Integrated Network Quizzing, Surveying, and Interactive Testing

User Manual

Version 11.7
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<td>12</td>
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<td>13</td>
</tr>
<tr>
<td>Color</td>
<td>13</td>
</tr>
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Evolution of Assessment

The cave woman asked her cave man husband, “Does this wooly mammoth skin make me look fat?” Right then we had our first test; most likely with the wrong answer given and immediate feedback. The great teacher Socrates asked his student a question and immediately got his reply. Then turn to another student and ask a different question. In both cases, questions were asked and feedback was immediate so the respondent was perfectly clear as to how well the question was answered.

Years later, a teacher would stand in front of the class and ask questions and the students would write their answers on a piece of paper, to be turned in and graded later. The town elders asked the townspeople to vote on local issues. Now questions could be asked of many people and each could answer without hearing each other’s answers.

Soon we started putting the questions in written form so each person could respond at their own leisure (homework and at the ballot box). But, then we had to grade the results, or count the ballots, and that took time. We lost the ability to give and get that immediate feedback: there was a time gap that removed the immediacy regarding their responses. And we couldn’t randomize our questions, or easily ask different people different questions.

The advent of technical processing brought us the Mark Sense (Bubble) sheets. We could now ask hundreds of students, lots of questions, and the “computer” would grade them and give us detailed analysis within a day or so. The computer never made a grading error – unless the student didn’t have a number 2 pencil, or wasn’t very good at coloring in the little circles, or in the not so rare case got “off” on marking the answer sheet because the questions and answer sheets were physically disjointed. We were restricted to asking only a handful of question types: yes/no and multiple choice — no fill-in-the-blank, no matching, and no essays.

Now we have inQsit. You can add all sorts of question types. You can include pictures, video, and sound. You can even do a spelling test on the computer. You still get the computer grading and analysis, but now you also get the immediate feedback (usually within a second of the response being submitted). You can randomize the question order, which questions are asked, or randomize the order of multiple choice/response options. You can even include equations where the computer randomly picks sub-sets of possible constants for use with each respondent. This is all done without having to have a computer specialist or an HTML programmer – all you do is edit a simple file.

That is the power of inQsit.
**What is inQsit?**

inQsit is a web based assessment engine that lets you easily develop tests, quizzes, surveys or any type of assessment tool, then administer that tool, gather results and analyze the results. Initially developed to test Distance Education students, it has grown into one of the most powerful and easy to use assessment tools on the market today.

By the way, the correct pronunciation is in-qwiz’-it. It is an acronym for Integrated Network Quizzing, Surveying, and Interactive Testing.

**What is a Module?**

A module is a quiz, test, survey, or any other assessment. It’s not just questions and answers, but rather it also defines the assessment environment: who will take this particular quiz; when will it be available; how many times; how long do respondents have to answer; will it be graded; will it be proctored, etc. So a “module” is any assessment instrument and its environment.

**A word from the inQsit author**

The overriding design criterion is ease of use. The intent is to make interactive web based testing and surveying accessible to anyone without the need for web designers, programmers, or research analysts. New features are included only when their implementation can be achieved while maintaining that design criterion. Yet, there are myriad features to meet all of your needs. Please do not think inQsit simplistic, just simple to use: inQsit is one of the most versatile and comprehensive assessment tools available anywhere. We actively seek your input on new features to include, enhancements or improvements, and suggestions can be made online at:

http://inqsit.bsu.edu/inqsit/info/
Quick Start

Get an inQsit Account

Contact your system administrator (email link available on the main inQsit screen [http://<your.site>/inqsit/]) or through your local procedures and ask for an inQsit account. Once your account is defined it will show up in the pull-down list on the main inQsit page (See below). Be sure to get your password from whoever sets up your account.

The Main inQsit Page

Special function buttons

The first button is a link to the main inQsit information page. The other buttons are site specific and will not be discussed here.

Account Pull-Down List

This lists all of the account names in alphabetical order; with the exception that sampleaccount is always listed first.

