cybernetics. Modelling and validating these theories is problematic because of their inherent aspect of ambiguity and lack of repeatability. This paper constructed a model of a major aspect of teaching and learning that is machine-processable. This provides repeatable, realistic, less ambiguous, and deterministic results for testing and validating. A machine-processable representation may be expect to be able to validate such models to better understand teaching and learning situations.

Competency Model

The field of educational psychology has long been sensitive to the desirability of establishing learning objectives for instruction [1]. These learning objectives are variously called behavioural objectives, instructional objectives, performance objectives, or intended learning outcomes. Intended learning outcomes (ILOs) guide the learner and guide the teacher. The rationale is that learners will use ILOs to identify the skills and knowledge they must master, while teachers will use ILOs to create learning environments that support the learning activities entailed [2]. Instructional design may be taken as that process which designs teaching and learning activities in support of intended learning outcomes.

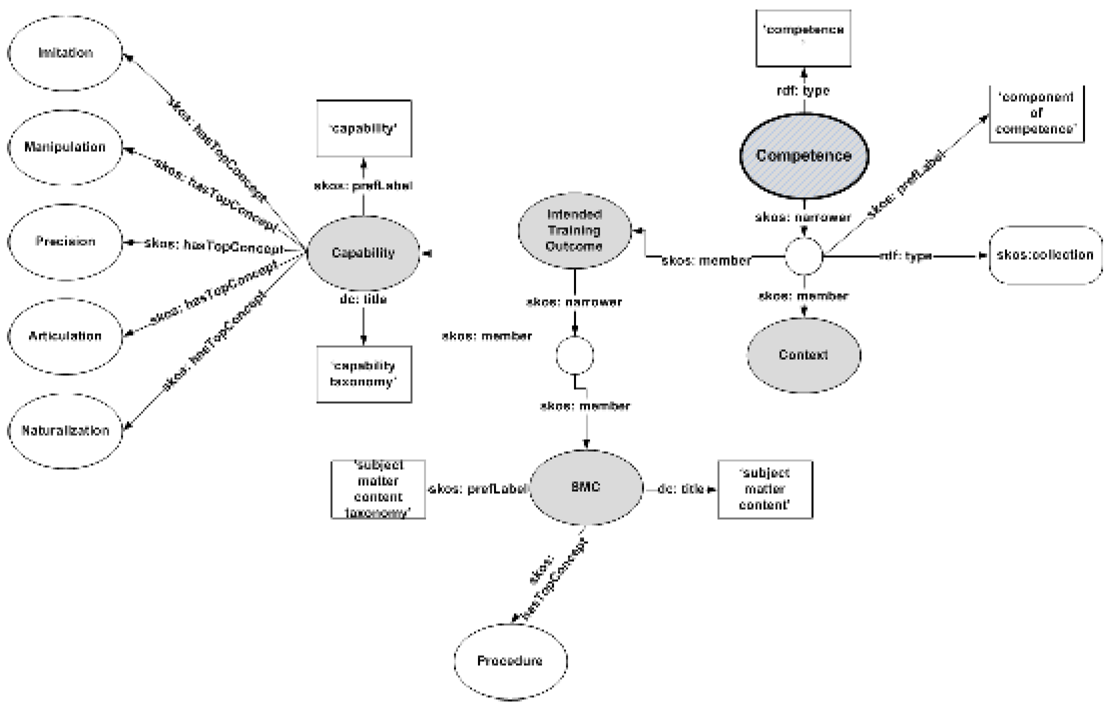

Figure 1: Competence conceptual model (modified from [3])

A development of current ideas surrounding competences suggests a conceptual model of ITO augmented by contextual factors, as illustrated in Figure 1. Such augmented ITOs are called competences in this paper. While an ITO may be reasonably constrained by an agreed ontology of capability terms and an agreed subject matter topics list, context is in principle limitless and dependent upon particulars (if not peculiarities) of the target students, teachers, locations, times, tools, required mastery levels, available services, etc [4].

