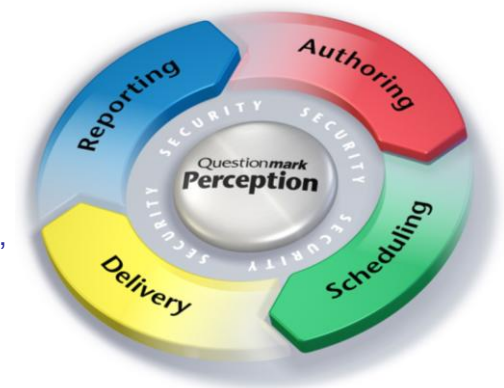


# Questionmark Perception

## Overview

Questionmark™ Perception™ enables educators and trainers to author, schedule, deliver, and report on surveys, quizzes, tests and exams. This complete assessment management system enables you to create questions and organize them into exams, quizzes, tests or surveys. You can schedule people to take the assessments, deliver them in a variety of ways and then view the results in 12 different report types. Questionmark Perception offers a cost-effective, easy way to not only to measure knowledge, skills and attitudes -- but also enhance the learning process.



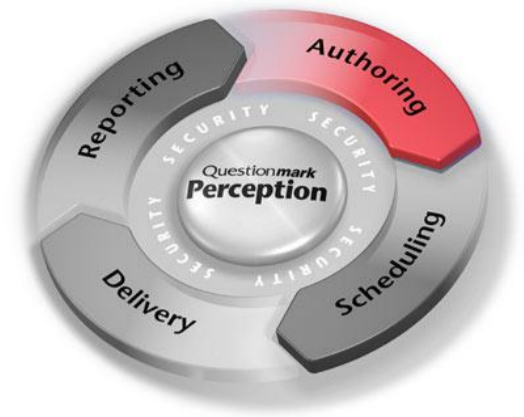
Questionmark's holistic approach means users can count on more than just feature rich software -- but also knowledge bases, manuals, upgrades, consulting services, training courses, and partnering relationships to ensure customer's success with the software. This chart, and the others in the series focus on the features rather than all of the service offerings. For more information on those please contact Questionmark customer service at (800) 863-3950 or [info@questionmark.com](mailto:info@questionmark.com).

Key features	Perception	Competitive Product
<b>Authoring</b>		
Powerful but easy to use authoring system with 22 different question types	Yes	
Drag and drop publishing and content management	Yes	
Question banking organized by learning objective	Yes	
Workflow management to manage and document how questions are created and deployed	Yes	
Distributed authoring enables multiple authors to collaborate	Yes	
WYSIWYG HTML Editing	Yes	
Search item banks by keyword in question stimuli, choices, feedback, metatags, descriptions, topic, or author	Yes	
Adaptive branching based on how questions are answered	Yes	
Easy selection and randomization of questions and choices	Yes	
<b>Scheduling and Administration</b>		
Powerful system to add, change, and delete participants, administrators, administrators privileges	Yes	
Easily schedule assessments for groups, subgroups or individuals	Yes	
Send emails to groups and individuals	Yes	
<b>Delivery</b>		
Deliver via standard web browsers, PDAs, secure browser, or paper	Yes	
Deliver to certified testing centers	Yes	
Print assessments for delivery via OMR or OCR answer forms; upload responses to Perception for scoring, reporting.	Yes	
Deliver assessments offline; results uploaded for reporting automatically upon reconnection to internet	Yes	
Scalable server to meet growing demands	Yes	
Secure delivery for high-stakes testing	Yes	
<b>Reporting</b>		
On-demand viewing of results, reports and item analysis	Yes	
Multiple report styles you can customize	Yes	
Powerful, flexible reporting system to analyze results	Yes	
Storage of answers, scores, and results in Microsoft SQL, or Oracle	Yes	
Easily export data to ASCII or Excel	Yes	
Distribute survey reports via email, printer, browser, Word, Excel or PDF	Yes	
<b>Security</b>		
Secure online delivery prevents copying, printing, screen shots, or task-switching during high-stakes testing	Yes	
Role-based security allowing multiple levels permissions for authors and administrators	Yes	
Can assign different levels of access rights to authors for secure, collaborative authoring environment	Yes	
Can restrict administrator access to certain reports and sensitive data	Yes	
Can limit administrator log-ins to range of IP addresses	Yes	
<b>Interoperability</b>		
Supports key standards including AICC, IMS QTI & Content Packaging, SCORM 1.2, SCORM 2004, PENS and HR-XML.	Yes	
Integration with learning management systems and portals	Yes	

Support Provided	Perception	Competitive Product
Fully functional downloadable versions available from web site	Yes	
Knowledge Base available on web site	Yes	
Pricing available from web site	Yes	
Free phone and email support available during evaluation period and 30 days from purchase	Yes	
Software Support Plans available when free support expires	30 days	
Monthly e-newsletters	Yes	
RSS Feeds	Yes	
Free web seminars to explain product concepts	Yes	
On-Site training available	Yes	
Open-enrollment, instructor-led training on product available	Yes	
Online animated tutorials	Yes	

Documentation	Perception	Competitive Product
Printed Getting Started Guide	Yes	
Complete product manuals in PDF	Yes	
Context sensitive help throughout the system	Yes	
Authoring tutorials available	Yes (available on website)	
HTML Manuals available	Yes (available on website)	
Best Practices Guides	Yes	
Deployment guides available	Yes (available on website)	

