Getting Started with Perception Version 3

Version 3.1, October 2001
Questionmark’s
Mission Statement

“We are committed to applying our skills, experience and knowledge as effectively as possible to enable individuals and organizations reach their goals by providing the highest quality testing and assessment software and support services available. We place a high value on honesty, co-operation and respect. We take responsibility for our actions and encourage excellence wherever possible.”
<table>
<thead>
<tr>
<th>Contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>1  How to use this manual____________________________________________1</td>
</tr>
<tr>
<td>2  Installing Perception_____________________________________________3</td>
</tr>
<tr>
<td>2.1 New or upgrade installations______________________________________3</td>
</tr>
<tr>
<td>2.2 Preparing your system____________________________________________4</td>
</tr>
<tr>
<td>2.2.1 ODBC________________________________________________________________5</td>
</tr>
<tr>
<td>2.3 Installing from the CD____________________________________________5</td>
</tr>
<tr>
<td>2.3.1 Authoring software____________________________________________6</td>
</tr>
<tr>
<td>2.3.2 Server software________________________________________________6</td>
</tr>
<tr>
<td>2.4 Converting legacy data____________________________________________7</td>
</tr>
<tr>
<td>2.5 Licensing________________________________________________________8</td>
</tr>
<tr>
<td>3  What's new in Version 3____________________________________________9</td>
</tr>
<tr>
<td>4  What is Perception?________________________________________________17</td>
</tr>
<tr>
<td>4.1 What it does______________________________________________________17</td>
</tr>
<tr>
<td>4.1.1 Question authoring_____________________________________________19</td>
</tr>
<tr>
<td>4.1.2 Publishing assessments________________________________________20</td>
</tr>
<tr>
<td>4.1.3 Delivering assessments_________________________________________20</td>
</tr>
<tr>
<td>4.1.4 Reporting on assessments________________________________________21</td>
</tr>
<tr>
<td>4.2 Methods you can use_______________________________________________21</td>
</tr>
<tr>
<td>4.2.1 Main method: Authors on PC, participants on web_______________21</td>
</tr>
<tr>
<td>4.2.2 Web only method: Authors and participants all on web____________23</td>
</tr>
<tr>
<td>4.2.3 PC only method: Authors and participants all on PCs____________23</td>
</tr>
<tr>
<td>4.2.4 Other methods and variations____________________________________24</td>
</tr>
<tr>
<td>4.2.5 Summary of Perception methods___________________________________25</td>
</tr>
<tr>
<td>4.3 Keeping control__________________________________________________26</td>
</tr>
<tr>
<td>4.4 Using Perception's tools__________________________________________26</td>
</tr>
<tr>
<td>4.4.1 Starting Question Manager______________________________________26</td>
</tr>
<tr>
<td>4.4.2 Starting Assessment Manager____________________________________30</td>
</tr>
<tr>
<td>4.4.3 Starting Enterprise Manager____________________________________32</td>
</tr>
</tbody>
</table>
1 How to use this manual

This manual should be used as a tutorial, taking you through each step on how to create your own tests, surveys, and other assessments and then deliver them. It consists of the following:

Chapter 2 Installing Perception guides you through the process of installing Perception version 3 and setting it up for use.

Chapter 3 What's new in Version 3 outlines Perception’s many new features.

Chapter 4 What is Perception? explains what Perception can do for you and how to begin using its facilities.

Chapter 5 Authoring on your own PC shows you how to use Question Manager’s Question Wizard to produce an example question and then create an example assessment with Assessment Manager. The process of publishing the example assessment for delivery from/via a web server is also illustrated.

Chapter 6 Delivering assessments explains how participants take assessments with both the open access and secure access entry points.

Chapter 7 Using Windows delivery describes how you prepare an assessment if you wish to deliver it on a CD, over a local area network or on a standalone PC.

Chapter 8 Enterprise Manager illustrates the main features of this tool, and shows how administrators access its more important functions.

Chapter 9 Enterprise Reporter explains the facilities available to administrators within Enterprise Manager for analyzing and reporting on results obtained by participants after they have taken assessments.

Chapter 10 Other Documentation lists the complete library of documentation provided with Perception version 3.

We recommend that you go through this manual in a sequential fashion, skipping over those sections that are unnecessary for your needs.
This is not a comprehensive listing of all functions and features within the Perception Version 3 application suite. The full set of documents that is available for this software is detailed in chapter 10 Other Documentation below.

As well as reading this manual, you are recommended to check the Perception support site for the latest information. You can reach this on the web at:

http://www.questionmark.com/perception/help/

Should you require information on a particular feature that is not mentioned here, or wish to know more about Perception, we recommend that you consult the Authoring Guide for Perception Version 3 or Questionmark’s website for more details.
2 Installing Perception

2.1 New or upgrade installations

The *Perception* Version 3 software is a complete installation. It does not rely on a pre-existing copy of *Perception* version 2 to run.

The software can, however, be installed on a PC that is currently running the version 2 software without conflicting with the version 2 installation; so if you are already a Perception user, you can use the software in parallel with your current installation and it should not affect any of your existing work.

You can use the version 3 software “straight out of the box” to write new questions and new assessments. You will have to obtain a license within 30 days, but the software will run for this period from the time that you install it (see 2.5 Licensing below).

If you already have version 2 databases, then you may wish to copy this data into the new version 3 database tables. See 2.4 Converting legacy data below for more details.

Before you begin installing, be sure to prepare your system (see 2.2 Preparing your system below).

You can then install from the CD (see 2.3 Installing from the CD below).
2.2 Preparing your system

Before you begin installing the software, it is best to check the system requirements at the Perception support site:

http://www.questionmark.com/perception/help/

The following gives a guide to the minimum requirements:

For the authoring software and Perception for Windows:

- A PC running Windows 95, NT, 98, 2000, ME or XP
- At least 20Mb of free hard disk space
- ODBC installed (see 2.2.1 ODBC below)
- Internet Explorer version 4 or higher is recommended for the authoring software
- Internet Explorer version 4 or higher is required for Perception for Windows

If you wish to take advantage of the new ability of Question Manager and Assessment Manager to work directly with SQL Server and Oracle format Perception databases (as opposed to the default MS Access ones) you will also need to have:

- SQL Server (version 7.0 or better) or Oracle (version 8 or better) installed
- The ability to create a DSN connection to the database from the PC on which you are installing the authoring software

For the server software:

- A PC running Windows NT or Windows 2000
  (some features of Enterprise Manager will not run on Windows 98)
- At least 20Mb of free hard disk space
- The IIS web server
- ODBC installed (see 2.2.1 ODBC below)
- You will also need to have SQL Server (version 7.0 or better) or Oracle (version 8 or better) installed (either on the same server as your Perception Server software or on a dedicated database server) if you intend to use these database engines rather than MS Access format databases
2.2.1 ODBC

*Perception* accesses its database files via a technology called ODBC.

Your authoring PCs must have ODBC installed. Depending on which database format you are using with *Perception* you will need to ensure that you have the appropriate ODBC drivers.

Minimum database driver versions needed:

<table>
<thead>
<tr>
<th>Format</th>
<th>Driver Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>MS Access</td>
<td>Version 4.00.6019.00 of odbcjt32.dll or later</td>
</tr>
<tr>
<td>SQL Server</td>
<td>SQL Server ODBC Driver Version 3.70 or later</td>
</tr>
<tr>
<td>Oracle</td>
<td>Microsoft ODBC for Oracle Driver Version 2.573 or later (Do not use the Oracle Corporation Driver)</td>
</tr>
</tbody>
</table>

You can check your driver versions in the following way:

1) Go to the *Control Panel* and see if there is a 32-bit ODBC or ODBC Data Sources (32bit) icon (or on Windows 2000 go to the *Administrative Tools* element of *Control Panel* and check for the *Data Sources (ODBC)* element in there)

2) If there is one, click on it, and then click the *Drivers* or *ODBC Drivers* tab.

3) Check the driver version for the database format that you are using

If you need to upgrade your ODBC drivers, you can do this by downloading the latest drivers from the Microsoft website.

2.3 Installing from the CD

When you have prepared your system, you can install the authoring software by inserting the CD into your CD drive and follow the instructions that appear.

If no instructions appear, you can try finding the file *start.html* on the CD and running it.

If you still cannot start the installation, contact the *Perception* Support Site:

www.questionmark.com/perception/help/
By default, the software will be installed to a subdirectory of \c:\perception3. You can accept the default or choose an alternative directory. However, do not install the Perception version 3 software in the same directory in which you have the version 2 software installed.

2.3.1 Authoring software

If you accepted the default directory setting (\c:\perception3), then you will find Question Manager and Assessment Manager in the \c:\perception3\author directory.

You will also have shortcuts to these programs in your Start | Programs | Perception3 menu. In addition you will find some library files required by the authoring software in \c:\perception3\system.

Note that “sessions” have become “assessments” in version 3, so that Session Manager is superseded by Assessment Manager.

In addition, an example MS Access format question database called exampleq.question and an example MS Access format assessment database called examplea.assessment are placed in the directory \c:\perception3\author\databases with the default installation, or in the subdirectory \author\databases of the installation directory you chose if you did not accept the default.

Full details of the issues involved with installing the authoring software can be found in the file:

\c:\perception3\author\resources\documents\authorinstallreadme.html

2.3.2 Server software

You will find Enterprise Manager in the directory \c:\perception3\server\em.

Full details of the issues involved with installing the server software can be found in the file:

\c:\perception3\server\resources\documents\serverinstallreadme.html
2.4 Converting legacy data

The structure of the underlying databases used by Perception version 3 has changed extensively from those used by earlier versions. Perception version 3 comes with the Perception Database Conversion Utility. This application will convert version 2 database tables to the version 3 format so that you can easily upgrade without losing any of your legacy data.