Competence analysis is often referred to as pre-requisite analysis, and can be used to diagnose failures in learning by identifying the pre-requisites that learners failed to master. A competence structure depicts these pre-requisites in an ordered hierarchical relationship. The lowest skills in the structure are typically learned before the higher-level ones, up to the highest level ITO. The lower-level skills are pre-requisite to the higher-level skills. The structure represents what is expected to be a general pattern to be followed by the student: making sure that relevant lower-order skills are mastered before learning related higher-order skills.

Implementing the Competency Model in the Design of Training Outcomes

The conceptual model of an ITO describes a statement of a capability, and a statement of the subject matter to which the capability applies. Subject matter refers to what the learners are expected to know and capability describes what the learners are expected to be able to do in relation to the subject matter [5]. This description of an ITO represents what the learner is to be able to do and whose achievement is capable of verification when learning has been accomplished. Figure 2 represents some rowing ITOs based on the competence model.

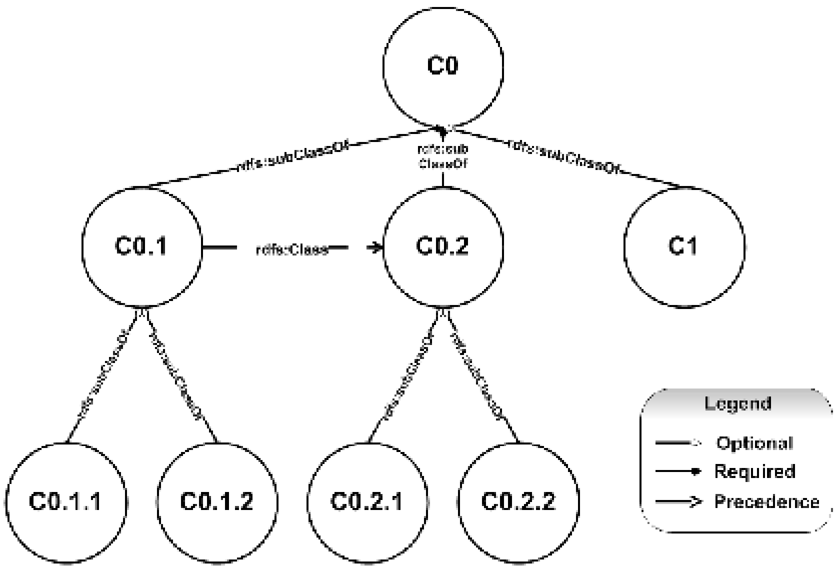

Figure 2: Example conceptual model of training outcomes

The simplest competence structure consists of a pair of procedural skills, one subordinate to the other. The competence structure describes what the learner must be able to do before something else can be learned. The learning relation is identified by the following sentence: "A learner must be able to 'X' in order to be able to 'Y'", where X and Y are ITOs. For example, in order to achieve C0 (athletes are able to perform automatically rowing), athletes should achieve C0.1 (athletes are able to perform automatically catch), C0.2 (athletes are able to perform automatically drive), and C1 (athletes are able to articulate rowing). In order to achieve C0.1 (athletes are able to perform automatically catch), athletes should be able to demonstrate both C0.1.1 (athletes are able to perform automatically grip handles) and C0.1.2 (athletes are able to perform automatically positioning shins).

Figure 2 also illustrates that the achievement of C0.1 (athletes are able to perform automatically catch) supports athletes in proceeding to C0.2 (athletes are able to perform automatically drive). Psychomotor skills are characteristically procedural, where the achievement of a higher-level skill involves the assembly of a set of lower-level skills into a sequence.

Figure 2 shows an effective mapping of ITOs using the competency model.