Platforms required	Perception	Competitive Product
Authors using Windows need	Windows 2000, 2003, XP or Vista	
Authors using a browser need	IE 6 or higher	
Administrators need	IE 6 or higher	
Delivery system	Web Server PC, Windows 2000, Windows 2003 Server, Vista (tryout only)	
Databases supported	SQL 2000, 2005; Oracle 9i or 10g; MSDE (tryout)	
Participants need	IE 6 or higher; Firefox; or Safari	
Administrators running reports need	IE 6 or higher	



## Authoring

Questionmark Perception enables you to author questions using wizards in a Windows-based application called Authoring Manager and then store and edit them with local or shared (remote) repositories. You may also create questions using Perception's Browser-based authoring tool. The authoring wizards make it easy to create 22 different types of questions. You can add multimedia files including audio, video, Adobe Flash animations and Adobe Captivate simulations to Perception questions. It is easy to assemble and publish assessments from the questions you have created.

Overview of Questionmark Perception Authoring	Perception	Competitive Product
Authors using Windows need	PC Running Windows 2000, XP or 2003	
Authors using a browser need	IE 5.5 or higher	
Try out questions while authoring	Yes	
How you edit questions?	Authoring Manager's Wizards, Question Editor or Browser-based Authoring	
Author and publish questions and assessments directly to shared repository on remote server	Yes	
Multiple authors can work collaboratively using the same shared repository	Yes	
Author questions and feedback with easy-to-use WSIWYG HTML Editing tool	Yes	
Author questions using Microsoft Word?	Yes - with Word Authoring Templates	
Database supported for authoring	Microsoft SQL, Oracle, and MSDE	
Define topic-based feedback to provide learning prescription?	Yes	
Group questions by their objective?	Yes	
Languages available for spell-checker:	Uses Microsoft Word spell checker -- any language supported by Microsoft Word's dictionary	
Add own words to spell checker?	Yes	
Ability to search and filter item banks by keyword in question stimuli, choices, feedback, metatags, descriptions, topic names or author names.	Yes	
Import questions/items from ASCII files?	Yes	
Define your own import delimiters in ASCII text to make it easy to import a wide range of existing formats of questions.	Yes	
Import/Export questions to Qpacks to allow you to buy and sell item banks?	Yes	
Import/Export questions to industry standard files such as IMS QTI?	Yes	
Export questions to other files?	Export to QML	
Print questions?	Yes	
Record author name and date of last modification by each question so you can see when question was last modified.	Yes	
Insert server variables such as participant name, date or time directly into questions and feedback?	Yes	
Play audio, video, multimedia, Flash from within questions and feedback?	Yes	
Call third party programs from within assessments?	Yes	
Support for multinational character sets enabling use of Chinese, Japanese, Cyrillic and other double-byte characters	Yes	
Encrypt assessments for delivery with a Windows run-time program	Yes	
Customizable templates to control the look and feel of your questions and assessments	Yes	
Can use Cascading Style Sheets to control the look and feel or enhance accessibility of assessments	Yes	
Wizard for creating IMS, AICC, or SCORM packages available in both Windows Author and Browser-Based Author	Yes	
Browser-based "Open Author" enables Subject Matter Experts to deposit items directly into repository	Yes	
Wizard-based publishing of assessments for Windows Delivery and distribution via CD, memory stick and other media	Yes	
<b>Security</b>		
Define roles and multiple levels permissions for authors and administrators	Yes	
Define security permissions for specific folders to control access to specific topic or assessment folders?	Yes	
Can limit administrator log-ins to range of IP addresses	Yes	
<b>Workflow Management</b>		
Define, control and document how questions move from creation to release?	Yes	
Can define states that questions can be in?	Yes	
Can define actions that move from state to state?	Yes	
Can define roles that administrators can be in?	Yes	
Can define which roles can take which actions and which roles can create questions and which roles can view, edit and delete questions in each state?	Yes	
Can allocate a workflow to a topic, different workflows can apply to different topics?	Yes	
Can link question states to delivery status so that questions are only released and available for use in assessments when they've got to a certain state in workflow?	Yes	
All changes from state to state are recorded in a workflow history, which can be viewed by users?	Yes	
Can be used to establish audit trail essential for legally definisble high-stakes assessments?	Yes	
<b>Content Repositories</b>		
Simple drag, drop, cut and paste controls to manage and publish questions and assesements and supporting resource files (graphics, sound files, multimedia, etc.)	Yes	
Lock files from being edited simultaneously by more than one author	Yes	
Multiple authors can simultaneously author and publish to repository?	Yes	

Topic-based management of questions and supporting content	Yes	
Put simple learning content within the repository and link to it from question, topic or assessment feedback.	Yes	

