Preface

The International Conference on Advanced Learning Technologies (ICALT) is an annual conference organized by IEEE Computer Society and IEEE Technical Committee on Learning Technology. It aims to bring together people who are working on the design, development, use and evaluation of technologies that will be the foundation of the next generation of e-learning systems and technology-enhanced learning environments. After its kick-off as IWALT in Palmerston North, New Zealand (2000), ICALT has been held in Madison, USA (2001), Kazan, Russia (2002), Athens, Greece (2003), Joensuu, Finland (2004), Kaohsiung, Taiwan (2005), Kerkrade, The Netherlands (2006), Niigata, Japan (2007), Santander, Spain (2008), and Riga, Latvia (2009). The 10th IEEE International Conference on Advanced Learning Technologies (ICALT2010) is held in Sousse, Tunisia, a city with rich culture and a long-standing tradition in computer-based learning.


This year, the ICALT main conference received 302 papers from 48 countries (not counting the submissions received for various workshops). All submissions were peer-reviewed in a triple-blind review process by an international panel of at least three international expert referees and decisions were taken based on assessing research quality. We are very pleased to note that the quality of the submissions this year turned out to be very high. A total of 80 papers were accepted as full papers in the main ICALT conference, that is, a 26.49% acceptance rate. Furthermore, 81 papers were selected for presentation as short papers and 25 as posters.

We acknowledge the invaluable assistance of the program committee and the international referees, who are named on another page. Most reviewers opted to provide detailed comments to the authors, making it a valuable experience for the authors, even if their submission was not selected for the conference.

With all the effort that has gone into the process, by authors and reviewers, we are confident that this year’s ICALT proceedings will immediately earn a place as an indispensable overview of the state of the art and will have significant archival value in the longer term.

Mohamed Jemni
Kinshuk
Demetrios Sampson
J. Michael Spector

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July 2010
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Abstract—This paper presents a web tool that uses JavaServer Faces to design questions graphically, to test the outcome in a learning environment and to export them using the QTI v2.1 specification in order to ensure interoperability between different learning systems.

Keywords—IMS-QTI, test, evaluation, assessment, standard

I. INTRODUCTION

IMS Question & Test Interoperability v2.1 specification (QTI v2.1.) [1] defines a standard format for the representation of queries and results of evaluations made in an e-learning framework. With this standard, it is possible to get interoperability between different learning systems that currently exist. In order to achieve this interoperability, we have built a tool that complies with IMS Content Packaging v1.1.4 and that generates content packages which are transportable between e-learning platforms. Moreover, the tool has been designed as a web platform that can be accessed via Internet. JavaServer Faces framework has been used to build it [2].

II. QTI v2.1.

QTI v2.1. specification defines a form to represent elements of evaluation: simple choice, multiple choice, matching (figure 1), association, ordering, etc.

![Figure 1. Example of matching question](image1.png)

III. TOOL

JavaServer Faces framework has been used to build this tool.
This framework uses Model-View-Controller (MVC) (figure 3) to structure the application [3], so it is possible to establish a clear difference between different application components.

Once logged in, the tool has different options to manage the evaluation elements such as Category and Items Manager, Import Categories and Export Categories (figure 4).

It is possible to group different questions into categories from the Category and Items Manager option (figure 5). In this option the tool permits to add and remove categories.

When a category is selected, it is possible to create new different questions using an easy-to-use editor (figure 6). This editor gives the opportunity to select the question type (simple answer, multiple choice, etc.) and to write the question title. Moreover, with the editor is possible to attach images, to establish links, to format, etc. questions in order to better illustrate them.

The tool also permits to import the questions from a QTI v2.1. file and then to edit them. This assures the interoperability between different systems that use this standard.

Finally the tool also has an export option to generate QTI v2.1. files. That ensures interoperability too, because these files may later be loaded into compliant systems (figure 7).

REFERENCES