Future Implementation

Semantic technologies aim at giving information a well-defined meaning and better enabling humans and machines to work together [6] through ontologies. Ontologies provide a controlled vocabulary of concepts, where each concept comes with explicitly defined and machine-processable semantics [7]. We suggest that future work could represent ILOs, ITOs, and statements of competence in the form of semantic networks. When transformed into ontologies such networks will maximize reusability and enhance their compatibility with other systems and environments.

Future work could use the network to suggest training materials for the athletes. The system could suggest appropriate training material to the athletes depending upon their position in the network and their desire to achieve certain training outcomes. The system could integrate the athletes' current competence level, required ITOs by the coaches, desired outcomes of the athletes, and the context of the training activities to provide more personalised training materials recommendations while at the same time taking into account the context of the athletes such as tools and resources.

Conclusion

Learning and training outcomes are at the heart of teaching and learning activities. This paper suggests machine-processable representations of training outcomes and statements of competence at a level of semantic and ontological content well beyond current representations such as RDCEO [8]and HRXML [9]. The syntax and notation of competences are defined explicitly so that they can be interpreted, instantiated, and automated by a machine. This allows the testing and validation of teaching and learning models which incorporate intended learning or training outcomes, skills, educational objectives, or competence statements.

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The Effects of Computer Games on Working Memory on Preschool Children: A case study

This is a project conducted at the Machine Intelligence and Robotics group at the school of Electrical and Computer Engineering, University of Tehran. The goal of this project is to evaluate the effects of games, specifically educational games, on children under age of 7. In the first phase of the project, the working memory of the children has been considered for evaluation.

In this study, two games from PBSkids.org[1] were e selected based on a character called Caillou. Since the children already know Caillou from a cartoon series based on his character, they can connect easier to his games. The games are called "matching" and "follow the stars" games. The first one requires the children to memorize images, and recall them later with or without zero, 4 and 12 seconds delays. The original game has been changed to include these delays, and also more complex images have been added to it (Figure 1.) The 2nd game requires the children to memorize sequences of images, and recall them later.

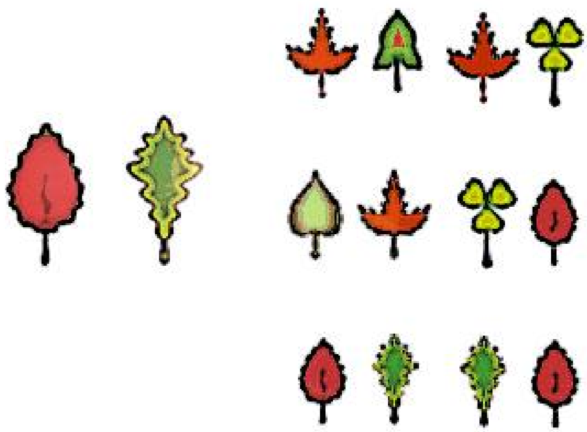

Figure 1: The normal level of the matching game: The target image on the left consists of two leaves while there are six sets of two leaves on the right, from which the player should select the correct ones.

The "follow the stars" game consists of 4 stars (Figure 2) that blink in sequence. Each star creates a unique sound, while it blinks, to create an auditory memory for itself. The player should remember the sequence of blinking stars, and click on them in the correct order.

A tracking program has been developed which logs the user clicks for analysis. From this log, the speed of response, the changes in the speed of response, the correctness of responses, and other useful information can be determined, which can be used to model and assess the players.

To evaluate the impact of the games on working memory, a group of 35 pre-school students were selected, and were divided into test and control groups of 17 and 18 students, respectively. The students were between 6 to 7 years old who went through pretest using CANTAB[2] Delayed Matching to Sample (DMS) and SSP (Spatial Span) tests. Furthermore, the students' intellectual abilities were measured using Raven Progressive Matrices. The

[1] http://www.pbskid.org/caillou
[2] http://www.cantab.com

students used each game approximately for three minutes a day, 3 days a week for two months. It is important to mention that the students in each group were attending the preschool every other day, odd and even days of the week. Consequently there was no chance for interaction between the two groups.