Question Types	Perception	Competitive Product
<b>Windows Based Authoring</b>		
<b>All question types</b>		
Categorize questions by topic?	Yes	
Allow different scores by choice or combination of choices?	Yes	
Provide different feedback based on choice, or choices, selected?	Yes	
Easily enhance text with underline, bold, italics, superscripts, subscript, etc?	Yes	
Present mathematic equations using MathML?	Yes	
MathML expressions automatically converted to universal browser-friendly graphical format (JPEG)	Yes	
Auto-run sound and video?	Yes	
Loop sound and video?	Yes	
Include multimedia or embed?	Yes	
Set size of graphic independently of its size?	Yes	
Insert audio, video, multimedia, Flash, Captivate Simulations, graphics, fonts and equations in questions?	Yes	
Multiple options for shuffling choices in multiple choice questions	Yes	
Allow scores from -99 to +99 per choice?	Yes	
Set upper and lower limits on scoring for complex question types?	Yes	
Tag questions so they can be selected by topic and question tags	Yes	
Define states that questions can be in (e.g. Normal, Experimental, Beta, Retired)	Yes	
Allow participant to comment on a question they have answered (used to understand why someone chose a particular choice.)	Yes	
Include text notes and metadata for each question.	Yes	
Easy to enter hyperlinks within feedback (without knowledge of HTML).	Yes	
<b>Essay</b>	Yes	
Participant is prompted to type an essay on a particular topic.		
Wizard to assist authoring	Yes	
Allow variable height and width of text answer area, including long scrolling areas for entry?	Yes	
Assign different scores to different answers?	Yes	
Author can choose to ignore or use letter case in scoring?	Yes	
Assign different feedback to different possible answers?	Yes	
Look for keywords and absence of keywords?	Yes	
Allow for a misspelling check	Yes	
Report for manual grading of essay questions	Yes	
Grade essay questions using a browser	Yes	
Set rubrics for when grading using a browser	Yes	
Integrated with ETS automated essay grading system	Yes	
<b>Explanation</b>	Yes	
Participant is provided information that they will need to answer the assessment.		
Wizard to assist authoring	Yes	
How much text can be presented?	Total size of question limited to 32K, but can make links outside	
<b>Likert Scale</b>	Yes	
Participant is prompted to agree or disagree with a statement and each choice is given a weight to aid analysis.		
Wizard to assist authoring	Yes	
Include standard text for Likert scale?	Yes	
You can define your own range of choices?	Yes	
Allow for not applicable?	Yes	
Not applicable choice allowed?	Yes	
Define your own "weights"?	Yes	
Insert graphics, fonts and equations in text of choices?	Yes	
<b>Macromedia Flash</b>	Yes	
Participant is prompted using material generated with Macromedia Flash.		
Wizard to assist authoring	Yes	
Partnership with Macromedia?	Yes	
Flash score recorded for analysis?	Yes	
<b>Macromedia Captivate Simulations</b>	Yes	
Participant is prompted using material generated with Macromedia Captivate		
Wizard to assist authoring	Yes	
Can apply score for whole simulation?	Yes	
Can evaluate and score each interaction participant makes within the simulation?	Yes	
Score recorded for analysis?	Yes	
<b>True/False</b>	Yes	
Participant is asked whether they think a statement is true or false.		
Wizard to assist authoring including WYSIWYG HTML Editor	Yes	
Max no. of choices	2 True and False	
Display choices vertically or horizontally?	Yes	
Insert audio, video, multimedia, Flash, graphics, fonts and equations in text of choices, even when shuffled?	Yes	
<b>Yes/No</b>	Yes	
Participant is prompted to state whether they agree or disagree with a statement.		
Wizard to assist authoring including WYSIWYG HTML Editor	Yes	
Max no. of choices	2 Yes and No	
Insert audio, video, multimedia, Flash, graphics, fonts and equations in text of choices, even when shuffled?	Yes	
<b>Multiple Choice</b>	Yes	
Participants select one choice from several.		
Wizard to assist authoring including WYSIWYG HTML Editor	Yes	
Included standard multiple choice, true false, Yes/No, and Likert scale, etc.	Yes	
Max no. of choices	No reasonable limit	
Shuffle choices each time question is presented?	Yes	

Keep last choice last when shuffling for situations with "None of the Above", or, "All of the Above" choices?	Yes	
Ability to shuffle all but the last two choices when shuffling choices?	Yes	
Can specify horizontal or vertical layout of choices	Yes	
Insert audio, video, multimedia, Flash, graphics, fonts and equations in text of choices, even when shuffled?	Yes	