By default, the Perception Database Conversion Utility will be installed in the directory:

c:\perception3\author\converter

You will also have shortcuts to this program in your Start | Programs | Perception3 menu. In addition you will find some library files required by the authoring software in c:\perception3\system.

The conversion utility can convert version 2 Perception databases in Access, SQL Server and Oracle formats to the version 3 structure. You need:

- A file connection to your Access version 2 databases and the directory in which you want the conversion utility to create the Access version 3 database

or

- An ODBC connection to the Perception version 2 SQL Server or Oracle database and an ODBC connection to the empty SQL Server or Oracle database in which the version 3 tables will be created

The conversion is a five step process through which the Perception Database Conversion Utility will guide you online.

For a full discussion of all the issues relating to database conversion, see the file:

c:\perception3\author\resources\documents\authorinstallreadme.html

(assuming that you have installed Perception version 3 to c:\perception3).
2.5 Licensing

When installed, the *Perception* version 3 software creates a license file that will run for 30 days from the time of installation.

After this period, you must obtain a license.

If you experience any difficulty with your license file please contact:

- **Customers in the Americas:** support@questionmark.com
- **Customers outside the Americas:** help@qmark.co.uk

You can find complete installation instructions for *Perception version 3* at:

3 What's new in Version 3

There are many exciting new features in Perception Version 3.

**Authoring Improvements**

There are several major improvements in the ease of use and capability of the authoring software:

**Question Types**

There are several new question types available in *Question Manager*:

- **Matching Questions**
  Matching questions offer the participant choices that they each match with answers from a separate drop-down list.

- **Ranking Questions**
  Ranking questions require the participant to place a list of options in an order.

- **Select-a-blank Questions**
  Select-a-blank questions offer the participant a drop-down list of texts to place in a blank area of a question.

- **Likert Scale Questions**
  Likert scale questions ask the user to assign an option from a set of either 3, 4 or 5 possibilities to a question.

- **Macromedia® Flash™ Questions**
  Macromedia® Flash™ questions enable you to add animation to your questions by adding a Flash™ object.

- **True/False Questions**
  True/False questions ask the user to give a “True” or “False” answer to a question.

- **Yes/No Questions**
  Yes/No questions ask the user to give a “Yes” or “No” answer to a question.

These new question types and a new more powerful drag-and-drop wizard make it easier for you to create a wider range of questions.
Question Tags
You can now define question tags, each of which has its own set of
defined tag values that make it much easier to categorize questions within
item banks. This gives question level control of questions that are
organized into a topic structure.
For example, you can define the tags “Difficulty” and “Approved” in
Question Manager that may take the tag values indicated below:

<table>
<thead>
<tr>
<th>Tag</th>
<th>Tag Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Difficulty</td>
<td>Easy</td>
</tr>
<tr>
<td></td>
<td>Moderate</td>
</tr>
<tr>
<td></td>
<td>Difficult</td>
</tr>
<tr>
<td>Approved</td>
<td>New York</td>
</tr>
<tr>
<td></td>
<td>California</td>
</tr>
<tr>
<td></td>
<td>Florida</td>
</tr>
</tbody>
</table>

When you come to build an assessment with Assessment Manager, you
can choose all the questions with “Difficulty=Easy”.
Alternatively, you could choose to select all the questions with
“Difficulty=Easy” AND “Approved=California”.

Topic Scoring
Very often, as well as giving someone an overall score, you will want to
allocate scores for separate topics. This enables you to pinpoint the level
of knowledge that participants have in specific subject areas. Topic
scoring is much enhanced in version 3:

Prerequisite Topic Scores
You can enforce a “pass” score for specific topics, and define
what happens when participants either achieve or fall below
these scores. For example, you can require that participants do
well enough in certain topics before they pass an assessment.


**Topic Outcomes and Feedback**

Different score ranges in a topic can be assigned topic outcome names and different feedback. So at the end of an assessment, you can provide appropriate advice in the feedback for each topic.

**Topic based Reporting**

Topic scores and outcomes can be displayed more effectively on the final page shown to participants, in reports and also when integrating with other applications.

**Question Status**

A question can now be given a question status of **Normal** if it is suitable for including in assessments, **Retired** if it is only required for historical purposes, or **Incomplete** if it is still being developed and is not ready for use in assessments.

For example, if there are several people authoring a question, a status of **Incomplete** can be assigned to it until it is formally released.

**Question Notes and Comments**

It's also possible to link some text to a question as a “note”. This allows questions to be annotated before they are released. These notes can also be used as long-term comments to be stored with questions.

**Question Score Limits**

The score for a question can be limited by a “floor” and a “ceiling”.

**SQL and Oracle Support**

The *Perception* Version 3 Windows authoring software allows users of *Perception* who use databases in SQL Server or Oracle format the ability to edit question or assessment databases directly in these formats.

In version 2, it was only possible to edit Microsoft Access databases, but you could publish to other formats.
Interoperability and Open Standards Support

Questionmark are strongly committed to supporting open standards to help ensure that our software is future proof and interoperable. Version 2 of *Perception* was compliant with AICC standards; version 3 remains compliant with them, and also complies with:

**IMS QTI XML**

*Question Manager* can now import questions from external files formatted according to the IMS QTI XML standard. You can also use *Question Manager* to export questions to external files formatted according this standard.

In addition, Perception now supports:

**Assessment Packaging**

There is a new facility to package up an assessment, its questions and templates, and any graphics it uses into a single, compressed archive file. It's easy then for another *Perception* user to import the archive file into their installation. This is great for users to transfer assessments between each other, and is also appropriate for publishers who want to create and sell material in *Perception* format.

These new advances in *Perception* Version 3 make questions and assessments much easier to transfer between *Perception* installations, and also to use then in conjunction with other software.
What's new in Version 3

Assessment Delivery Improvements
Robust, flexible and scalable assessment delivery software remains the cornerstone of Perception. Its many new features include:

Flexible Database Architecture
The Perception database architecture has been overhauled for version 3. Version 2 databases are upwards compatible, but need to be converted in a simple process. The new architecture makes Perception more scalable, more flexible and allows more functionality.

Assessment Monitoring
It is now possible to define specific assessments that need monitoring. A monitor is a proctor or invigilator who can check the identity of a participant. If an assessment is monitored, a participant can only take it if a monitor signs them in. Monitor security can be controlled by group and by IP address.

Time Limit Management
Perception Server handles time limits more effectively in version 3. It is now possible to define an introduction block which is untimed, and if time limits are exceeded, administrators have full control over whether the results are allowed.

MathML Support
Questions can now include MathML, making it easier for mathematical and scientific authors to provide effective questions.

Comment Boxes
It's now possible for authors to give a comment box to participants to allow them to comment on the answer, which is particularly useful when evaluating the effectiveness of questions.
**Flexible presentation with question-by-question delivery**
You can now design the presentation of assessments that use question-by-question delivery so that the question list and navigation controls can appear where you choose, and you can set the size of the important screen areas.

**Enterprise Manager**
*Enterprise Manager* is a new browser based program, which combines all administrator functions within one new user interface. *Enterprise Manager* integrates *Browser Based Authoring*, *Security Manager* and *Enterprise Reporter* in one online environment along with much new functionality. *Enterprise Manager* has facilities for configuring your *Perception Server* interactively, rather than by editing a text file.

The major improvements are:

**Better Reporting and Analysis Software**
The reporting software has been largely re-written. Many reports are more flexible, and they are all much easier to create. It's also much easier to set filters to define what is reported on. *Perception* version 3 makes it much easier to obtain valuable and effective information about your assessments.

**Versatile Security Setup**
*Enterprise Manager* has an improved way of setting security permissions for administrators, that can make it easier for you to assign appropriate levels of capability to different departments and users. It's also possible to define security for topics, assessments and report templates, so that different groups of users can have access to different material.

**Easier Server Configuration**
Configuration of the participant facing server software can now be done from an interactive, browser based, application as well as by editing a text file.
Email Broadcast

There is a new email broadcast capability, which allows you to send emails to participants in a variety of circumstances – including when they are scheduled to an assessment. This makes it possible to easily communicate to people when there is a test or survey for them to take.

Miscellaneous Upgrades

After careful consultation with Perception authors, administrators and participants, literally hundreds of other changes have been made in addition to those above. They have been designed and integrated together to make Perception an even more powerful and capable tool to help you assess, survey or examine participants as you need to.
What's New in Version 3
4 What is Perception?

4.1 What it does

Questionmark Perception is an integrated software suite that enables you to create your own tests, surveys and questionnaires for online delivery. These types of online question and answer exercises are all known as assessments. People who work through assessments are called participants.

When participants take assessments, their results are stored in a database that may be used by administrators for analysis and reporting.

There are a variety of ways of using Perception, but they all involve the basic stages shown in Figure 1 overleaf. These stages are:

1) **Authoring**
   This is the process of composing a structured bank of questions and then selecting appropriate ones for assessments that are given to participants.

2) **Publishing**
   When assessments have been constructed from questions, they must be copied to a database (together with any associated files) from which they can either be delivered with a web server, or used by participants who are not web enabled.

3) **Delivery**
   Participants can now take the assessments, either by accessing a URL (which points to a server program) from within their web browser (if they are web enabled), or by using a special Windows program (if they are not).

4) **Reporting**
   When the participants have taken their assessments, Perception offers two powerful tools for reporting and analysis of the results: Enterprise Reporter and Windows reporter.

More details about each of these stages are given in the sections following in Figure 1.
What is Perception?

Authoring
Question Manager
Assessment Manager

Assessments

Publishing
Assessment Manager

Delivery
Server Programs (Web)
OR
Presenter (PC)

Reporting
Enterprise Reporter
or
Windows Reporter

Figure 1 Stages in using Perception
4.1.1 Question authoring

The authoring stage consists of the following two activities:

- **Composing Questions**
  
  *Question Manager* enables you to create questions and organize them as a tree structure of *topics* containing questions, *subtopics*, or both. (Subtopics are just topics within topics or other subtopics).
  