IE© pull-down lists

All inQsit pull-down lists have an added feature for IE© users. It duplicates the Netscape© function which lets you type the unique portion of an entry and the pull-down list will automatically scroll to that entry.

Getting Results Fast

Entering Content

1. Go to the main inQsit screen, enter your name in the pull-down list and click on Instructors & Surveyors

2. Enter your password and click Quick Start

3. Enter the module name and a tab

4. Enter the question “Is the sky blue?”

5. Click “Yes” and “OK”
The display will be updated as shown to the left. It shows the inQsit source and the resulting display.

You can continue to add questions just like we outlined above, or you can edit the text in the source button directly.

When you have entered all your questions, change the module type (at the top of the page) to Quiz, then click the Finished button. Your quiz is now ready for use.

Taking the test

Now go back to the main inQsit screen, enter your name in the pull-down list, but this time click **Students & Respondees**. Double click on the module name (“Quick”). For the username prompt, enter your inQsit password, and then take the test. For our discussion I went back a second time and took the test using the name Bill.

Viewing Results

Now back to the admin interface and click **View Results** and we get this page. We see two respondents, Bill and inQsitor: the inQsitor response is when you entered your inQsit password. We also see what scores each respondent got, along with a statistical overview at the top of the page.

Analysis

Clicking on the Analysis button will bring up this display. Here you see how each question was answered by the respondents as a whole. For example question 20 had one (1) Yes and one (1) No response.

Conclusion

As you can see it is extremely easy to build, administer, and grade a quiz, and then analyze the results. As we move through the rest of this manual we will be building on the lessons learned on these two pages.
Creating Module Content

There are three format choices for building questions and answers. A comparison chart follows.

<table>
<thead>
<tr>
<th>Dual File</th>
<th>Interspersed Combined File</th>
<th>Separated Combined File</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test.que</td>
<td>1. The sun is a star.</td>
<td>1. The sun is a star.</td>
</tr>
<tr>
<td>1. The sun is a star.</td>
<td>true</td>
<td>2. Is the moon made</td>
</tr>
<tr>
<td>2. Is the moon made of cream cheese?</td>
<td>No</td>
<td>of cream cheese?</td>
</tr>
<tr>
<td>Test.key</td>
<td>1. true</td>
<td></td>
</tr>
<tr>
<td>1. true</td>
<td></td>
<td>1. true</td>
</tr>
<tr>
<td>2. no</td>
<td></td>
<td>2. no</td>
</tr>
</tbody>
</table>

In the first method you create two files; a question and a separate answer file.

The second method intersperses the answers between the questions. This is somewhat difficult when using Microsoft Word© or similar programs.

The third method is a combination of the two; you put all the questions first, then all the answers. Its easy to use with Word© and has the added benefit of being all in one file. This is the method we will discuss in this manual.

**Questions**

**Question Format**

To specify a question, start a line with a question number (10, 22, 33), optionally followed by one or two lowercase letters (12a. 12bc.) if building a multipart question, followed by a period. For example, the following are equivalent.

1. The sun is a star.
1. The sun is a star.
1. The sun is a star.

Questions are not limited to one line. A question ends with a blank line, another question, or in a combined file, with an answer.

Question numbers do not need to be consecutive nor in numerical order. When inQsit builds the module display, and randomly picks questions if so instructed, it displays questions in order starting with number 1. The question numbers you specify are solely for your benefit to help you correlate questions to whatever grouping suits your needs.
Multipart Questions

Multipart questions are used to combine multiple questions into a single visual question. You might want to include a free form text box at the end of a “Mark all that apply” list. For example:

45a. Which type of foods do you enjoy?
   American
   Chinese
   Japanese
   Mexican
45b. Other
45a. mata
45b. essay rows=3 cols=40

Prior to version 11.10 you were limited to 26 sub-parts to a multipart question due to the single letter requirement. Version 11.10 permits up to two (2) letters resulting in 702 sub-parts. That should be enough for anyone! Please note that the first sub-part must be a single letter ‘a’.