<b>Multiple Response</b>	Yes	
Participants selects several choices from many.		
Wizard to assist authoring including WYSIWYG HTML Editor	Yes	
Max no. of choices	No reasonable limit	
Shuffle choices each time question is presented?	Yes	
Insert audio, video, multimedia, Flash, graphics, fonts and equations in text of choices, even when shuffled?	Yes	
Assign different scores to different choices, or different combination of choices?	Yes	
Assign a score only if the participant gets entire answer right (right/wrong marking)?	Yes	
Can exclude last choice from shuffling?	Yes	
Can exclude last two choices from shuffling?	Yes	
Can specify horizontal or vertical layout of choices	Yes	
Limit number of choices participant may select. (for example, "Select up to 3")	Yes	
Assign different feedback to different choices, or different combination of choices?	Yes	
<b>Matching</b>	Yes	
Participant has to match two lists but is prevented from matching the same choice twice.		
Wizard to assist authoring including WYSIWYG HTML Editor	Yes	
Limits on either of the two lists to match	No reasonable limit	
Shuffle choices in lists each time question is presented?	Yes	
Can generate drag and drop Flash animated choices for Matching questions?	Yes	
Insert audio, video, multimedia, Flash, graphics, fonts and equations in text of choices, even when shuffled?	Yes	
Assign different scores to different matches, or combination of matches?	Yes	
Assign a score only if the participant gets entire list matched correctly (right/wrong marking)?	Yes	
Assign different feedback to different matches, or combination of matches?	Yes	
<b>Pull-Down List</b>	Yes	
Participant has to match a list of choices against a pull down list of options.		
Wizard to assist authoring including WYSIWYG HTML Editor	Yes	
Max no. of choices	No reasonable limit	
Max no. of options	No reasonable limit	
Shuffle choices each time question is presented?	Yes	
Insert audio, video, multimedia, Flash, graphics, fonts and equations in text of choices, even when shuffled?	Yes	
Assign different scores to different choices, or combination of choices?	Yes	
Assign a score only if the participant gets entire answer right (right/wrong marking)?	Yes	
Assign different feedback to different choices, or combination of choices?	Yes	
<b>Rank in Order (Ranking)</b>	Yes	
Participant ranks a list in order.		
Wizard to assist authoring including WYSIWYG HTML Editor	Yes	
Max no. of choices	No reasonable limit	
Max no. of options	No reasonable limit	
Can generate drag and drop Flash animated choices for Matching questions?	Yes	
Shuffle choices each time question is presented?	Yes	
Insert audio, video, multimedia, Flash, graphics, fonts and equations in text of choices, even when shuffled?	Yes	
Assign different scores to different choices, or combination of choices?	Yes	
Assign a score only if the participant gets entire answer right (right/wrong marking)?	Yes	
Assign different feedback to different choices, or combination of choices?	Yes	
<b>Knowledge Matrix</b>	Yes	
Participant is presented with several multiple-choice questions.		
Wizard to assist authoring including WYSIWYG HTML Editor	Yes	
Max no. of choices	No reasonable limit	
Max no. of options	No reasonable limit	
Shuffle choices each time question is presented?	Yes	
Insert audio, video, multimedia, Flash, graphics, fonts and equations in text of choices, even when shuffled?	Yes	
Assign different weights/scores to different choices or combination of choices?	Yes	
Assign a score only if the participant gets entire answer right (right/wrong marking)?	Yes	
Assign different feedback to different choices?	Yes	
<b>Survey Matrix</b>	Yes	
Presents multiple rows of Likert questions within a table with column headers included.		
Wizard to assist authoring	Yes	
Include standard text for Likert scale?	Yes	
You can define your own range of choices?	Yes	
Allow for not applicable?	Yes	
Not applicable choice allowed?	Yes	
Define your own "weights"?	Yes	
Insert graphics, fonts and equations in text of choices?	Yes	
<b>Numeric answer</b>	Yes	
Participant enters a number in response to the question.		
Wizard to assist authoring including WYSIWYG HTML Editor	Yes	
Prevent entry of text by user?	Yes (providing browser can run JavaScript)	
Allow entry of whole number, real numbers and scientific numbers with exponents?	Yes	
Allow multiple numeric entry areas?	Yes	
Assign score of your choice to getting question right?	Yes	
Assign score to getting question right within a range?	Yes	
Assign scores to more than one number or range?	Yes	
<b>Spoken Response</b>	Yes	
Wizard to assist authoring including WYSIWYG HTML Editor	Yes	
Can record and store voice responses to questions?	yes with WIMBA connector	
Educator or trainer can playback responses for grading?	yes with WIMBA connector	

Participant can play back response during assessment?	yes with WIMBA connector	
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<b>Text Match</b>	Yes	
Participant enters some text in answer to the question.		
Wizard to assist authoring including WYSIWYG HTML Editor	Yes	
Allow variable height and width of text answer area, including long scrolling areas for entry?	Yes	
Assign different scores to different answers?	Yes	
Author can choose to ignore or use letter case in scoring?	Yes	
Assign different feedback to different possible answers?	Yes	
Look for keywords and absence of keywords?	Yes	
Automatic mis-spelling check	Yes	
Report for manual grading of essay questions	Yes	
<b>Fill in Blank</b>	Yes	
Participant is presented with a statement with blanks (missing text), and enters text within the blanks.		
Wizard to assist authoring including WYSIWYG HTML Editor	Yes	
Number of different text entry areas permitted?	No reasonable limit	
Allow more than one correct answer for each gap?	Yes	
Allow partial marking (score for each gap right)?	Yes	
Allow different feedback for each gap?	Yes	
Author can choose to ignore or use letter case in scoring?	Yes	
<b>File Upload</b>	Yes	
Participant may upload a file in response to a question.		
Wizard to assist authoring including WYSIWYG HTML Editor	Yes	
Specify allowed file types	Yes	
Specify maximum file size	Yes	
Set rubrics for when grading using a browser	Yes	
<b>Select a Blank</b>	Yes	
Participant is present with a statement with a pull-down list indicating a missing word or phrase. The participant has to select the missing text from the pull-down list.		
Wizard to assist authoring including WYSIWYG HTML Editor	Yes	
Number of different text entry within pull-down list?	No reasonable limit	
Allow more than one correct answer for each pull-down list?	Yes	
Allow partial marking (score for each possible selection)?	Yes	
Allow multiple pull down lists within a paragraph.	Yes	
<b>Hotspot</b>	Yes	
Participant clicks on a graphic to indicate their choice and a marker graphic is moved to that position.		
Wizard to assist authoring including WYSIWYG HTML Editor	Yes	
Define your own background graphic?	Yes	
Define your own marker graphic?	Yes	
Define areas on the graphic as rectangles, circles or polygons?	Yes	
<b>Drag and Drop</b>	Yes	
Participant has to drag and drop images to a certain position, normally on top of another graphic.		
Wizard to assist authoring including WYSIWYG HTML Editor	Yes	
Define your own static graphics?	Yes	
Can generate drag and drop Flash animated choices for Matching questions?	Yes	
Define up to 10 movable graphics?	Yes	
Assign different scores to different areas that you move the moveable graphics to?	Yes	
<b>Other question types</b>	Yes	
Participant interacts with a custom developed question type developed in QML.		
Define your own question types without needing programming from Questionmark?	Yes (documented on web site)	