  The questions are stored in a question database that is used later as a library for building assessments.

- **Building Assessments**
  
  When the questions are ready, *Assessment Manager* enables them to be selected for inclusion into assessments in a variety of ways. You can also define which questions the participant sees, and in what order.

*Question Manager* and *Assessment Manager* are Windows applications, but it is now possible to use special versions of them from within a web browser. These versions are always referred to as *Browser Based Question Manager* and *Browser Based Assessment Manager*. This method of authoring is called *Browser Based Authoring* and is discussed in 8.1.1 *Browser Based Authoring* below.

This guide provides a simple overview of authoring and shows how it fits in to the overall process of creating, delivering and reporting on the assessments that your participants take.

Authoring is fully documented in the *Authoring Guide for Perception Version 3*. 
4.1.2 Publishing assessments

When authors have constructed their assessments, the next stage is to publish them with Assessment Manager. This automatically copies assessments in a development database into another production database that is located either on a web server or on a medium intended for distribution to the participants. Other files can be copied as well.

The two main forms of publishing are:

- **Publishing for Web Delivery**
  This is an option in Assessment Manager. Authors specify a production database into which the assessments in their development database are to be copied, together with other resources such as graphics and templates.
  A web server will then use the production database and its associated files to serve the assessments to participants.
  See 5.6 Publishing assessments for more details.

- **Publishing for Windows Delivery**
  Another option in Assessment Manager enables authors to copy the development database and its associated resources together with a Windows program (called Presenter) to a specified folder.
  This folder then contains a self-contained set of files that the participant can use to take the assessments without using a web browser. According to settings made during the publishing process, the assessments can be delivered to the participants:
    - On a CD
    - Over a local area network
    - On a standalone PC
  More information is given in 7.2 Publishing for Windows delivery.


4.1.3 Delivering assessments

If participants are taking assessments over the web, they can access Perception Server via a number of entry points. These are URLs that are accessed in a web browser and they run programs such as open.dll or perception.dll on the Perception Server.

This is covered in chapter 6 Delivering assessments below.
Other participants run a program called Presenter. This is explained in 7.2 Publishing for Windows delivery.

4.1.4 Reporting on assessments

When participants have taken assessments, their results can be analyzed and reported on by administrators very comprehensively with the Perception reporting tools.

Administrators can analyze and report on the results of web based assessments with Enterprise Reporter (see 9 Enterprise Reporter below).

Results of assessments on other media can be analyzed with Windows Reporter (see 7.4 Reporting with Windows Reporter below).

The role of administrators is discussed in detail in the Web Deployment Guide for Perception Version 3, and other documents that can be found through the Perception support site at:

http://www.questionmark.com/perception/help/

4.2 Methods you can use

*Figure 2* overleaf shows the most common ways in which the Perception package is used. The paths through it reflect how the authors will produce assessments, and how the participants will take them. The gray boxes are the ones that this guide concentrates on the most.

4.2.1 Main method: Authors on PC, participants on web

This method is shown in the gray boxes of Figure 2 below.

The steps you work through for this method are as follows:

1) Authors prepare questions with Question Manager
2) Authors build these questions into assessments with Assessment Manager
3) Authors use Assessment Manager to publish their assessments for web delivery
4) Participants take tests via an entry point such as open.dll or perception.dll
5) Administrators analyze the participants’ results and create reports with Enterprise Reporter
What is Perception?

Figure 2 Methods of Using Perception
4.2.2 **Web only method: Authors and participants all on web**

This method enables authors to prepare assessments in remote locations across the web, as shown in the right hand column of Figure 2 above.

Note that *Browser Based Assessment Manager* does not have any publishing facilities of its own.

The steps you work through for this method are as follows:

1) Authors prepare questions with *Browser Based Question Manager*
2) Authors build completed questions into assessments with *Browser Based Assessment Manager*
3) Authors can work directly on the production database with *Browser Based Assessment Manager*, so that no publishing is necessary (but they do not have to – see 4.2.4 Other methods and variations below)
4) Participants take tests via an entry point such as *open.dll* or *perception.dll*
5) Administrators analyze the participants’ results and create reports with *Enterprise Reporter*

4.2.3 **PC only method: Authors and participants all on PCs**

If neither the authors nor the participants are web enabled, then this method allows assessments to be produced, delivered and reported on, It is shown in the left hand column of Figure 2 above.

The steps you work through for this method are as follows:

1) Authors prepare questions with *Question Manager*
2) Authors build completed questions into assessments with *Assessment Manager*
3) Authors use *Assessment Manager* to publish their assessments for Windows delivery
4) Authors then transfer the publishing assessments and associated material to a suitable medium, for example they can copy it to a blank CD
5) Participants take tests with the *Presenter* Windows program
6) Administrators analyze the participants’ results and create reports with *Windows Reporter*
4.2.4 Other methods and variations

Browser Based Authoring

The two upper right hand boxes of Figure 2 above indicate that Browser Based Authoring can be used as part of a system in which remote authors contribute assessments that are then passed to administrators who publish them.

Two methods that can be implemented by this means are:

- **Separate database method**
  The steps for this method are:
  
  1) Authors prepare questions with *Browser Based Question Manager*
  2) Authors build completed questions into assessments in a development database with *Browser Based Assessment Manager*
  3) Administrators use *Assessment Manager* to publish the development database to a production database, using the **publish for web delivery** option
  4) Participants take tests via an entry point such as *open.dll* or *perception.dll*
  5) Administrators analyze the participants’ results and create reports with *Enterprise Reporter*

- **Using Enterprise Reporter for participants on PC**
  If you use the PC only method (see 4.2.3 *PC only method: Authors and participants all on PCs* above) then you can use *Enterprise Reporter* to analyze the participants’ results as well as (or instead of) *Windows Reporter*.
  
  To do this, *Enterprise Manager* must have access to the participants answer database, which may have to be merged (with *Windows Reporter*) from a set of individual answer databases.

Multiple Publishing

Once an assessment database exists, it can be opened with *Assessment Manager* and published again to any available destination, with either of the supported publishing methods.

For example, an assessment that has been used successfully by web enabled participants can be published again for Windows delivery and distributed to new participants who are not web enabled.
4.2.5 **Summary of Perception methods**

*If authors are PC based*

If the participants are taking assessments over the web, use:

- `Question Manager`
- `Assessment Manager` (publish for Web delivery)
- `Server dlls`
- `Enterprise Reporter`

If the participants are taking assessments on a PC (not using the web), use:

- `Question Manager`
- `Assessment Manager` (publish for Windows delivery)
- `Presenter`
- `Windows Reporter`

*If authors are Web based*

Participants will also take assessments over the web. Use:

- `Browser Based Question Manager`
- `Browser Based Assessment Manager`
- `Assessment Manager` (publish for Web delivery) – This is optional
- `Server dlls`
- `Enterprise Reporter`
4.3 Keeping control

Perception includes Enterprise Manager which provides an integrated environment for security, administration, reporting. See 4.4.3 Starting Enterprise Manager and 8 Enterprise Manager below.

Perception is highly interoperable with other software that conforms to appropriate standards such as IMS QTI XML and AICC/HACP.

4.4 Using Perception’s tools

This section explains how to use Question Manager, Assessment Manager and Enterprise Manager for the first time.

4.4.1 Starting Question Manager

If you installed Perception to the directory c:\perception3, then you will find the executable file Question Manager.exe in the directory c:\perception3\author. If you run the Question Manager program, the first screen you see (apart from a splash screen) is:

![Question Manager login screen]

This screen only appears the first time you run Question Manager. Type in a name and click OK:
In this example, we will make a new question database. Now click OK:

The File name of the new question database has been specified as Physics.question. To create it, click the Create button and you are prompted to create a new topic.
A topic is a group of questions (also known as items) relating to a particular subject, level of difficulty, or some other common trait.

For example, you might have a topic for questions relating to sales-ethics, or another topic containing questions about Native American History. As the number of questions you create grows, topics will become increasingly useful for organizing your questions.

Topics can also contain subtopics. The Native American History topic might contain questions organized according to difficulty, or time period:

<table>
<thead>
<tr>
<th>Native American History</th>
<th>Native American History</th>
</tr>
</thead>
<tbody>
<tr>
<td>Easy</td>
<td>Pre-Glacial</td>
</tr>
<tr>
<td>Moderate</td>
<td>Kamchatka Migration</td>
</tr>
<tr>
<td>Difficult</td>
<td>South Pacific Migration</td>
</tr>
<tr>
<td></td>
<td>Post-Glacial</td>
</tr>
<tr>
<td></td>
<td>Colonial</td>
</tr>
<tr>
<td></td>
<td>French Relations</td>
</tr>
<tr>
<td></td>
<td>English Relations</td>
</tr>
<tr>
<td></td>
<td>1776-1830</td>
</tr>
<tr>
<td></td>
<td>Sequoyah</td>
</tr>
<tr>
<td></td>
<td>Modern Era</td>
</tr>
</tbody>
</table>

In this structure, all the questions relate to learning objectives, and every topic and subtopic contains either subtopics or questions but not both. This is usually the best practice for defining topic structures.
Topics are often used to build up structured *item banks*. It is important to consider how to name your topics before building item banks, especially if several authors are contributing to it. Topic names must be unique.

Click the **OK** button and you will see the main *Question Manager* screen:

![Question Manager Screen](image)

To add a question to this topic, use the menu option *Question | Add Question*...