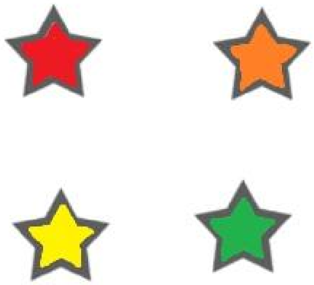

Figure 2: "follow the stars" game with 4 stars which would blink in sequence and for each; there is a unique sound effect.

After the intervention period, in which each student used each game for 60 minutes approximately, the DMS and SSP tests were conducted again, on both groups of students, to compare with the original test results and measure the changes in these two working memory measures. Currently, a team of psychology researchers are analyzing the result to determine the effects of playing these games on working memory of these children. The preliminary results show slight improvement in a few measures in DMS and SSP.

It is interesting to mention that both "matching" and "follow the stars" games are very similar to DMS and SSP tests, respectively. We further changed the matching game to make it further similar to DMS test. The original version only shows the target image and the collection of candidate images simultaneously. The revised version includes zero, four, and twelve seconds delay between the target image and the collection of candidate images. The mentioned similarity between the games and CANTAB would allow us to investigate the possibility of using games as assessment tools.

Another feature we included in our study is the use of the mounted web cams on the notebook stations that the players used. Each camera captures the face of the player using the notebook. The captured stream would be used to determine if the player is really playing or if he is distracted. A program has been developed to detect the face in the incoming stream (figure 3.) If the face is detected and the player's eyes are toward the computer, then it is assumed that the player is actually playing. Otherwise, if the player is not facing the computer, the data from that specific point in time is marked for deletion, till the point that the player faces the computer again. By using this approach, the logged data can be cleaned for more accurate processing. We are currently analyzing the effectiveness of this approach in determining unreliable logged data.

(a) (b)

Figure 3: The face detection program determines whether the player looks at the screen or not. (a) shows a box around the face when the face is toward the monitor while (b) shows the case that the player is not attending to the game, and his face is turned away[3].

In the next phase, we will be using data mining methodologies to use games for assessment and user modeling. This approach can also be used in special education, as a tool for assessing abilities and designing interventions for improving attention and working memory in children with Down syndrome, attention deficit-hyper activity disorder, and learning disabilities.

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[3] The images are changed to preserve the confidentiality of the child.

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Conferences

Conference Title	Date	Venue	Submission Date
CSEIT 2011 2nd Annual International Conference on Computer Science Education: Innovation and Technology	5 - 6 December 2011	Hilton Phuket Arcadia Resort & Spa, Thailand	11 October 2011
SE 2011 2nd Annual International Conference on Software Engineering	5 - 6 December 2011	Hilton Phuket Arcadia Resort & Spa, Thailand	11 October 2011
ICELF 2011 International Conference for eLearning Futures 2011	30 November - 2 December 2011	Auckland, New Zealand	1 June 2011
ICCE 2011 The 19th International Conference on Computers in Education	28 November - 2 December 2011	Chiang Mai, Thailand	13 May 2011
Media & Learning 2010	25 - 26 November 2011	Flemish Ministry of Education Headquarters, Brussels	N/A
C&C 2011 8th ACM Conference on Creativity & Cognition	3 - 6 November 2011	Atlanta, Georgia, USA	25 March 2011
mLearn 2011 10th World Conference on Mobile and Contextual Learning	18 - 21 October 2011	Beijing, China	5 May 2011
MobiWIS 2011 The 8th International Conference on Mobile Web Information Systems	19 - 21 September 2011	Niagara Falls, Ontario, Canada	15 March 2011
Edutainment 2011 The 6th International Conference on E-learning and Games	7 - 9 September 2011	Taipei, Taiwan	1 April 2011
CIT 2011 The 11th IEEE International Conference on Computer and Information Technology	31 August - 2 September 2011	Ayia Napa, Cyprus	1 February 2011
DEXA 2011 22nd International Conference on Database and Expert Systems Applications	29 August - 2 September 2011	Toulouse, France	25 March 2011
CollabTech 2011 6th International Conference on Collaboration Technologies	29 - 31 August 2011	Tokyo, Japan	14 March 2011
ICSNC 2011 The 6th International Conference on Systems and Networks Communications	23 - 28 August 2011	Barcelona, Spain	20 May 2011
27th Annual Conference on Distance Teaching and Learning	3 - 5 August 2011	Madison, Wisconsin, USA	Closed
ASONAM 2011 The 2011 International Conference on Advances in Social Network Analysis and Mining	25 - 27 July 2011	Kaohsiung, Taiwan	1 March 2011