Assessment Presentation Features	Perception	Competitive Product
<b>How questions are presented</b>		
Present each question on its own screen?	Yes	
Present questions in a list?	Yes	
Specify order in which questions appear?	Yes	
Divide assessment into separate blocks or sections?	Yes	
Option to make answering question(s) in a block mandatory?	Yes	
Allow free movement around an assessment?	Yes	
Allow restart of assessment, from where you left off, when technical issues cause problems?	Yes	
<b>Save As You Go</b>		
Allow participants to save their answers without affecting their progress through the assessment?	Yes	
Allow auto-save to save participant's answers without affecting their progress through the assessment?	Yes	
<b>Time limit</b>		
Set time limit for a assessment	Yes	
Allow un-timed question blocks to provide introductions/information and prompt for demographics?	Yes	
Display time remaining	Yes (optional)	
Provide warning when time limit is about to expire	Yes (optional)	
<b>Selection and Sequencing</b>		
Randomly select questions from topic, or sub-topics at run-time?	Yes	
Select questions using tags, and/or combinations of tags?	Yes	
Use a hierarchical system of topics to randomize from (including randomizing from subtopics)?	Yes	
Mix questions from different topics randomly?	Yes	
Shuffle choices within a question?	Yes	
<b>Jumps</b>		
Jump within an assessment based on current score or based on results of a question?	Yes	
Link to another assessment based on assessment score?	Yes	
Link to a web page, or application, based on results from a question, topic score or assessment score?	Yes	
<b>Final page at end of assessment</b>		
Present different final pages depending on topic score or assessment score achieved?	Yes	

Assign an Assessment Outcome based on total score e.g. "Pass" or "Fail" to the assessment?	Yes	
Assessment Outcome can be based on total score, and pre-requisites such as topic score, if required?	Yes	
Go to a new assessment or program depending on the Assessment Outcome?	Yes	

<b>Feedback</b>		
Optional item level prescriptive feedback?	Yes	
Optional topic based prescriptive feedback?	Yes	
Optional assessment score based feedback?	Yes	
Optional topic based feedback and scoring	Yes	
Automatically send email at end of assessment	Yes	
Display feedback at end of each block or section?	Yes	
Display feedback after each question?	Yes when each question is a block	
<b>Graphics in assessments</b>		
Number of graphics per question, choice, or feedback?	Unlimited	
Graphics formats supported?	GIF, JPEG, PNG, WMF, DIB, BMP	
Allow wallpaper / background graphic	Yes	
<b>Multimedia</b>		
Sound fully supported	Yes	
Video Multimedia fully supported	Yes	
Macromedia Flash and Macromedia Captivate supported	Yes	
<b>Question Layout</b>		
Allow content to change look and feel for different assessment styles	Yes	
Use style sheets to control content layout?	Yes	
Allow content to change look and feel to match web site or applications	Yes	
All text presented to participants can be changed without programming?	Yes	

## Scheduling and Administration



Perception's Enterprise Manager software enables you to schedule individuals or groups to take assessments, send emails to participants, add and manage participants, organize participants into groups and manage privileges of participants and administrators. Perception offers multiple levels of security for administrators, authors and participants.

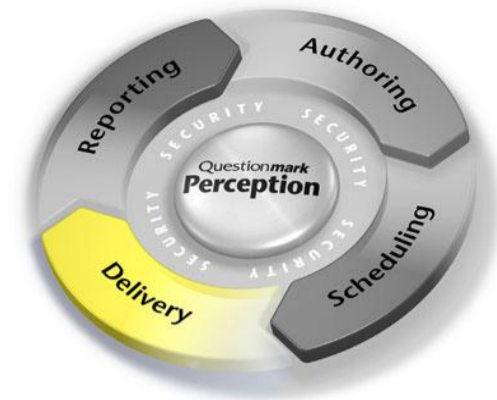
Security	Perception	Competitive Product
Limit administrators login from a range of IP addresses?	Yes	
Administrative Users assigned privileges to limit their access?	Yes	
Schedule assessments to participants and only permit scheduled assessments to be run	Yes	
Allow scheduling by group?	Yes	
Require proctor login before participant may log in	Yes	
Pick questions randomly from a pool of questions	Yes	
Limit number of attempts at a assessment	Yes	
Limit access to an assessment within date limits	Yes	
Full logging of activities on server	Yes	

Scheduling and Administrative Features	Perception	Competitive Product
Create, edit, and/or delete participants?	Yes	
Import participants from a file?	Yes	
Rapidly create multiple participants and automatically generate participant IDs with defined prefix, postfix, and number ranges	Yes	
Create, edit, and/or delete groups?	Yes	
Organize participants into heirarchical groups and subgroups?	Yes	
Create, edit, and/or delete schedules?	Yes	
Allow filter of current schedules	Yes	
Schedule assessment for delivery at certified test center	Yes	
Define time period (number of days) before participant may re-attempt assessment	Yes	
Administrator may override time-limit set for assessment	Yes	
Create, edit, and/or delete accounts?	Yes	
Create, edit, and/or delete other administrative users?	Yes	
Create profiles of administrative users?	Yes	
Apply filters to large groups to rapidly find and manage participant details	Yes	
Assign administrators to specific test centers	Yes	
Allow third party applications to securely add participants and schedules	Yes	
Link participant login screen to program that obtains and records participant's demographic data	Yes	
Limit IP addresses from which an administrative user can login?	Yes	
Allow email broadcasting to participants or groups?	Yes	
Schedule assessments for online or offline delivery	Yes	
Define access peirods and limit number of attempts of offline assessments	Yes	
Allow email broadcasting to all people with attempts remaining at an assessment?	Yes	
Create, edit, and/or delete essay grading rubrics?	Yes	
Scoring Tool enables grading essay questions within assessments by using customized rubrics.	Yes	
Authorized users allowed to edit scores and grades	Yes	
Allow administrative user to proctor assessments?	Yes	
Allow system administrator to remove unwanted results from database?	Yes	
Allow trusted administrator to review and amend scores after assessment completed.	Yes	
Direct access to log files for troubleshooting	Yes	