![Question Wizard](image)

Further details of adding a question are given in 5.3.2 *Creating a question*.
4.4.2 Starting Assessment Manager

If you installed Perception to the directory c:\perception3, then you will find the executable file Assessment Manager.exe in the directory c:\perception3\author. If you run the Assessment Manager program, the first screen you see (apart from a splash screen) is:

In this example, we will make a new assessment database. Now click on OK:

The File name of the new assessment database has been specified as Physics.assessment. To create it, click the Create button:
The assessments in this example will be made up of questions from the Physics.question database used in 4.1.1 *Question authoring* above. To make this the default question database, click the **Yes** button:

Select the **File** option button and click on the **button:**
What is Perception?

Click the Open button and then the OK button.

![Assessment Wizard screen]

This is the Assessment Wizard screen. Further details of adding an assessment with the Assessment Wizard are given in 5.4.1 Creating an assessment.

4.4.3 Starting Enterprise Manager

To start Enterprise Manager, you must have either Internet Explorer or Netscape Navigator version 4 or better available to you. You must also be an administrator, which means that you will have a name and password for logging in to Enterprise Manager.

You start Enterprise Manager by bringing up your web browser and directing it to the appropriate URL.

For example, if Enterprise Manager is installed in c:\perception3\server\em and this folder is shared as em, a typical URL for it would be:

http://www.questionmark.com/em/login.asp
When you run the Enterprise Manager login program, you will see the following screen:

Enter the **Name** and **Password** and click the **Start** button. When first installed, Perception will accept the name Manager and the password Secret, but these can be changed (see 8.1 What you can do with Enterprise Manager below). If you do not have a name and password, consult the person in your organization who is responsible for assigning them.

At any time when using Enterprise Manager, you can click on the **Help** link to view the Enterprise Manager help.
What is Perception?

When you have logged in, the options you see depend on the license you have purchased. The screen below shows all the options available:

See 8 Enterprise Manager below for more information on using Enterprise Manager.
5 Authoring on your own PC

5.1 The process

Figure 3 below shows the full range of options available for creating, delivering and reporting on assessments. The remainder of this guide deals with the process shown by the gray boxes.

![Perception Process Diagram](image)

Figure 3 Perception Process Diagram
5.2 The concept of outcomes

Outcomes are a facility within a question that enable you to attach scores or provide unique feedback messages (for example “That is incorrect because…”) to particular responses to a question.

They are a very important part of a question, because they link the participant’s response to a question to the feedback they receive, and they determine the score that the participant is awarded.

When constructing outcomes you first need to determine which responses you want to trap. For example, consider this multiple choice question:

Tamir is paid $4,000.00 per month from various clients for services rendered. What is Tamir’s yearly income?

a. $16,000.00  
b. $48,000.00  
c. $68,000.00  
d. $120,000.00

In this instance we would want to trap the response $48,000.00 so that we might award a score of 1 to the participant, should they select that particular choice. Stated more succinctly, the condition would be:

If a participant selects, “$48,000.00”, then award a score of 1.

Multiple choice questions generally have two outcomes. The first is for trapping the correct response and the second is for all other possible responses. In cases where penalty scores are desired (for example, What is the sum of 2+2? Response: 5 Score = -1), or when unique feedback is provided for responses other than the correct answer, other outcomes will be necessary.

Which country is located in Africa?

a) Syria  
b) Benin  
c) Nepal  
d) Oman  
e) Canada
If we wanted to provide unique feedback to each possible response, the outcomes would be summed up as statements like this:

If participant selects **Syria**, then…
- Score = 0
- Feedback Message: Incorrect. *Syria* is located in the Middle East region of Asia.

If participant selects **Benin**, then…
- Score = 1
- Feedback Message: Correct. *Benin* is located in West Africa, on the Gold Coast.

If participant selects **Nepal**, then…
- Score = 0
- Feedback Message: Incorrect. *Nepal* is located in Asia, near India and China.

If participant selects **Oman**, then…
- Score = 0
- Feedback Message: Incorrect. *Oman* is located in the Middle East region of Asia.

If participant selects **Canada**, then…
- Score = -1
- Feedback Message: Incorrect. *Canada* is located in North America.

Outcomes are automatically created by the *Question Wizard*.

You can implement your own outcomes with the *Question Editor*. This is covered in 5.3.3 *Editing a question* below and is explained more fully in the *Perception Version 3 Authoring Guide*. 
5.3 Creating and editing questions

5.3.1 The Question Wizard

Section 4.4.1 Starting Question Manager showed you how to start Question Manager and get to the point where you are ready to add your first question.

You can find complete details of the Question Manager and the Question Manager Wizard in the Authoring Guide for Perception Version 3.

To add a question to the example topic, use the menu option **Question | Add Question**...

Under **Create a question**, select the option button marked with the Wizard (Ctrl+W), and click the **Next** button.

The Question Wizard then takes you through the following general stages:

1) Select a question type from a list of options
2) Define the correct and incorrect answers (distracters)
3) Assign scores according to the answers given
4) Specify outcomes according to the answers given
5) Enter feedback for outcomes (if required)
6) Use conditions to link each outcome to its corresponding feedback
The first screen that the Question Wizard shows you is:

Use the drop-down list to select a question type from the following:

- **Drag and Drop**
  Participants place several graphical markers on the background graphic to indicate their answers (these are the “hot” areas).

- **Essay**
  Designed for long, open-ended text questions that are answered with free text essays. These can be scored with Essay Grader or by other methods outside Perception.

- **Explanation**
  Used for information screens, title pages, or to display large bodies of text.

- **Fill in Blanks**
  The participant enters text in one or more text entry fields.

- **Hotspot**
  The participant places a single marker on an image to indicate the answer.

- **Likert Scale**
  A Likert Scale question is a special form of multiple choice question in which you can choose to include a set of either 3, 4 or 5 predefined choices.
• **Macromedia Flash**
  A Macromedia® Flash™ question enables you to use a Flash™ object. This object presents a question to the participant and returns the answer to *Perception*.

• **Matching**
  A matching question offers the participant one or more choices whose descriptions can each be selected from a separate drop-down list. Within a matching question, a particular description can only be selected from one of the drop-down lists, even though it appears in all of them.

• **Matrix**
  The participant answers by selecting one answer in each row from a matrix of radio buttons.

• **Multiple Choice**
  The participant answers by selecting an answer from a list of two or more choices.

• **Multiple Response**
  The participant answers by selecting multiple answers from a list of two or more choices.

• **Numeric**
  The participant enters a number in a text entry field.

• **Pull-down List**
  Participants respond by using pull-down menus, displayed to the side of several choices.

• **Ranking**
  A ranking question requires the participant to define the available options in the correct order.

• **Select-a-blank**
  A select a blank question invites the participant to choose the correct word or phrase from a drop down list that corresponds to a blank area of text.

• **Text Match**
  The participant enters text in a text entry field to answer a question.

• **True/False**
  A True/False question is a special form of multiple choice question with the choices “True” and “False” supplied by default.
• Yes/No
   A Yes/No question is a special form of multiple choice question with the choices “Yes” and “No” supplied by default.

The Question Wizard is illustrated in 5.3.2 Creating a question below, which shows how to create an example multiple choice question.

When the example multiple choice question has been created, you can see how it will appear to the participant by trying it out. This is shown in 5.3.4 Trying out a question below.

To modify existing questions use the Question Editor. This is illustrated in 5.3.3 Editing a question below by using it to edit the example multiple choice question.

You can also see how the modified multiple choice question will appear to the participant in 5.3.4 Trying out a question below.

You can find complete details of the Question Wizard in the Authoring Guide for Perception Version 3.

5.3.2 Creating a question

This section shows you how to create a typical multiple choice question with the Question Wizard.

The multiple choice question should appear to the participant like this:

What is the difference between Mass and Weight?

- The mass of a body is fixed, but its weight can vary
- There is no difference between mass and weight
- The weight of a body is always a fixed multiple of its mass

The first choice is the correct answer and the others are distracters.

The choices above will be assigned the following scores and feedback:
Choice: The mass of a body is a fixed value, but the weight can vary
Score: 1
Feedback: Correct.
Weight is a force that acts on a body with mass.

Choice: There is no difference between mass and weight
Score: 0
Feedback: Incorrect.
Mass is a measurement of a body, but weight is a force that acts on it.

Choice: The weight of a body is always fixed multiple of its mass
Score: 0
Feedback: Incorrect.
The weight of a body depends on both the force acting on it and its mass.

First, choose to create a multiple choice question with the Question Wizard, and you will see the screen below:

Enter the question that the participant must answer in the upper box (as shown) and click on Next>.
You can also define the text style, include a graphic or give the question a name. These features are explained in the *Authoring Guide for Perception Version 3*.

The name is used in reporting, and provides a convenient way of relating report data back to individual questions.

The next screen starts assembling the choices that you wish to include in your multiple choice question:

Enter a choice in the top box:
and click on **Add** to include it as a choice:

You can edit an existing choice by highlighting it in the upper box and clicking the **Edit** button.

You can also remove an existing choice by highlighting it in the upper box and clicking the **Remove** button.

When you have added all the choices:
You can make sure that participants do not always see the choices in the same order by ticking the **Shuffle choices** box.

Click on **Next>** to assign the scores:

Highlight the choice in the **Choice List** for which you wish to set the score, and then enter the score in the box beside the **Set** button and then click this button:

You can return all the scores to zero at any time by clicking the **Reset All** button.
When you have set all the scores, click on Next to define the feedback:

Select a choice in the lower box and type its feedback in the upper box. Click the Set button when you have entered it:
When you have entered all the feedback, click the Finish button:

Your multiple choice question has now been created.

