Abstracts for Posters

Incorporating Security Concepts into the First Course in Computer Science

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Abstract. Poorly written programs and applications are still the main source of security vulnerabilities and failures. In this poster presentation we discuss the need and importance of teaching and incorporating security principles from the very beginning in the computer science curriculum and present six security-related projects that can seamlessly be incorporated into the first programming course in computer science.

University Network in Research and Education on Experimental Mathematics

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Abstract. An inter-academic network within Universidad Tecnológica Nacional, Argentina, is organized in order to develop a new program on research and education on calculus through the conception of experimental mathematics. The aim of this

consortium is to change the conventional way to learn mathematics into a modern one by means of available software tool applications.

The central focus is the experimentation accounted for through the development of the Mathematical Exploratory Learning Systems (MELS), where students experiment and solve problems. Many scientific and common life problems are proposed for discussion. MATHEMATICA$^{©}$ Notebooks about Calculus (Functions, Derivation, Integration) have been developed. A MELS library is envisaged in order to help professors and students in their work. They may choose the ones suitable for their subject matters.

We treat mathematics like physics, an empirical discipline, a place where things are discovered because they are seen. Computers provide students with a "laboratory" in which they perform experiments, analyze examples, test ideas, gain insight and intuition, and discover relationships, similar to the experimentation in physics and biology.

WebQuests and Blogs in Teachers' Education: Postgraduate Students' Reactions

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Abstract. This paper reports Portuguese postgraduate teachers' reactions to the creation of a Blog and to the development of an educational website. During the semester students write on their Blogs their opinions, criticize papers,and indicate sites or events they were interested in. The Blog was used as an e-portfolio, and the teacher always commented their posts in the Blog.

Students also had to develop an educational web site and all but one group chose to create a WebQuest. Their difficulties in conceiving a WebQuest and their opinions about the implication of the WebQuest in learning are described. Students reported to have enjoyed the design of a WebQuest and the creation of their own Blogs as well as the posting. In their reflection at the end of the semester about the contribution of the course outline to their professional life, they mentioned feeling prepared to use the internet in their classes.

Integrated Teaching of Programming Foundations and Software Testing

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Abstract. The importance of software testing is widely recognized, but usually only a small portion of the computer science (CS) curriculum is allocated for teaching it. Some experiences have suggested that the teaching of software testing should begin as early as possible so an adequate culture of testing could be created. One way to achieve this is dealing with testing practices in conjunction with programming concepts in introductory CS courses. In this poster we explore this idea, working on the integration between the teaching of software testing along with the teaching of programming foundations. We discuss the development of an educational module and its related learning materials for integrating such knowledge domains. Besides that, we propose − PROGTEST − a web-based environment for the submission and automatic evaluation of practical programming assignments based on testing activities, aiming at providing an adequate feedback to evaluate the learners' performance concerning programming and testing.

Remote Support for Lab Activities in Educational Institutions

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Abstract. RAP (Remote Assistant for Programmers), is a web and multi-agent based system to support remote students and programmers during common projects or activities based on the use of the Java programming language. To be able to support their users, personal agents build and maintain a profile of them. One of the most interesting features is that RAP is not a closed system, but based on a dynamic network of RAP platforms (i.e., some platforms can be disconnected, the platforms can be grouped on a set of disconnected systems) managing groups of geographically localized users and documents. In fact, the application is aimed at helping students and researchers in the context of the @lis-TechNet project, and it leverages the worldwide network of agent-based platforms deployed during the project.

MultiMedia Culture: Transcending Boundaries Through the Lens of a Camera

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Abstract. The project MMK is an actual blend of multicultural and multimedia aspects at an Austrian school. Due to Austria's history multicultural belongings do not have a long tradition. We use the attraction of multimedia equipment and the matter of our visually adjusted society to focus on the boundaries of heritage, education and experiences of the children. We seek these boundaries to then transcend them. It is a third, a fourth or already a fifth world that the children at our school dive into, a world of art and confusion. The Socratic principle is an aid for the children and teacher to achieve their goals. Several videos will be presented.

Using On-Line Museum Exhibits in Education

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Abstract. How well do virtual museums (i.e., those with web-based exhibits and web-accessible databases), support educational uses at varying levels of knowledge acquisition? Teachers' and students' responses to utility surveys will be used to address this question, and to make useful recommendations to the museum web-development community.

Computer Science Curricula Design for Peruvian Universities: San Pablo Catholic University Case Study

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Abstract. This paper gives the basis, strategies and principles for computer science curricula development for Peruvian universities. This work is based on Computing Curricula 2001, the latest curricular recommendation of ACM and IEEE-CS. As a case of study this poster proposes guidelines for computer science curricula development at San Pablo Catholic University (Arequipa, Peru).