Platform required	Perception	Competitive Product
Server to hosting administrative functions	Microsoft Windows Server 2003 or Windows 2000 Server	
Server database formats supported:	Microsoft SQL, Oracle, and MSDE	
Administrators need	IE 5.5 or higher	

Interoperability	Perception	Competitive Product
Built-in APIs enabling integration with 3rd party software	Yes	
Built in web services enabling integration	Yes	
Supports key standards including IMS QTI & Content Packaging, AICC, SCORM 1.2, SCORM 2004, PENS and HR-XML.	Yes	
Integration with learning management systems and portals	Yes	

Send Email	Perception	Competitive Product
Send email results to individuals based on outcomes	Yes	
Send an email to participants	Yes	



## Delivery

Perception enables blended delivery to accommodate a broad range of participant needs. Assessments can be delivered to standard browsers such as Internet Explorer, Firefox and Safari. Assessments can also be delivered via secure browsers and to handheld devices such as PDAs and Smartphones. Questionmark to Go extends the benefits of online assessment to offline participants. Assessments can be published for Windows delivery and distributed via CD, memory stick and other media. Assessments can be printed, answers scanned and uploaded for scoring and reporting.

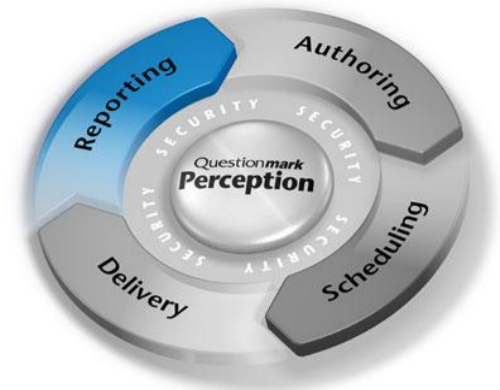
Authentication methods	Perception	Competitive Product
Authenticate against Perception's participant database	Yes	
Authenticate against LDAP	Yes	
Authenticate using local Windows user name	Yes	
No authentication / Open Access	Yes	

Delivery methods	Perception	Competitive Product
Participants can answer using a standard internet browser on a PC	Yes	
Participants can answer using a standard internet browser on a Macintosh	Yes	
Participants can answer using a standard internet browser on a PDA	Yes	
Administrators may require participants to answer using Questionmark Secure (secure browser to prevent printing, screen captures, and unwanted exit)	Yes	
Administrators may restrict delivery so assessment may only be delivered via specific test center	Yes	
If participants loses connectivity or power during timed assessment, time-limit is frozen and assessment restarted where left off once connectivity is reestablished.	Yes	
Browser-check ensures participant may login to an assessment using a compatible web browser and configuration	Yes	
Participants can answer using a Windows PC without an internet connection (Questionmark to Go)	Yes	
Disconnected delivery of online assessments using Questionmark to Go; send results server when reconnected	Yes	
Participants can click to save current results without affecting progress through the assessments	Yes	
Auto-save results without affecting progress through an assessment	Yes	
Drag-and-drop questions delivered using DHTML	Yes	
Return participant to any URL after an assessment	Yes	
Question by question display without server interactions	Yes	
Collect demographic data from questions within assessment without affecting timing	Yes	
Enable participants anonymous access to assessments such as surveys	Yes	
Print questions to Word Document?	Yes	
Print Questions booklet for delivery with OMR bubble sheet	Yes	
Print Questions and Forms readable with OCR Scanning Solution	Yes	
Overprint Questions onto OMR form	Yes	
Special Character Palettes enables participants to enter of foreign or special characters in text fields	Yes	

Send email at end of assessment	Perception	Competitive
Send email directly from Perception to participant, administrator or any email address	Yes	
Send email results to individuals based on outcomes	Yes	
Define customized outcome email using assessment wizard	Yes	

Integration with third party programs	Perception	Competitive Product
Call assessments from other applications	Yes	
Wizard-based Publish-to-LMS tool in both web-based and Windows-based authoring tools for streamlined integration	Yes	
Content Packaging using IMS formats	Yes	
Content Packaging using ADL SCORM formats (1.2 and 2004)	Yes	
Course Structure files (content packaging) using AICC formats	Yes	
Launch and track assessments using ADL SCORM (1.2 and 2004)	Yes	
Launch and track assessments using AICC (hacp)	Yes	
Ability to prevent certain assessments (such as high-stakes exams) from being launched via 3rd-party LMS	Yes	
AICC certified	Yes	
.NET certified	Yes	
Support for PENS standard for streamlined delivery of AICC or SCORM package to LMS	Yes	
Single sign-on access to assessments via Microsoft SharePoint Portal Server?	Yes	
Export results to HR applications supporting HR-XML Assessment Result Standard	Yes	
Launch assessments using web-services	Yes	
Call custom software at end of an assessment	Yes	
Generate XML version of assessment for third-party delivery; responses passed back to Perception for scoring, reporting	Yes	
Pass in demographic data from 3rd party management systems	Yes	
Call third party programs from within assessments?	Yes	
Pass variables (e.g. current score, name, etc. ) to third party programs?	Yes	
Integrate with web portals using JSR-168 Standard	Yes	
Integrate scores from third party programs called into assessment results?	Yes	

