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Revision of the deliverable "JEM Training Camp" is discussed and outlined in this document. This is the result of initial proposals and discussions among the network members based on the experiences gained during the lifetime of the project.

Introduction

The JEM Thematic Network workplan has intended to organize a school to train attendees in markup languages for mathematics. At the time of writing the proposal, 3 years ago, this was considered, by the founding partners, to be necessary in order to promote the uptake of sound web technologies that would allow the production of high quality eContent in mathematics. Whilst this is still true, it has become more apparent that there are some large user-groups that will never author eContent but would nevertheless adopt it and use it in their teaching if they would be familiar with it.

To train end-users, like for instance teachers, in the usage of web technologies for mathematics is a broader task than what was originally intended. Moreover, because of the specificity of this user group, the JEM network has reached the conclusion that a general, larger-scale meeting might not be as attractive as regional, more focused meetings in the various languages, in partnership with national projects.

This documents describes the current proposals for a number of JEM training camps, of different nature and focusing on various topics, that will be organized in the last semester of lifetime of the JEM Network. A final JEM meeting will then be organized to allow the presentation of the work and outcomes of all of these events.

Web2.0 for mathematics

The JEM Network is co-organizing and co-sponsoring the Joint European Summer School on Technology Enhanced Learning 2009, <http://www.prolearn-academy.org/Events/summer-school-2009> ^[1] in Terchova, Slovakia between May 30 - June 6, 2009. The goal of the JEM sessions is to present an introduction to some of the learning technologies developed and used by partners of the thematic network. Confirmed speakers are listed here below.

- Chris Sangwin is a lecturer in the School of Mathematics at the University of Birmingham, United Kingdom and Research Fellow for the Maths Stats and OR Network, part of the Higher Education Academy. He is a National Teaching Fellow. His educational research focuses on using computer algebra systems for assessment of mathematics.

Chris Sangwin's workshop will introduce participants to a computer aided assessment system for mathematics known as STACK, a System for Teaching and Assessment using a Computer algebra Kernel. STACK makes use of the computer algebra system Maxima for a variety of tasks, the most important of which is establishing mathematical properties of student's answers. We discuss STACK with a focus on (i) the data structure used to represent questions, (ii) how teachers write questions of their own and (iii) how to structure larger assessments to promote learning.

- Matti Pauna is based in the Department of Mathematics and Statistics in the University of Helsinki. He has been involved in EU projects whose aim is to utilize and study the use of technology in mathematics education.

Matti Pauna's workshop will concentrate on using automatic assessment in mathematics education in various school levels. We introduce the type of content that has been used in high schools, technical engineering schools and universities and different methodologies that are suitable in these environments. We provide teacher guide lines and case studies. We also discuss the new possibilities given by using the automatically graded exercises in mobile phones as quick "clicker" type tests in middle of lectures.

Responsible JEM Contact: UH.

GeoGebra and DGS

Online Seminar for GeoGebra Trainers

NTNU is building up a network of GeoGebra trainers in Norway. Most of them are ordinary teachers, but there are also some interested teachers/researchers from the University Colleges. In addition to the Norwegians, some Danes, Swedes and a few from Iceland are working with them as well. NTNU had an online course starting in December 2008, and ending with two days of course/seminar in Trondheim February 11.-12. 2009. The language of the course and the seminar was Scandinavian. Responsible JEM partner: NTNU.

JEM at national meetings

Norway

There will be a large conference organized by the Norwegian Association of Mathematics Teachers in August 2009. Usually there are 200-300 participants at this conferences, and this may be a good place to have a JEM event (as part of the programme). The focus of such a JEM event should be clearly didactical. This even occurs beyond the official termination date of the thematic network so its organization has been put on hold, pending EU approval. Responsible JEM Contact: NTNU.

Spain

XIV Jornadas para el Aprendizaje y la Enseñanza de las Matemáticas, <http://www.xivjaem.org> ^[2], takes place between the 1-4 July 2009 and is a biannual meeting on mathematics education. A possible JEM activity would be a presentation of learning repositories, how to set them up and how to use them. Responsible JEM Contact: UOC.

Targeted to developers

Vocamp for CDs

Chris Lange has suggested the organization of a VoCamp, (<http://vocamp.org> [3]), an event where people meet to create lightweight vocabularies and ontologies. Maybe that would be a good thing to have in the OpenMath world as well. VoCamp originates in the semantic web, but except for a different terminology their ideas are quite related to that of semantic markup. The proposal is to hold a "CDCamp" -- an event where the community meets to create OpenMath CDs. This could take place in conjunction with the OpenMath Workshop that will be held as part of the one-week long event assembling Conferences on Intelligent Computer Mathematics (CICM 2009) in Grand Bend, Ontario (CANADA), between 6-12 July 2009. Responsible JEM Contact: JACU (not confirmed).

Authoring interactive content

JEM-IBEMA on Authoring Maple TA Question Banks

A group of teachers at UPC is involved in the project IBEMA, ending June 2009, aimed at providing about 150 Maple TA exercises for each of the following courses:

- Algebra 1 (freshman, bachelor's degree in statistics)
- Calculus 1 (freshman, FME-LM*)
- Linear algebra (freshman, several schools of UPC)
- Calculus (freshman, civil engineering)
- Calculus 2 (sophomore, bachelor's degree in geomatics)
- Geometry (sophomore, FME-LM)
- Real analysis (sophomore, FME-LM)
- Mathematical model for physics (junior, FME-LM)

*FME-LM: 5-year program in mathematics at the Mathematics and Statistics School of UPC.

JEM-IBEMA Camp activities

- The IBEMA experience: organization, design, implementation and usage (day 1).
- Authoring Maple TA interactive exercises: team requirements, work planning, going from ideas to results: participants will produce, in small groups, a 10 exercise bank that will include different sorts of exercises (day 2)

Target audience

- Mathematics and physics teachers (university and secondary education).

Logistics

- To be announced

Responsible JEM Contact: UPC.

JEM-NKBNBW2 on Authoring MathDox

TU/e and UVA are involved with NKBNKBW2 and have to organize a seminar on authoring interactive content. The tentative plan is to have a 2-days meeting in the second week of June, where the program is split between a workshop and lectures by experts (including Dong Ming Wang). It will be organized as a JEM event. Responsible JEM Contact: TU/e.

JEM tutorials

JEM tutorials have been offered during the [4th JEM Training Day](#) [4]. These authors can be contacted

personally by parties interested in hearing more of their work. Expertise ranges from development and usage of Java-based applets from high-school to university, to managing online mathematics activities in the virtual classroom, to assistive technology and creation of accessible mathematical content.

deliverable



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Links:

- [1] <http://www.prolearn-academy.org/Events/summer-school-2009>
- [2] <http://www.xivjaem.org>
- [3] <http://vocamp.org>
- [4] <http://www.jem-thematic.net/en/workshop4>