**Tags and Tag Values**

If your Perception system has been set up to, the Question Wizard can prompt you to add tags and tag values after you have defined your feedback:
To add a tag and tag value to a question:

1) Locate the tag you wish to add in the left hand pane and expand the tag values with the ▼ sign if necessary
2) Highlight the value that you wish the tag to have
3) Click on the Add>> button or double-click on the tag value

The tag will disappear from the left hand pane, and will be shown with the selected value in the right hand pane.

Tags are not used to classify questions by subject, this is the function of topics.

You can find out more about defining tags and using them in questions in the Perception Authoring Guide for Perception Version 3.

Click Finish to see your new question:
5.3.3 Editing a question

This section shows you how to modify the typical multiple choice question created in 5.3.2 Creating a question above with the Question Wizard so that the score for the correct answer is increased from 1 to 2.

Begin by highlighting the multiple choice question in Question Manager:

To edit this question, do one of the following:

- Double-click the mouse
- Press the Enter key
- Select Question | Edit Question, or right click the mouse and select Edit

Question Editor will now open:

Notice that three outcomes have been created by the Question Wizard when the question was created in 5.3.2 Creating a question above.
Now highlight the first outcome and edit it as for the question itself:

You can now increase the **Score** from 1 to 2 and click the **OK** button to set the new score.

You could also click on the **Condition** tab to change how the outcome is defined, or on the **Feedback** tab to change the feedback.
Another change you can make is to define the text in the questions and choices as HTML. To do this, highlight the question text or choice and edit it:

The **Text type** has been selected as **HTML** with the drop-down list, and the HTML tags `<b>` and `</b>` have been used to embolden the words **Mass** and **Weight**.

In this example, all occurrences of the words **Mass** and **Weight** in the question choices will also be emboldened. This is shown in 5.3.4 *Trying out a question* below.

You can now do one of the following:

- To save your changes, select **File | Save**
- To leave **Question Editor** and save your changes, select **File | Save and Exit**
- To abandon your changes and leave **Question Editor**, do one of the following:
  - Select **File | Cancel**
  - Press the **Esc** key
Tags and Tag Values

You can also use the Question Editor to add tags and tag values. To do this, highlight the top line that appears in the Question Editor:

To add a tag and tag value to a question, first do one of the following:

- Double-click the mouse
- Press the Enter key
- Select Question | Edit, or right click the mouse and select Edit

You will now see this screen:
Now click the Tags tab:

![Image of Tags tab]

Now follow these steps:

1) Locate the tag you wish to add in the left hand pane and expand the tag values with the + sign if necessary
2) Highlight the value that you wish the tag to have
3) Click on the Add>> button or double-click on the tag value

The tag will disappear from the left hand pane, and will be shown with the selected value in the right hand pane.

You can find out more about defining tags and using them in questions in the Authoring Guide for Perception Version 3.
5.3.4 Trying out a question

The *Tryout* facility lets you see how a question will appear to the participant without you having to leave *Question Manager*. To use it, you must have *Internet Explorer* version 4 or above installed and available to you. For example, if the question that was created in section 5.3.2 *Creating a question* above is shown in *Question Manager*:

![Question Manager screenshot](image)

You can use *Tryout* by doing one of the following either at the *Question Manager* main screen or from within *Question Editor*:

- Choose **View | Tryout**
- Press **F5**
- Select **Question | Edit**, or right click the mouse and select **Tryout**

You will now see the question as the participant will see it:

![Tryout question screenshot](image)
If you select the first choice and click the **Submit** button, you will see the score and feedback:

Click the **Continue** button to submit another answer, or close the box to return to *Question Manager*’s main screen.

If you repeat the process for the question after it has been modified as section 5.3.3 *Editing a question* described, you will see the modified score:
5.4 Creating and editing assessments

Section 4.4.2 Starting Assessment Manager showed you how to start Assessment Manager and get to the point where you are ready to add your first assessment. The easiest way to do this is with the Assessment Wizard.

You can find complete details of the Assessment Manager and the Assessment Manager Wizard in the Perception Authoring Guide.

5.4.1 Creating an assessment

To begin creating a new assessment with the Assessment Wizard:
Select the option with the Wizard (Ctrl+W) and click Next>>:

Enter the assessment name, the assessment author and any message that you wish the participant to see at the beginning of the assessment (under Message given at start of assessment). Then click Next>>:
Now choose the following from the available pairs of options:

1) **Do you want to display feedback?**
   Choosing Yes means that participants will see the feedback defined for the questions in the assessment after they complete the questions.
   Choosing No means that they will not see any question feedback.

2) **Do you want to record answers in the answer database?**
   Choosing Yes means that the answers for all participants will be stored and can be used later for reporting and analysis.
   Choosing No means that no answers will be stored. This is useful for practice tests or learning exercises where only the participants need to know their results.

3) **Display the questions in a random order?**
   Choosing Yes means that participants will see the questions in an order determined at random each time the assessment is presented. This option re-arranges the order in which questions are presented within an assessment.
   This is not the same as the Question Wizard’s **Shuffle choices** option shown in 5.3.2 Creating a question, which re-arranges the order in which choices are presented within a question.
   Choosing No means that participants will see the questions in a fixed order.

Templates are explained in the Authoring Guide for Perception Version 3. At first, it is simpler to use the default template.

Click on Next>> to add some questions to the assessment:
Click on **Add**... to choose some questions:

You can now browse the available questions and insert some questions.

You can choose to include **All** questions within a topic, a particular number of questions which are **Randomly** inserted or a **Single question**.

You can insert as many question references as you like by clicking the **Add**... button each time one has been inserted:
Click **Next>>** when you have added your questions:

If you tick **Give different messages depending on pass/fail**, you can set two assessment outcomes that are differentiated by a pass mark:
Click **Next>>** when you have added your assessment outcomes:

![Assessment Manager](image)

Your assessment has now been created.
5.4.2 Editing an assessment

Assessment Blocks
Assessments may contain the following items:

Control Block
Contains settings for the entire assessment, such as a time limit, whether or not feedback messages for questions are displayed, and at which point within the assessment these messages are presented to the participant.

Question Blocks
Question blocks contain individual blocks that select questions from topics. Questions can be included in one of the following ways:
- Single question
- All questions from a Single topic
- Randomly selected questions from a Single topic
- Questions selected By tag from a Single topic
- Questions selected By tag from Across database

Jumps
Logical branching within an assessment is accomplished by means of jump blocks. Jumping to the end of an assessment, or to a particular question block is determined either by an outcome’s condition being met, the score achieved within the assessment thus far, or the score for the question block directly preceding the jump itself.

Assessment Outcomes
Assessment outcomes allow you to supply participants with unique feedback messages according to their assessment score at the end of an assessment (these were called score bands in previous versions).

You can find complete details of these blocks in the Authoring Guide for Perception Version 3.

To edit any of these blocks, highlight it in Assessment Manager and do one of:

- Double-click the mouse
- Press the Enter key
- Select Block | Edit...
- Right click the mouse and select Edit...
For examples of how to edit these blocks, see:

5.5.1 Control blocks
5.5.2 Question blocks
5.5.3 Assessment outcomes

Working with Question Blocks
A simple assessment will, generally, contain only one question block with maybe one or two question reference blocks within it. There will often be two assessment outcomes that correspond to “passing” and “failing” the assessment. This is the structure of the assessment created with the Assessment Wizard in 5.4.1 Creating an assessment above.

This assessment can be enhanced to include:

- **First Question Block**
  Contains several questions from one topic
- **Second Question Block**
  Contains a single question from another topic
- **Assessment Outcomes**

To create a second question block in the example assessment in 5.4.1 Creating an assessment below, highlight the control block in Assessment Manager:
Now select **Block | Add Question Block...**

And click **OK**:

Highlight the topic **Speeds** in the left hand pane with the options **Single topic** and **All questions** selected. Then click **Add** to add this topic to the new question block.
There are now more options for selecting questions than those available with the Assessment Wizard. These are fully described in the Authoring Guide for Perception Version 3, but the use of tag equations is outlined at the end of this section.

Click **OK** to see your modified assessment:

**Tags and Tag Values**

If your questions include tags and tag values, you can use them to decide which questions are included in an assessment.

When you are adding a new question block to an assessment:
Click the **Tag Equation** tab:

To define a tag equation, do the following:

1) Select a tag by name from the drop-down list under **Tag**
2) Select one of the available tag values under **Value**
3) To specify that the questions must *not* have the selected value for the tag, tick the **NOT** box
4) If this is the first tag and tag value that you have selected, click **Insert** button
5) To include more tag and tag value pairs in the equation, repeat the above steps but choose one of the **AND** and **OR** option buttons before clicking the **Insert** button

To change one of the tag and tag value pairs (and their Boolean operator):

1) Select the expression
2) Click the **Edit** button
3) Make your changes
4) Click the **Update Edit** button
To remove one of the tag and tag value pairs click the **Remove** button.

To use all questions that match the tag equation in your topic or database, select **Use all selected questions**.

To use a randomly selected number of questions that match the tag equation, select **Use random questions** and use the number box to define the number of questions to be selected randomly.

Click on the **Add** button to include the tag equation.

Click **OK** to return to your assessment block display:

![Assessment Manager](image)

Your assessment has now been modified to select questions by tag and tag value.

Tag equations are comprehensively explained in the *Authoring Guide for Perception Version 3*. 
5.4.3 Trying out an assessment

The Tryout facility lets you see how a question block will appear to the participant without you having to leave Assessment Manager.

To use it, you must have either Internet Explorer version 4 or above available to you.

For example, if the assessment that was created in section 5.4.1 Creating an assessment above is shown in Assessment Manager:

![Assessment Manager interface](image)

Highlight the question block that you wish to tryout and do one of the following:

- Choose View | Tryout
- Press F5
- Right click the mouse and click Tryout
You will now see the question block as the participant will see it:

You can now work through the questions as described in 5.3.4 *Trying out a question* above.
Controlling how participants work through assessments

Control blocks

If you edit a control block, you will see the following screen:

To impose a time limit within which the participant must have completed the assessment, tick Time limit and enter the number of minutes next to Time limit (minutes). (The maximum time limit is 4320 minutes, which is 3 days).