Security	Perception	Competitive Product
Prevent "accidental" exiting of assessment?	Yes with Questionmark Secure	
Prevent printing, screen captures and saving HTML?	Yes with Questionmark Secure	
Require proctor login before test is started	Yes	
Limit proctor's login from a range of IP addresses?	Yes	
Check participant name?	Yes	
Allow participants to change their own password?	Yes	
Number of characters in participant name	50	
Check participant name is valid against Perception security database?	Yes	
Check participant name is valid against an LDAP server?	Yes	
Use participant name from Windows PC?	Yes	
Check participant name is valid against NT username/password?	Yes	
Number of participants allowed	No limit	
Schedule assessments to participants and only permit scheduled assessments to be run	Yes	
Allow scheduling by group and subgroup?	Yes	
Limit number of attempts at a assessment	Yes	
Limit access to an assessment within date limits	Yes	
Encrypt question data	No, however, right answer information is never displayed to participant except if feedback has been so configured.	
Encrypt answer data	No (but held on webserver invisible to participant)	



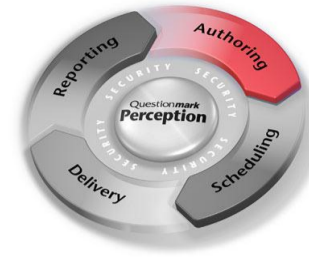
## Reporting

When a participant completes an assessment, the results are stored in Perception's answer database. Administrators can then view these via a browser. Perception offers twelve pre-defined report styles but you can also define your own reports. Answers can also be exported to Excel for custom reporting and can integrate with third-party system.

Pre-defined, Customizable Reports	Perception	Competitive Product
<b>Item Analysis Report:</b> Graphic displays showing distribution of discrimination, correlation, p-value, difficulty, outcome frequency, participant mean, times occurred (frequency), proportion selected, upper group selection, lower group selections, outcome discrimination, outcome correlation, mean of P value, proportion correct, mean of item discrimination, mean of item total correlation, and participant comments.	Yes	
<b>Question Analysis Report:</b> discrimination, correlation, difficulty, outcome frequency, participant mean, and participant's comments.	Yes	
<b>Survey Report:</b> Graph frequency of answers. Create dynamic reports, generate cross-tab and trend analysis reportlets. Distribute reports via print, Word, Excel, PDF, Web, and HTML email. Maintain full control over formatting. Choose the type of graph that best represents your data. Save report to "My Reports" - report can be run again in the future.	Yes	
<b>Coaching Report:</b> Showing answers and scores by one person for a single assessment. Create dynamic reports. Batch process reports for multiple participants and groups. Distribute reports via print, Word, Excel, PDF, Web, and HTML email. Maintain full control over formatting. Choose the type of graph that best represents your data. Save report to "My Reports" - report can be run again in the future.	Yes	
<b>Assessment Overview Report:</b> Showing times an assessment taken, completed, not completed, means and times to complete.	Yes	
<b>Assessment Overview Report.</b> Display histogram of assessment and topic scores.	Yes	
<b>Export reports data to Excel file.</b> Allows you to import data directly into Excel.	Yes	
<b>Export reports data to ASCII file.</b> Allows you to import data into Excel, SPSS and other 3rd party applications.	Yes	
<b>Score List Report:</b> Showing how several students performed with one or multiple assessments.	Yes	
<b>Grade-book Report:</b> Showing how several assessments scores can be combined into one score.	Yes	
<b>Gap analysis and Group Comparison:</b> Showing how students and groups compare to each other before and after a learning event.	Yes	
<b>Test Analysis Report:</b> Provides statistical analysis to determine test reliability and other statistics relevant to the defensibility of medium and high-stakes assessments. Distribute reports via print, Word, Excel, PDF, Web, and HTML	Yes	
<b>Transcript Report:</b> Showing the results of a single student after multiple assessments.	Yes	

Reporting	Perception	Competitive Product
Can a group leader only see reports relevant to their group?	Yes	
Can a participant log into reporting system and only see their results	Yes	
Real time reporting on results possible while assessments are being taken	Yes	
Create your own reports with the fields and labels you need -- or refine existing reports.	Yes	
Dynamic filtering of reports by date, and by date range	Yes	
Dynamic filtering of reports by participant(s)	Yes	
Dynamic filtering of reports by group	Yes	
Dynamic filtering of reports by assessment outcome	Yes	
Dynamic filtering of reports by special (demographic) fields.	Yes	
Cross tab results on two or more survey questions	Yes	
Create trend analysis reportlet to graph responses over time	Yes	
Distribute survey reports via printer, browser, PDF, Word, HTML email or Excel	Yes	
Choose graphing, formatting, labeling, and data to display for survey reportlets.	Yes	
Create and save survey reports for future use; share survey reports with other Perception administrators	Yes	
Batch process coaching reports for multiple participants and distribute via email, PDF, Word, HTML or Excel.	Yes	
Measure test reliability and ten other key statistics vital to test reliability and defensibility.	Yes	
Analyze participant results against benchmarks and other participants	Yes	
Dynamic filtering of reports by special (demographic) fields.	Yes	
Easily export full results to Excel for review in spreadsheet format	Yes	
Maximum number of report administrators	Unlimited	
Add results to the answer database automatically by uploading a text file of results, or interactively by typing the results	Yes	
Report on results of both print and online delivered assessments together	Yes	