Preamble

Sometimes you want to include additional information before a question or group of questions. We call this a preamble. For example:

For the following two questions, please answer as if you were an 11th century astronomer.
30. Does the Sun revolve around the Earth?
31. How many planets are there in our solar system?
   a. 5
   b. 6
   c. 12
Answers

Answers are the key (no pun intended) to determining question types – in other words, inQsit uses the answer value to determine the question type. The format is similar to the question format: An answer number with optional one or two lower case letters (which must match the corresponding question number), a period, and the answer value. The following examples will show the valid answers for each question type.

Note: Unless otherwise specified case-sensitivity does not matter. i.e. True, true, TRUE and TrUe are equivalent.

Address

Surveyors often want to include personal information questions regarding the respondents address. Historically that has been awkward: you needed to build a multipart question with html tags to create a table request the address parts. You were also limited in asking for the state in a pull-down list format because of the 26 part format limitation. It was simply too much work for the general (or even experienced) user. The address question type was created to help solve that problem. Simple specify the keyword “address” on the answer line and inQsit will automatically build the multipart question for you.

By default the address block will contain the following fields:

- First name
- Last name
- Two lines for street address
- City
- Pull-down list of states/provinces
- Zip code

For example:

1. Enter your address
1. address

would produce the pictured sample.
Essay questions are generally graded by the inquisitor or reviewed by the surveyor. InQsit version 8.0 added the capability to grade essays by looking for analogous terms within the response. The default answer key, essay, will display an answer box of 5 rows by 60 columns.

**Rows**

Essay rows=8 Changes the number of rows to the value you set. A value of one will create a single line response box. This will look like a fill-in-the-blank question, but InQsit will not grade the response.

**Cols**

Essay cols=40 Changes the number of columns to the value you set.

**Grading Criteria**

We mentioned above that version 8.0 introduced the gradable essay option. Essays are graded by the presence of analogous terms which you specify immediately following the essay answer line. For example:

23. What are the first three (3) counting numbers?
   - essay rows=1 cols=30 grade
   - criteria:one:1
   - criteria:two:2
   - criteria:three:3

In this case, the following answers would all be counted correct.

1, 2, and 3
one, three, and two
3, two and 1

In our example, we used only keywords, but strings will do as well. You can also specify a point factor at the beginning of each line: by default the point factor is 1. For example:

28. Name one planet from the inner solar area and one planet from the outer solar area.
   - essay grade
   - criteria:2:mercury:venus:earth:mars
   - criteria:Jupiter:Saturn:Uranus:Neptune
   - criteria:-1:sun:moon:io

This answer key example would grade 2 points for any of the inner planets and 1 point for any of the outer planets. It would also penalize 1 point if sun, moon, or io where included in the answer. See the “Basis” and “Partial Credit” sections below for further explanation of this example.

**Basis**

By default InQsit will determine the score basis by adding all of the positive values for the various analogous terms (remember that if not specified it will use the value of 1 for each set of terms). You can override the basis value by specifying basis=value. The default basis for our previous example would be 3 (2 for the inner planets and 1 for the outer planets).
Partial Credit

By default inQsit will only grade a question fully correct or incorrect. The partial credit option instructs inQsit to provide a percentage of the total possible points (see question weights) based on the points for the terms found / the basis. Just add the keyword “partial” to the essay answer line.

Essay Example

Let’s modify the last example and see how a particular answer is graded.

Weight=10  
28. Name one planet from the inner solar area and one planet from the outer solar area.  
essay grade partial  
criteria:2:mercury:venus:earth:mars  
criteria:3:Jupiter:saturn:uranus:neptune  
criteria:-1:sun:moon:io

And the students answer was:

Earth, Venus and the sun are inner solar area planets and Neptune is one of the outer solar planets.

inQsit would give a score of 8 points for this response:

2 points would be added for including “Earth”  
0 points would be added for “Venus” because “Earth” was already used  
-1 point would be “added” for including “sun”  
3 points would be added for including “Neptune”

That adds up to 4 points out of a possible 5 points (2+3) for 4/5 of the question weight, or 8 points total for the question.
The FileUpload question type permits myriad new question possibilities. Instead of picking an option or entering text directly, the respondent will create a file on their computer, then upload that file as a response to the question for subsequent manual grading by the inquisitor.