To modify the feedback, click on the Feedback tab and set the options according to your requirements:
In this example, participants see question feedback after completing each question block, and only for questions answered wrongly.

Click **OK** to accept these changes to the control block.

The **Security** and **Reported topics** tabs are covered in detail in the *Authoring Guide for Perception Version 3*.

### 5.5.2 Question blocks

If you edit a question block, you will see the following screen:

![Question Block Screen](image)

If this block serves as an introduction to the assessment, you can make this question block available to participants indefinitely, even if an assessment time limit has been set in the assessment’s control block (see 5.5.1 *Control blocks* above). To do this, tick **Exclude this block from assessment time limit**.
To change the message that the participant sees at the beginning of the assessment, click the **Introductory message** tab:

Click **OK** to accept these changes to the question block.

For more information about question blocks, see the *Authoring Guide for Perception Version 3*. 
5.5.3 **Assessment outcomes**

The *Assessment Wizard* included two assessment outcomes in example above:

To edit an assessment outcome, highlight it and do one of the following:

- Double-click the mouse
- Press the **Enter** key
- Select **Block** | **Edit**...
- Right click the mouse and select **Edit**...

You will now see a screen like this:
Under the **Outcome** tab, the assessment outcome has been renamed to **Low Score** and it will be applicable to scores from 0% to 50%.

Use of the **Pre-requisites** and **Branching** tabs is explained in the *Authoring Guide for Perception Version 3*.

Click on the **Feedback** tab to define some feedback:

The message **Sorry, you have not passed this assessment** will be shown to participants who score 50% or less overall when they take this assessment.

Click the **OK** button to see the new assessment outcome:
5.6 Publishing assessments

Assessment Manager’s File menu offers three types of publishing:

- **Assessment | Publish Assessment for Web Delivery**
  This is explained below.
- **Assessment | Publish for Windows Delivery…**
  This is described in 7.2 Publishing for Windows delivery.
- **Assessment | Publish to Qpack…**
  This is covered in the Authoring Guide for Perception Version 3.

If you select **Assessment | Publish Assessment for Web Delivery** with the example assessment you will see two further options:
Now select **Assessment | Publish Assessment for Web Delivery** | to Access...

The example assessment is stored in a development database. Enter the pathname of the production database as the **database assessment being published to**.

You can also tick the **Publish** box under **Questions** and give a pathname for a copy of the question database. This copy will be updated with the questions that are included in the assessment that you are publishing.

Publishing templates and other resources (such as graphics, multimedia and Java files) is explained in the *Authoring Guide for Perception Version 3*.

Click **OK** to publish the assessment. If you have published this assessment before, you will see the screen below:
Click on Yes to publish this assessment so that it replaces the previous one:

![Assessment Manager](image)

Click on OK to return to the Assessment Manager main screen.
6 Delivering assessments

6.1 Open access with open.dll

6.1.1 Using open.dll in a web browser

If you wish to make assessments publicly available so that any participant can take them without checking who they are, you can give them access to the program open.dll. This is the entry point for open access.

If your server is www.questionmark.com then the URL to open.dll will be:

www.questionmark.com/q/open.dll

If the participant runs open.dll they will see a screen similar to the one below:

The participant must enter something as a Name, but they can type in anything as it’s not checked.
The participant then clicks the **Enter** button to select an assessment:

![Assessment selection screen](image)

The participant then clicks the **Start** button next to the assessment that they wish to take.

An example of an assessment being taken by a participant is shown in 6.3 *Example Assessment* below.

### 6.1.2 Resetting open.dll

If an administrator changes the server setup, for example to adjust templates or ODBC database settings, then they must reset `open.dll` if participants are intended to use it.

Resetting `open.dll` must be done at a time when no participants are using it.

The changes that have been made to the server setup will not be visible to participants using `open.dll` until it is reset by an administrator.

The procedure for resetting `open.dll` is explained in 8.1.2 *Administration facilities* below.
6.2 Secure access with perception.dll

6.2.1 Using perception.dll in a web browser

If you wish to make assessments available only to participants whose details have been entered with Enterprise Manager (see 8.1.2 Administration facilities below), you can give them access to the program perception.dll.

This is the entry point for secure access.

If your server is www.questionmark.com then the URL to perception.dll will be:

www.questionmark.com/q/perception.dll

If the participant runs perception.dll they will see a screen similar to the one below:

The participant must enter a Name, and a Password if one is required. These are checked, and the participant can only proceed if they have given a valid name and password.

The participant then clicks the Enter button to select an assessment:
The participant then clicks the **Start** button next to the assessment that they wish to take.

An example of an assessment being taken by a participant is shown in 6.3 *Example Assessment* below.
6.2.2 Resetting perception.dll

If an administrator changes the server setup, for example to adjust templates or ODBC database settings, then they must reset `perception.dll` if participants are intended to use it.

Resetting `perception.dll` must be done at a time when no participants are using it.

The changes that have been made to the server setup will not be visible to participants using `perception.dll` until it is reset by an administrator.

The procedure for resetting `perception.dll` is explained in 8.1.2 Administration facilities below.

6.3 Example Assessment

A typical assessment will appear to the participant as shown below:

![Image of an example assessment](image_url)
The participant now enters their answer and clicks on the **Submit** button.

They then see their results and feedback as below:

```
Basic Physics completed
Assessment has finished normally
Total score: 1 out of 1, 100%

Well done - you can move on to the "Advanced Physics" module.

Score for Question block: 1 out of 1, 100%

1 of 1
What is the speed of light in *vacuo* \(c_0\)?

- 25 million meters per second
- 300 million meters per second
- 500 million meters per second

1 out of 1
Correct. \(c_0 = 3 \times 10^8 \text{ m s}^{-1}\)
```

The participant clicks the **Home** button to choose another assessment.
7 Using Windows delivery

7.1 What is Windows delivery?

Perception for Windows allows you to deliver an assessment on a CD, over a local area network or on a standalone PC. These are the three models of Windows delivery. The complete process is illustrated in Figure 4 below:

![Figure 4: Stages in Windows Delivery](image)

Create questions, organize them into topics and store them in question database

Build assessments from questions, store them in assessment database and publish for CD/network/standalone delivery

Deliver assessments on a CD, over a network or standalone and generate answer databases

Produce reports from a single or a merged answer database

Figure 4 Stages in Windows Delivery
Using Windows delivery

Each of these approaches have the advantages described below:

- **The CD Publishing Model**
  Both the software and the published assessments are copied to the directory chosen during the publication process.
  The contents of this directory could then be copied to a CD. Participants would then use the CD to take assessments by running *Presenter* from the CD.

- **The Network Publishing Model**
  Assessments can be taken by participants on a Local Area Network (LAN).
  The LAN does not have to have access to a web server.
  This means that the assessments can be taken from distributed locations, but the answers are all collected in a central directory on the network.

- **The Standalone Publishing Model**
  Assessments are published for use on PCs that are completely standalone.
  They could, for example, be distributed between PCs on a floppy disk.
  This will generally be used in circumstances where there is only one participant taking the test at a time.
  This enables assessments to be taken by participants on dedicated PCs that are publicly available, for example in a library.

With Windows delivery, you prepare your questions with *Question Manager* and build them into assessments with *Assessment Manager* exactly as described in 5 Authoring on your own PC. It is only the publishing and delivery of your assessments that differs from web delivery.

When you are ready to publish, select **Assessment | Publish for Windows Delivery...** in *Assessment Manager* and refer to 7.2 Publishing for Windows delivery below.

When assessments have been published for Windows delivery, participants can use Questionmark *Presenter* to take them and receive their results. See 7.3 How the participant takes an assessment below for an introduction to *Presenter*.

*Windows Reporter* is provided for reporting on participant results, and it is able to merge several sets of results supplied by diverse participants if necessary. Section 7.4 Reporting with Windows Reporter gives a guide to *Windows Reporter*. 
7.2 Publishing for Windows delivery

If you select Assessment | Publish for Windows Delivery... in Assessment Manager a five stage wizard will start. A walkthrough of this wizard is shown below.

Before proceeding to the wizard, there is some information that you should have to hand. The table below gives you a checklist of the main items of information that you will need, and shows the example data that is used in the walkthrough:

<table>
<thead>
<tr>
<th>Question</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Which publishing model do I want to use?</td>
<td>CD Model</td>
</tr>
<tr>
<td>Which assessments shall I publish?</td>
<td>All</td>
</tr>
<tr>
<td>What is going to be my answer database?</td>
<td>perceptionanswer.mdb</td>
</tr>
<tr>
<td>What security options shall I specify?</td>
<td>(None)</td>
</tr>
<tr>
<td>How will the participant interface be configured?</td>
<td>Ask for participant name</td>
</tr>
</tbody>
</table>

The first step in the wizard is shown below:

The publishing model for CD is selected.

The Copy system files and Copy Presenter.exe options are set to enable Presenter to run from the CD that is created after publishing.
Click on **Next** to choose which assessments to publish for Windows delivery:

The **Select All** button has been used to specify that all available assessments are to be published.

Click on **Next** to specify the answer database:
The answer database *perceptionanswer.mdb* has been specified. It will be always be placed in the folder `c:\answers`.

The other options ensure that the participant’s results are always stored in a database of this name, in the same directory, on any PC on which the CD is used.

Click on **Next** to review your security options:

In this example, no security has been set.

Finally, click on **Next** to configure the screens shown by *Presenter* as a participant takes a published assessment:
Using Windows delivery

This setting will make Presenter prompt the participant for their name.