Security	Perception	Competitive Product
Administrative Users assigned privileges to limit their access to reports?	Yes	
Administrative Users assigned privileges to limit their access to groups?	Yes	
Limit login from a range of IP addresses?	Yes	
Role-based security settings for individuals and groups	Yes	
Encrypt results data	No (but held on webserver invisible to participant)	
Scoring of Essay, Spoken Response and File Upload Questions		
annotate and grade essay questions within assessments by using customized rubrics	Yes	
Educators and trainers can add comments to essay responses	Yes	
Use Perception to email results from essay question	Yes	
Participant uploaded files presented for grading with customized rubrics	Yes	
Built-in spell checker within scoring tool	Yes	
Rich formatting for grader annotations and comments	Yes	



### Comparison of Authoring Option in Questionmark Perception

Questionmark Perception offers three tools to author assessment content. The Windows-based Authoring Manager provides the most robust, feature-rich authoring environment that allows you to tap into the full range of Perception's functionality. Browser-based authoring enables question and assessment authoring without having to install software. Questionmark Word Authoring Templates enable question authoring within the familiar Microsoft Word environment. Questionmark Open Authoring enables quick, easy content harvesting from SME's. Use the grid below to select the tool that's right for your needs.

	Windows-based Authoring Manager	Browser-Based Authoring	Questionmark Live	Word Templates	Open Authoring
<b>Description</b>	Questionmark Perception Authoring Manager is a Windows-based application that enables you author questions, organize them into assessments, and store and edit them within local or remote databases called repositories. Authoring Manager enables you leverage the full range of Perceptions question and assessment authoring capabilities.	Questionmark™ Perception's browser-based authoring system provides an easy and distributed environment for creating questions and assessments. It allows rapid development of items by subject matter experts without requiring them to install anything on their desktop. Using a web browser you can author questions and assessments directly within a shared repository on a remote server.	Questionmark Live lets you easily write questions and then export them for use in Questionmark Perception. Subject matter experts (SMEs) can access this powerful authoring tool anytime, anywhere. This Web-based application is available free of charge to all Questionmark Software Support Plan customers.	With Questionmark Word Authoring Templates, your subject matter experts (SME) can use Microsoft® Word to author assessment questions that can be imported, delivered and managed using Questionmark Perception. Once the SMEs have authored questions using Word on either a PC or a Mac, they email their questions to an administrator who publishes them into Questionmark Perception.	Questionmark Open Authoring provides a simple, easy-to-use, web-based interface to harvest questions from Subject Matter Experts. There is no software to install and no learning curve. Items are deposited directly into the Perception repository for an assessment author to review, edit and deploy in assessment.
<b>Question Types</b>	Drag-and-Drop Essay question Explanation screens File Upload Fill-in-the-blank Hotspot Knowledge Matrix Likert scale Matching Multiple choice Multiple response Numeric questions Pull-Down List (selection question) Ranking (Rank in Order) Select-a-blank Survey Matrix True/False Text match Yes/No Adobe Captivate Simulations Spoken Response Adobe Flash	Essay Likert Scale Multiple Choice Multiple Response Numeric Questions True-False Yes-No Word Response	Multiple Choice Multiple Response (Right/Wrong answer) Multiple Response (Score per choice) Text Match Likert	Likert Scale Multiple Choice True-False Yes-No	Multiple Choice
<b>Include question-level feedback</b>	Yes	Yes	Yes	Yes	Yes
<b>WYSIWYG HTML Authoring</b>	Yes	No	Yes	No	No
<b>Include graphics, sound, multimedia in questions and feedback</b>	Yes	Yes	Yes	No	No
<b>Create assessments</b>	Yes	Yes	No	No	No
<b>Create branching and multiple block assessments</b>	Yes	No	No	No	No
<b>Manage Topics</b>	Yes	Yes	No	No	No
<b>Publish to a Shared Repository</b>	Yes	Yes	No	No	Yes
<b>Publish to a Local Repository</b>	Yes	No	No	Yes	No
<b>Publish via Qpack Import</b>	Yes	Yes	Yes	No	No
<b>Export Qpack</b>	Yes	No	Yes	No	No
<b>Manage Global Resources</b>	Yes	Yes	No	No	No
<b>Manage Topic Resources</b>	Yes	Yes	No	No	No
<b>Import/Export QML</b>	Yes	No	No	No	No
<b>Import/Export QTI XML</b>	Yes	No	No	No	No
<b>Print Assessment to Word</b>	Yes	No	No	No	No
<b>Print Assessment for Scanning</b>	Yes	No	No	No	No
<b>Meta Tag Questions</b>	Yes	No	No	No	No
<b>Manage Workflow</b>	Yes	No	No	No	No
<b>Add/Manage Content</b>	Yes	No	No	No	No
<b>Edit Templates</b>	Yes	No	No	No	No
<b>Number of Authors</b>	Determined by license	Determined by license	License for unlimited number of authors within your organization	License for unlimited number of authors within your organization	Unlimited
<b>Learning Curve</b>	Moderate	Low	Very Low	Very low	None