Conference Title	Date	Venue	Submission Date
KES IIMSS 2011 The 4th International Symposium on Intelligent Interactive Multimedia Systems and Services	20 - 22 July 2011	University of Piraeus, Piraeus, Greece	Closed
eL2011 The IADIS International Conference on e-Learning 2011, part of the IADIS Multi Conference on Computer Science and Information Systems (MCCSIS 2011)	20 - 23 July 2011	Rome, Italy	24 January 2011
T4E 2011 3rd IEEE International Conference on Technology for Education	14 - 16 July 2011	Chennai, India	27 February 2011
CATE 2011 The 14th IASTED International Conference on Computers and Advanced Technology in Education	11 - 13 July 2011	Cambridge, United Kingdom	15 February 2011
UMAP 2011 19th International Conference on User Modeling, Adaptation, and Personalization	11 - 15 July 2011	Girona, Spain	Closed
MME 2011 1st IEEE Workshop on Multimedia in Edutainment in conjunction with the IEEE International Conference in Multimedia and Expo (ICME2011)	11 - 15 July 2011	Barcelona, Spain	20 February 2011
ICE 2011 7th International Conference on Education	7 - 9 July 2011	Samos Island, Greece	3 April 2011
ICALT 2011 The 11th IEEE International Conference on Advanced Learning Technologies	6 - 8 July 2011	Athens, Georgia, USA	Closed
CISIS 2011 5th International Conference on Complex, Intelligent, and Software Intensive Systems	30 June - 2 July 2011	Korean Bible University (KBU), Seoul, Korea	Closed
AIED 2011 15th International Conference on Artificial Intelligence in Education	27 June - 1 July 2011	University of Canterbury, Christchurch, New Zealand	Closed
ED-MEDIA 2011 World Conference on Educational Multimedia, Hypermedia & Telecommunications	27 June - 1 July 2011	Lisbon, Portugal	Closed
ICWE 2011 11th International Conference on Web Engineering	20 - 24 June 2011	Paphos, Cyprus	26 April 2011
EDEN 2011 European Distance and E-Learning Network Annual Conference on Learning and Sustainability The New Ecosystem of Innovation and Knowledge	19 - 22 June 2011	Dublin, Ireland	28 January 2011

Conference Title	Date	Venue	Submission Date
BIS 2011 14th International Conference on Business Information Systems	15 - 17 June 2011	Poznan, Poland	Closed
ICELW 2011 The International Conference on E-learning in the Workplace	8 - 10 June 2011	Faculty House, Columbia University New York	Closed
Hypertext 2011 22nd ACM Conference on Hypertext and Hypermedia	6 - 9 June 2011	Eindhoven, the Netherlands	29 January 2011
EMCIS 2011 8th European, Mediterranean and Middle Eastern Conference on Information Systems	30 - 31 May 2011	Athens Greece	10 February 2011
Ce-Learning 2011 Workshop on Collaboration and e-Learning 2011	23 - 27 May 2011	The Sheraton University City Hotel Philadelphia, PA, USA	Closed
CTS 2011 International Conference on Collaboration Technologies and Systems 2011	23 - 27 May 2011	The Sheraton University City Hotel Philadelphia, Pennsylvania, USA	Closed
SWEL '11 @ FLAIRS-24 International Workshop on Ontologies and Semantic Web for E-Learning in conjunction with the 24th International FLAIRS Conference	18 - 20 May 2011	Palm Beach, Florida, USA	Closed
CSEDU 2011 3rd International Conference on Computer Supported Education	6 - 9 May 2011	Noordwijkerhout, The Netherlands	Closed
ICTA 2011 3rd International Conference on Information and Communication Technology and Accessibility	5 - 7 May 2011	Gammarth, Tunis, Tunisia	Closed
ICONTE 2011 2nd International Conference on New Trends in Education and Their Implications	27 - 29 April 2011	Antalya, Turkey	31 January 2011
CSERC 2011 Computer Science Education Research Conference	7 - 8 April 2011	Heerlen, the Netherlands	Closed
CICE 2011 Canada International Conference on Education	4 - 7 April 2011	Toronto, Canada	Closed