Click on the Finish button and your chosen assessments will be published for Windows delivery.

Everything that is required to deliver the published assessments is now in the directory c:\perception3\author\cd, and the contents of this directory can be copied to a CD.

7.3 How the participant takes an assessment

When you have published one or more assessments, participants can work through them by running Presenter.

You can run Presenter by locating it with Windows Explorer and double-clicking the icon for the program presenter.exe:

In the example above, the assessments published for Windows delivery with Assessment Manager have been copied to a CD with the label Science Test.
When you run *Presenter*, the first screen you see (apart from a splash screen) is:

![Image of the first screen](image1.png)

Enter the participant’s name and click the **Start** button.

The participant can now choose which of the published assessments to take:

![Image of the assessment selection screen](image2.png)

The participant highlights the assessment they wish to take and clicks on the **OK** button. The assessment is presented to the participant as described in 6.3 *Example Assessment.*
7.4 Reporting with Windows Reporter

Windows Reporter enables you to produce reports from an answer database containing the results that participants obtain. Several answer databases can be merged into one before producing reports.

The following report types are available with Windows Reporter:

- The Score List report shows you information about all the results for one assessment, with one line in the report for each person taking the assessment.
- The Survey report shows an analysis of all the answers to each question, and can include frequency graphs of how many people have chosen each choice or outcome.
- The Coaching report lets you choose a participant and assessment, and see a detailed report on the answers to that participant for that assessment. This can be for reference or coaching purposes.
- The Question Statistics report shows detailed statistics on each question in an assessment.
- The Assessment Overview report gives you summary information about how many times each assessment has been taken, and some statistics including average scores.
8 Enterprise Manager

*Enterprise Manager* is a single, integrated environment which provides you with all the tools you need to manage your published assessments over the web.

Section 4.4.3 *Starting Enterprise Manager* showed you how to start *Enterprise Manager* and login. When you have logged in, you will see the *Enterprise Manager* facilities page:

Clicking the buttons above takes you to the following functions:

**Browser Based Authoring**

*Browser Based Authoring* was introduced in 4.1.1 *Question authoring*. To use it, click this button and refer to 8.1.1 *Browser Based Authoring* below.
System Administration

To define your administration requirements and security settings, click on this button. You will then be able to do the following:

- Manage who takes assessments and when
- Create Administrators
- Control Servers
- Email Broadcast

These facilities are explained in 8.1.2 Administration facilities below.

Enterprise Reporter

*Enterprise Reporter* is covered in 9 Enterprise Reporter below.

Results Manager

To use the *Results Manager*, click this button and refer to 8.1.3 Working with results below.
8.1 What you can do with Enterprise Manager

8.1.1 Browser Based Authoring

*Browser Based Authoring* lets you view, edit, create and delete questions and assessments using your browser.

The web based *Browser Based Question Manager* and *Browser Based Assessment Manager* provide basic but powerful authoring and also the full capability of reviewing the contents of the *Perception Server* databases from a browser at a distance.

In addition, security can be controlled independently for questions and assessments.

However, for full functionality authoring, you need to use *Perception’s Windows desktop programs, Question Manager and Assessment Manager*.

Questions and assessments can refer to graphics, multimedia resources and templates. *Browser Based Authoring* does not include the capability to upload these to *Perception Server*, this must be done separately, either by FTP or via a central administrator.

If you select *Browser Based Authoring* you will see this page:
This page offers you the following facilities:

**Question Manager**

To use *Browser Based Question Manager*, click on this button. You will then be able to do the following:

- Create questions of the following types:
  - Multiple choice
  - Multiple response
  - Numeric
  - Text match
  - Essay
  - Yes/No
  - True/False
  - Likert Scale
- Organize your questions into topics and subtopics
- Define topic and question security

**Assessment Manager**

To use *Browser Based Assessment Manager*, click on this button. You will then be able to do the following:

- Build questions into assessments (in a single question block)
- Control the presentation of assessments to participants
- Define what happens at the end of the assessment
- Create “Pass” and “Fail” assessment outcomes
8.1.2 Administration facilities

If you select System Administration you will see this page:

- **Participants**: View, create, manage and schedule participants (test-takers).
- **Groups**: View, create, manage and schedule groups - which are used to define the way access works for participants and administrators.
- **Schedules**: View and manage schedules - which assign participants or groups to assessments.
- **Administrators**: View, create, manage administrators and control their use of Enterprise Manager and their ability to act as monitors.
- **Server Management**: Reset Perception Server or take it off or online.
- **Email Broadcast**: Facilities to notify groups and/or participants their login instructions, schedules or some general information.
This page offers you the following facilities:

**Participants**

Participants are people who take assessments. If they use `open.dll` (see 6.1 Open access with `open.dll`) to do so, there is no need to enter their details into your Perception Server system.

If they use `perception.dll` (see 6.2 Secure access with `perception.dll`) then their details must be entered into your Perception Server system. To do this, click this button or the text next to it.

Entering participant details is explained fully in the *Web Deployment Guide for Perception Version 3*. In addition, *Enterprise Manager*’s context sensitive help guides you through this process.

**Groups**

Groups are the basis of all security in Perception. They allow the same security and scheduling to be applied to a defined set of people who take assessments.

Defining groups is dealt with in the *Web Deployment Guide for Perception Version 3*. You can learn more about this process in *Enterprise Manager*’s context sensitive help.

**Schedules**

A schedule links participants or groups to assessments. They can also be used to control:

- When assessments may be taken
- The time when assessments are available to a participant
- The number of attempts that a participant has for assessments
- The time when assessments are available to a group of participants
- Assessment monitoring

Schedules are described in detail in the *Web Deployment Guide for Perception Version 3*, but information about using them is included in *Enterprise Manager*’s context sensitive help.
Administrators

Administrators control how participants take assessments and how authors use Browser Based Authoring. (They were known as users in previous versions of Perception).

They also create reports with Enterprise Reporter and use Results Manager to manage the results of assessments taken by participants.

If you click this button or the text next to it you will be able to create a new administrator as follows:

1) Click the **New Administrator** link
2) Complete the screen under the **Administrator** tab
3) Click the **Administration** tab
   
   You will now see the screen below:

   ![New Administrator Screen](image)

   This screen assigns the access rights to administrators. See the *Web Deployment Guide for Perception Version 3* for more detailed information.

4) Complete the screens under the other tabs
5) Click the **Create** button
Server Management

If you select Server Management you will see this page:

This page gives you the following options:

- **Reset Perception Server DLLs**
  This facility enables you to reset dll programs (see 6.1.2 Resetting open.dll and 6.2.2 Resetting perception.dll above)

- **Set Perception Server Status Offline**
  This stops your Perception Server

- **Set Perception Server Status Online**
  This starts your Perception Server

- **Server Settings**
  This allows you to change system settings without editing system files (such as .ini files)

- **Root Manager Login Details**
  A Perception Server always has one Root Manager who can do anything in the system. This facility allows the root manager’s name and password to be changed.
Email Broadcast

If you select Email Broadcast you will see this page:

Enterprise Manager enables administrators to send emails to participants either individually or by groups. This is known as email broadcast, and can be used (for example) to notify participants of their login instructions, give them details of any assessments they are scheduled to take or provide other, more general information.
8.1.3 Working with results

If you select Results Manager you will see this page:

This page offers you the following facilities:

- **Results Remover**
  - Permanently remove results from the answer database. You can either remove all results for one assessment, or else individually select results to remove.

- **Score Editor**
  - Change results in the answer database by amending answers or scores. Allows you to manually adjust the score for an assessment.

- **Essay Grader**
  - Randomly select essays and grade or score them manually.
Results Remover

If you select Results Remover you will see this page:

Results Manager lets you permanently remove results from a Perception answer database in the following ways:

- **By participants**
  You can choose an assessment and then delete any of the results stored for selected participants who have taken it.

- **By assessments**
  You can choose one or more assessments and then delete all the results that participants have obtained for them.

It is important to note that removing a result from an answer database is a permanent operation. Once a result has been deleted, it cannot be recovered.
Score Editor

If you select *Score Editor* you will see this page:

The *Score Editor* lets you change individual participant scores and answers after *Perception* has stored them in an answer database.

To edit scores and answers, select an assessment and you will see a list of all of the participants who have taken it. Then select a participant and see which questions they took, the scores they were awarded and the answers that they submitted.

You can now change the score awarded for any of the answers from its recorded value to a new value between zero and the maximum score that can be awarded for the question.

You can also change the answer submitted for any of the questions.

When you save your changes, the participant whose answers have been modified is indicated on the list of participants.

Note that changing a score or an answer is permanent, you cannot recover the original score or answer later.
Essay Grader

If you select Essay Grader you will see this page:

**Essay Grader assists graders** (people who assign scores to essays submitted as answers to questions) by giving them predefined criteria against which to assign grades. It also enables graders to read essays and award scores to them according to the set criteria. **Essay Grader** includes the following facilities:

- Specify the criteria for grading the essay
- Create specific aspects (or *rubrics*) that graders must look for in the essay, each with a score range that may be given for it
- Grade the essay manually once the criteria have been set

You can also review and change the essay scores after they have been awarded by graders.
9 Enterprise Reporter

If you select Enterprise Reporter you will see this page:

This page allows you to generate reports of the types described in 9.1 Report Types below by clicking on the appropriate button or the text next to it.

You can control the detailed layout and information contained in reports of each report type with the Report Manager. This is also outlined in 9.3 Creating report templates with Report Manager below.

An typical report of each report type is shown in 9.4 Examples of each report type below.
9.1 Report Types

The available report types are:

Assessment Overview Report
Shows you how many participants have taken each assessment and gives some statistics such as the average score, and also presents some graphs.

