

SS 496 : Part 4 : 2003 (ICS 35.240.99)

SINGAPORE STANDARD

Specification for eLearning framework

– Part 4 : Assessment and performance tracking





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Foreword

This Singapore Standard was prepared by the Learning Standards Technical Committee (LSTC) under the direction of the IT Standards Committee. The LSTC is responsible for tracking, developing and promoting standards on learning in Singapore.

Question items can only be used in some proprietary systems. When the question item content is changed, the program codes have to be rewritten.

Even in systems that support the particular programming language, some program changes are required, e.g. Perl can be used in Windows platform but some of the codes need to be changed to cater to Windows environment.

There is no standard way to :

- a) represent the media used (e.g. graphic images, multimedia clips) and the flow of the distracters (i.e. either arrange them horizontally or vertically) as used in multiple-choice questions. This lack of presentation standard may lead to different presentation layouts.
- b) capture the scores attained by the learners after taking a test.
- c) pass on values like student scores and time taken to answer the question items from one system to another system.

This is where eLearning specifications can provide some solutions to these difficulties.

In preparing this standard, the Working Group members had been mindful about getting workable examples, especially for those IMS QTI examples. For the performance tracking of students' learning, the focus is on the specification that can be implemented easily and that can be integrated with other parts of the Singapore Standard. As such, the use of the API-based communication protocol from the AICC has been recommended.

This standard is expected to gain the widespread acceptance by the practitioners in the eLearning industry in Singapore. However, as specifications are still evolving, this standard will be reviewed and revised regularly. The LTSC will be responsible for incorporating new elements or features in this specification on Learning Content Packaging.

Attention is drawn to the possibility that some of the elements of this Singapore Standard may be the subject of patent rights. SPRING Singapore shall not be held responsible for identifying any or all of such patent rights.

NOTE

- Singapore Standards are subject to periodic review to keep abreast of technological changes and new technical developments. The revisions of Singapore Standards are announced through the issue of either amendment slips or revised editions.
- 2. Compliance with a Singapore Standard does not exempt users from legal obligations.

Specification for eLearning framework – Part 4 : Assessment and performance tracking

Section 1 – General and scope

0 Introduction

Many tests and assessments are conducted in school, employment or even in hobbies. There are school examinations, driving licence tests, radio ham tests and answering questionnaires on our lifestyle and medical checkups. Taking tests and assessments is part of the learning process in modern living. There is a need to know whether the learner has met the learning objectives set for a particular learning course. Taking a questionnaire or even giving the usual end of lecture feedback is a form of assessment. Invariably, many of these tests and surveys can be delivered in various media. Most tests are delivered via the paper format. The teacher normally prepares the test questions and has these test question items typed neatly and accurately before the tests are administered to the learners. After that comes the laborious task of marking the test papers. However, with the introduction of computers in the late 1960s and the PCs in 1980s, people begin to use computers widely to help them in creating the test questions, marking the questions automatically, collecting the scores from the learners and administering the tests properly. When the World Wide Web became very popular, people began to deliver such tests and surveys over the Web. Unfortunately, the test items are still created in their own proprietary format. For example, in the early years of the Windowsbased Internet browsers, many people used (and are still using) the programming language called Perl to create these test items. In such cases, they have the question items embedded within the program instructions. The diagram in Figure 1 gives a clearer picture of this situation.



Figure 1 – Question item embedded within computer program

1 Scope

This Singapore Standard covers two areas:

- a) Creating question and test items that can be used and reused in assessment engines that have been developed conforming to the IMS QTI specification;
- b) Tracking the performance of the student who participates in an online learning course.

2 Target audience

The following is a list of the target users of the Assessment and Performance Tracking specification. This list is not an exhaustive one but rather it gives an indication of the type of people who will be

Education technologist Courseware developer Learning assessment system developer Instructional designer System integrator eLearning specialist eLearning programmer Learning management system specialist Knowledge management system specialist Education service provider