

# **NEW DEVELOPMENTS IN PERCEPTION DESIGNED TO MEET THE CHANGING FACE OF CAA**

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Question Mark Computing will launch the next version of its Perception software suite later this autumn. Visitors to the CAA Conference will be the first in the world to see a Beta version of the new software.

But Perception V3 is much more than a shiny new interface and some extra technical jiggery-pokery. Its development has been driven by the change in demand of Computer Aided Assessment as it becomes more 'mainstream' and plays an increasing role in higher stakes testing.

Question Mark Computing was one of the first organisations to create software to enable practical CAA. The company launched its first program in 1988. Question Mark for DOS, and its successor Question Mark for Windows, were by today's standards relatively simple packages that enabled their users to create and run questions on a PC. They were practical solutions for practice tests, self-assessment and limited formative testing. They did not comply with any industry standards because there were no industry standards to comply with. There were few guidelines on what made a good computerised testing package because, in reality, nobody really knew. What was obvious though, even then, was that computerised testing on the PC was going to be a very useful tool.

Today, computerised testing has become an essential and integral part of e-learning. New experts on the subject are emerging every week. This is, of course, good news for companies such as Question Mark. No longer do we have to guess what people are looking for in a testing and assessment engine. Research and opinion is abundant. Today we can genuinely produce something that reflects the demands of a vibrant market.

But the change and the increasing maturity of CAA industry manifests itself in a number of different ways. One of the most obvious has been the emergence

of genuinely useful generic standards. This is also a good example of how technology is being made to adapt to the more practical needs of users. Perception V2.5 was the first software of its kind to actively embrace these standards. Indeed, it remains the only question and assessment suite to be certified to AICC AGR10 (enabling interoperability over the Internet).

Meanwhile, the introduction of MathML has, at last, provided educationalists with a standard to enable them to present mathematical notation over the web. MathML is a powerful language for encoding mathematics in Web pages. Perception V3 incorporates this ability by integrating Design Science WebEQ software into the system.

Perception V2.5 was the first application in its class to be certified by the AICC. But the introduction of SCORM is expected to provide users with the easiest opportunity yet to build 'best of breed' online e-learning solutions. ADL SCORM (Sharable Content Object Reference Model) is a framework that defines a web-based learning "content model". It is designed to unify the current crop of emerging standards into a single reference model. As such it has been backed by leading standards organisations including IEEE and AICC. The Question Mark Perception developers have already used the concepts within this standard to enable the system to be linked to a virtual learning environment. Perception V3 has been designed to comply with this standard and Question Mark aims to certify it accordingly as soon as possible.

But perhaps an even more important development is the IMS QTI XML standard. This has provided the industry with its first real opportunity to create exportable, futureproof test items. IMS is a global coalition of more than 250 technology vendors including Question Mark Computing, Oracle, Apple, IBM, PeopleSoft and Sun Technologies, developers, educational institutions, and government agencies. IMS QTI makes it possible to pass question and test data between applications, providing learning system interoperability for online training and education technologies. As far as the question authors are concerned, it enables them to write future-proof questions, portable from one application to another system, without losing the underlying integrity of a test. Exam boards are now looking towards IMS QTI to enable them to create and store papers. Corporations and educators are sharing and exchanging question banks for the first time.

Once again, Perception V2.5 was the first suite to enable users to import and export to IMS QTI, although users still needed to translate the information using a separate free utility. With the launch of Perception V3, the need for a separate viewer for QTI questions will be abolished. Instead the format will be supported directly from within the Question Manager question authoring application.

Another interesting extension to Perception V3's capabilities is the addition of a tool to enable users to publish assessments complete with graphics and questions into a single file, similar in nature to a ZIP file. This can then be imported directly onto another system. Again this is a key feature that has been driven by the demands of CAA users for greater interoperability and flexibility. The concept has already been enthusiastically greeted by test publishers who, for the first time, have the opportunity to create and produce

complete assessments for educationalists, yet also enable them to edit them and add their own material as they wish.

12 years ago, when Question Mark Computing first produced testing and assessment software, CAA was primarily used for practice tests. Today, CAA has become accepted as a key tool for evaluating student performance via diagnostic, formative and summative assessment. But even now, for many, the use of CAA in summative testing still demands a service driven solution, which may even include the provision of an invigilated testing centre. But as more has become known about providing computerised testing and assessments environments, then so it has also become more appropriate for Universities and other institutions to create their own computerised summative testing environments.

One of the key issues in any summative examination is confirming the identity of the participant. Monitoring (invigilating or proctoring) is as essential in CAA as any other type of testing. Perception V3 includes a new feature called, suitably, Monitor that will only enable an assessment to be run if the monitor administrator permits it. In Perception, test monitors can be defined within the reporting software just as Administrators are defined at present in Perception V2.5. They will enable users to monitor assessments for one or many different groups. Also like Administrators, they can be restricted to log on only at specified IP addresses.

When a participant takes a monitored assessment, the system demands that the monitor logs on to confirm the participant identity. This means that a remote exam administrator can be reasonably sure that someone reliable is confirming the identity of the participant and the supervisor of the exam.

Another improvement within Perception V3 that reflects the move towards more formal use of CAA is the introduction of a new tagging system for questions. The new Tags will enable users to assign labels or values to questions. Their main value will be to allow users to build assessments by selecting tags across topics. They will also provide the facility to add metadata to questions. The Tags may be set when the questions are being created or edited within Question Manager. The new Tag definitions can be imported or exported to question databases so that a manager can send tags to the authors. This means that questions within an assessment can be selected by Topic (as before), by Tag or by Topic and Tag. This will add considerable value to users in formal situations who are seeking to use Perception as an 'item banking' solution

These of course are not the only improvement that Perception V3 will reveal. There will be three new question types. A matching question enables users to match choices to options. A Ranking question matches choices to numbers and a new Select-a-blank question enables users to choose to complete a space from a range of options. The new additions mean that users can now access 17 different question types through the Question Wizard inside Question Manager.

Perception's existing Session Manager has been renamed Assessment Manager for V3. Within Assessment Manager, Question Mark has also

improved its template-creating tool (making it even easier to create interesting looking web pages for your assessments).

But perhaps the biggest area of change within Perception V3 is within the server software. A sleek new front end, which embraces all the server applications will impress both first time and existing users, without question. But the educated user will probably most appreciate the improved reporting capability. A host of new features have been designed to enable users to have not just a better view of how their candidates are progressing, but also to provide a greater insight into what is being actually absorbed and understood. And of course what makes a good question and what not.

Perception V3 is due out later this year. For more information, about this product or any other from Question Mark Computing, call 020 7263 7575, or email: [martin.belton@qmark.co.uk](mailto:martin.belton@qmark.co.uk).