Gap Report
Compares two sets of results with each other, or compare an individual result against either another individual, a group of results or an absolute percentage number. The differences are shown numerically and graphically, and include variations in question, topic and assessment scores.

Item Analysis Report
Performs question analysis calculated according to classical test theory, for use by professional test analysts.

Score List Report
Presents a list of which participant has taken which assessment. You can choose how to order the list, by default it is in order of score.

Transcript Report
Provides all the results for every assessment taken by a particular participant.

Coaching Report
Provides an analysis of how a specific participant performed in a particular assessment, including the answers and scores for each question in the chosen assessment.

Grade Book Report
Creates a table of participants and assessments showing scores achieved for each assessment. Weighting can be applied and overall and total scores calculated.

Question Statistics Report
Given an assessment, a topic or an individual question, a detailed analysis of their question scores and outcomes is generated. The analysis includes calculations of the difficulty of, and correlation between, questions.

Survey Report
Shows an analysis of questions for a single assessment. This can include a graphic analysis of the question outcomes or a list of the answers given.
Click this button or the text next to it to run Report Manager. Refer to 9.3 Creating report templates with Report Manager for a guide to getting started with it.

9.2 Producing a Report

To create an Assessment Overview Report, click on this button or the text link next to it:

This screen shows the Main Page tab initially.

Enterprise Reporter has a standard layout for each report type, but you can customize it with a Report Template. These are created in Report Manager (see 9.3 Creating report templates with Report Manager). If any templates are available, you can select one by using the Select Report Template drop-down list.
If you wish to restrict reporting to only some of the available assessments, you can create your own custom list with the Add and Remove buttons.

You can also filter the data that appears in reports so that (for example) only certain participants or groups are reported on. This is done by selecting Filter with the drop-down list. Filters are created in Report Manager.

The tabs Groups, Participants, Special Fields and Dates are covered fully in the Enterprise Reporter Complete Reference.

Click the View Report button to produce your report.

An example of each type of report is shown in 9.4 Examples of each report type below.

9.3 Creating report templates with Report Manager

Start Report Manager and you will see this screen:

First Choose a report type with the drop down list. You can select one of the report types described in 9.1 Report Types above, or you can select Filter, if you wish to create a new filter to use during the report generation.
Then select the Create a new one from option.

Click the Proceed button and you will be able to see the Report Template form below if you choose one of the report types described in 9.1 Report Types above, or the Filter form if you choose Filter as your report type.

The Report Template form is shown below:
The Filter form is shown below:

![Filter Form Screenshot]

For a complete guide to the Filter form see the Enterprise Manager Complete Reference.
9.4 Examples of each report type

9.4.1 Assessment overview report

This is a typical Assessment Overview Report:
9.4.2 Gap report

This is a typical Gap Report:
9.4.3 Item analysis report

This is part of a typical Item Analysis Report:
9.4.4 Score list report

This is a typical Score List Report:

![Score List Report Image](image-url)
9.4.5 Transcript report

This is a typical Transcript Report:

![Transcript Report Image]

<table>
<thead>
<tr>
<th>Coaching report</th>
<th>Assessment area</th>
<th>Participant area</th>
<th>Status</th>
<th>Dates/Time finished</th>
<th>Percentage score</th>
<th>Assessment outcome label</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elective</td>
<td>Engineering</td>
<td>Finished normally</td>
<td>October 11, 2001 - 11:00</td>
<td>85%</td>
<td>Ment Pass</td>
<td></td>
</tr>
<tr>
<td>Algebra</td>
<td>Engineering</td>
<td>Finished normally</td>
<td>October 16, 2001 - 11:11</td>
<td>52%</td>
<td>Passed</td>
<td></td>
</tr>
<tr>
<td>Mechanics</td>
<td>Mechanical Engineering</td>
<td>Finished normally</td>
<td>October 20, 2001 - 9:27</td>
<td>20%</td>
<td>Failed</td>
<td></td>
</tr>
</tbody>
</table>
9.4.6 Coaching report

This is a typical Coaching Report:

![Coaching Report](image)

- **Participant name**: John Smith
- **Participant group**: Engineering
- **Date/time worked**: October 16, 2001 - 11:11
- **Result**: Finished normally
- **Percentage correct**: 50%

<table>
<thead>
<tr>
<th>Question description</th>
<th>Answer given</th>
<th>Actual score</th>
<th>Maximum score</th>
<th>Feedback shown</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do insects have 6 legs?</td>
<td>Yes</td>
<td>1</td>
<td>1</td>
<td>You are correct</td>
</tr>
<tr>
<td>How many players are there in a baseball team?</td>
<td>3</td>
<td>0</td>
<td>1</td>
<td>No, there are 3 players.</td>
</tr>
<tr>
<td>Pulp Fiction</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>Well done.</td>
</tr>
<tr>
<td>What is the value of this equation?</td>
<td>x = 1</td>
<td>0</td>
<td>1</td>
<td>No, this equation reduces to 1.</td>
</tr>
</tbody>
</table>
9.4.7 Grade book report

This is a typical Grade Book Report:

![Grade Book Report](image_url)

<table>
<thead>
<tr>
<th>Participant name</th>
<th>Electric Percentage score</th>
<th>Mechanics Percentage score</th>
<th>Algebra Percentage score</th>
<th>Total Weighted percentage score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ann Miller</td>
<td>72%</td>
<td>67%</td>
<td>58%</td>
<td>75%</td>
</tr>
<tr>
<td>John Smith</td>
<td>61%</td>
<td>11%</td>
<td>56%</td>
<td>45%</td>
</tr>
<tr>
<td>Jose Sanchez</td>
<td>61%</td>
<td>91%</td>
<td>10%</td>
<td>54%</td>
</tr>
<tr>
<td>Rachel Grawitz</td>
<td>34%</td>
<td>35%</td>
<td>47%</td>
<td>39%</td>
</tr>
<tr>
<td>Kofi Yabosh</td>
<td>54%</td>
<td>27%</td>
<td>14%</td>
<td>32%</td>
</tr>
<tr>
<td>Susan Delacnix</td>
<td>67%</td>
<td>54%</td>
<td>56%</td>
<td>55%</td>
</tr>
<tr>
<td><strong>Mean</strong></td>
<td><strong>88.167%</strong></td>
<td><strong>47.500%</strong></td>
<td><strong>48.533%</strong></td>
<td><strong>51%</strong></td>
</tr>
</tbody>
</table>
9.4.8 Question statistics report

This is part of a typical Question Statistics Report:

<table>
<thead>
<tr>
<th>Question Description</th>
<th>Topic</th>
<th>Times presented</th>
<th>Times answered</th>
<th>Minimum score</th>
<th>Mean score</th>
<th>Standard deviation</th>
<th>Difficulty</th>
<th>Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alabama</td>
<td>United States</td>
<td>130</td>
<td>107</td>
<td>0.622</td>
<td>0.384</td>
<td>0.832</td>
<td>0.393</td>
<td></td>
</tr>
<tr>
<td>Alaska</td>
<td>United States</td>
<td>130</td>
<td>110</td>
<td>0.673</td>
<td>0.471</td>
<td>0.673</td>
<td>0.505</td>
<td></td>
</tr>
<tr>
<td>Arizona</td>
<td>United States</td>
<td>130</td>
<td>106</td>
<td>0.759</td>
<td>0.435</td>
<td>0.759</td>
<td>0.292</td>
<td></td>
</tr>
<tr>
<td>Arkansas</td>
<td>United States</td>
<td>130</td>
<td>107</td>
<td>0.963</td>
<td>0.212</td>
<td>0.953</td>
<td>0.409</td>
<td></td>
</tr>
<tr>
<td>California</td>
<td>United States</td>
<td>130</td>
<td>110</td>
<td>0.899</td>
<td>0.395</td>
<td>0.899</td>
<td>0.518</td>
<td></td>
</tr>
<tr>
<td>Colorado</td>
<td>United States</td>
<td>130</td>
<td>107</td>
<td>0.88</td>
<td>0.349</td>
<td>0.88</td>
<td>0.19</td>
<td></td>
</tr>
<tr>
<td>Connecticut</td>
<td>United States</td>
<td>130</td>
<td>100</td>
<td>0.771</td>
<td>0.418</td>
<td>0.770</td>
<td>0.427</td>
<td></td>
</tr>
<tr>
<td>Delaware</td>
<td>United States</td>
<td>130</td>
<td>100</td>
<td>0.713</td>
<td>0.454</td>
<td>0.713</td>
<td>0.456</td>
<td></td>
</tr>
<tr>
<td>Florida</td>
<td>United States</td>
<td>130</td>
<td>109</td>
<td>0.817</td>
<td>0.388</td>
<td>0.817</td>
<td>0.399</td>
<td></td>
</tr>
<tr>
<td>Georgia</td>
<td>United States</td>
<td>130</td>
<td>106</td>
<td>0.821</td>
<td>0.385</td>
<td>0.821</td>
<td>0.242</td>
<td></td>
</tr>
</tbody>
</table>
9.4.9 Survey report

This is part of a typical Survey Report:
10 Other Documentation

The following documents are also available:

**Authoring Guide for Perception Version 3**

This provides a comprehensive guide to the process of authoring in *Perception* version 3. It explains the concepts on which the *Perception*’s approach is based and also gives a detailed account of how to use the authoring software.

It may be used as both a tutorial and a reference.

**Web Deployment Guide for Perception Version 3**

This is the main reference for setting up *Perception Server* systems. It is the companion to the *Authoring Guide for Perception Version 3* and it describes in detail how assessments are delivered to participants when they have been published.

**Online Help**

A context-sensitive online help facility is available for all *Perception Version 3* software.

**Perception Support Site**

The *Perception* support site contains additional information about *Perception* version 3. This includes an extensive knowledgebase and details of any updates. You can reach this on the web at:

http://www.questionmark.com/perception/help/