Conference Title	Date	Venue	Submission Date
dataTEL 2011 1st workshop on Data Sets for Technology Enhanced Learning at the 2nd STELLAR Alpine Rendez-Vous	30 - 31 March 2011	La Clusaz, France	Closed
W4A 2011 8th International Cross-Disciplinary Conference on Web Accessibility "Crowdsourcing the Cloud: An Inclusive Web by All and For All?"	28 - 29 March 2011	Hyderabad, Andhra Pradesh, India	Closed
PerEL 2011 7th IEEE International Workshop on PervasivE Learning, Life, and Leisure	25 March 2011	Seattle, WA, USA	Closed
ACM SAC 2011 ACM Symposium On Applied Computing, Track on Intelligent, Interactive and Innovative Learning environments	21 - 25 March 2011	Tunghai University, TaiChung, Taiwan	Closed
WT @ SAC 2011 ACM Symposium on Applied Computing Track on Web Technologies	21 - 25 March 2011	Tunghai University, TaiChung, Taiwan	Closed
AICT 2011 The Seventh Advanced International Conference on Telecommunications	20 - 25 March 2011	St. Maarten, The Netherlands Antilles	Closed
TELDAP 2011 Taiwan e-Learning and Digital Archives Program International Conference	16 - 19 March 2011	Academia Sinica, Taipei, Taiwan	Closed
ML 2011 IADIS International Conference Mobile Learning 2011	10 - 12 March 2011	Avila, Spain	Closed
SITE 2011 22nd International Conference of the Society for Information Technology and Teacher Education	7 - 11 March 2011	Nashville, Tennessee, USA	Closed
LAK 2011 1st International Conference on Learning Analytics and Knowledge 2011	27 February - 1 March 2011	Banff, AB, Canada	Closed
eL&mL 2011 The Third International Conference on Mobile, Hybrid, and On-line Learning	23 - 28 February 2011	Gosier, Guadeloupe, France	Closed
eKNOW 2011 The Third International Conference on Information, Process, and Knowledge Management	23 - 28 February 2011	Gosier, Guadeloupe, France	Closed
IEEE CogSIMA 2011 IEEE Conference on Cognitive Methods in Situation Awareness and Decision Support	22 - 24 February 2011	Miami Beach, Florida, USA	Closed

Conference Title	Date	Venue	Submission Date
WM2011 6th Conference on Professional Knowledge Management: From Knowledge to Action	21 - 23 February 2011	Innsbruck, Austria	Closed
IUI 2011 International Conference on Intelligent User Interfaces	13 - 16 February 2011	Palo Alto, California, USA	Closed
VISSW 2011 3rd International Workshop on Visual Interfaces to the Social and Semantic Web In conjunction with the ACM Conference on Intelligent User Interfaces	13 February 2011	Stanford University, Palo Alto, California, US	Closed
CaRR 2011 IUI 2011 Workshop on Context-awareness in Retrieval and Recommendation	13 February 2011	Palo Alto, California, USA	Closed