You will then be click on a link to view and manually grade the uploaded file. You will be able to post responses, either in text form, or by loading your own file.

For example, the student could submit a word document; you can pull it up, grade it by updating the document with “Track Changes” turned on, and then post the updated document as a response to the student to read later.

For more information see Grade Essays and File Uploads on page 30.
**Keyword / Fill-in-the-blank**

Any answer that does not match any other question type is assumed to be a keyword. Enter the word or phrase the respondent is to match. Alternate answers, or spellings, are separated by colons (:). Any term without ANY uppercase characters is graded without regard to case sensitivity, i.e. earth would match EARTH, earth, and Earth; whereas, Earth would only match Earth.

In the combined question file and quick editor formats you need to precede the correct response with “ANSWER:”

**Keyword List**

There have been requests for a more extensive pull-down list option which would allow you to specify more than the 26 optional values permitted in a multiple-choice question. For example, this is how state and country pull-down lists are generated in the Address question type.

Here are the steps to build a keyword list question.

1. Build a text file with the various keyword options listed one per line. For example:
   <mylist.txt>
   Hello
   Hi
   Goodbye
   So long
2. Load that file into your objects directory. See the Objects section in this manual.
3. Build your question using the format: Answer:correct_answer list=objectname.

For example:

```
1. Pick an appropriate greeting
   Answer:Hello:Hi list=mylist.txt
```

Remember this is a keyword question, so the correct answers are “Hello” or “Hi.” The options that will be included in the pull-down list come from object mylist.txt.
**Likert**

Likert Scale questions present a continuum from one extreme to another, with a series of evenly spaced possible choices. You specify the number of possible choices, and the lower and upper limits. For example:

6. How do you rate this manual?
   Likert range=5 “Wonderful” “Fantastic”

Would create something like:

6. How do you rate this manual?
   Wonderful O O O O O Fantastic

**Likert Slide**

New to version 10, the likert slide question replaces the evenly spaced radio buttons with a slide bar the respondent uses to indicate their response. The response will be a value between 1 and the range value, proportional to the final button placement.

**Likert Table**

Sometimes we want to present a series of questions, all with the sample possible choices, in a table format. We accomplish this with Likert Table. Essentially the output looks similar to a spreadsheet, where the column headings are listed in the likert table answer command (likert table range=4 “A” “B” “C” “D”) and the row headings are defined by text of a multi-part question. The best way to explain this is with an example.

12a. Food
12b. Service
12c. Price
12a. likert table range=4 “Poor” “Good” “Better” “The Best Ever” title="Please rate our restaurant"
12b. likert table
12c. likert table

Would produce:

<table>
<thead>
<tr>
<th>Please rate our restaurant</th>
<th>Poor</th>
<th>Good</th>
<th>Better</th>
<th>The Best Ever</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Service</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Price</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
</tbody>
</table>

Please note the following:

1. The table is built using the multipart question construct
2. Range value must be set
3. There needs to be that many quoted strings following the range value. These become the column headings
4. The title=quoted string is optional. If not used, the upper-left table cell will be blank.
5. On parts b through z you only need to specify “likert table” for the answer key.
Matching

Matching is a series of questions that ask you to match a set of terms to a set of definitions. To build a matching question we build a set of multipart multiple choice questions, where the question options are the terms and the question text are the definitions. For example:

21a. Stop sign
   a. octagon
   b. triangle
   c. circle
21b. Railroad crossing sign
21c. Yield sign
21a. A matching
21b. C matching
21c. B matching

The example appears on the right.

The options (A, B, and C) are made into pull-down lists next to each of the question strings. The respondent picks the correct one from each pull-down list. The whole group is arranged in a table to keep the terms and definitions lined up.

This format does not restrict you to the same number of terms and definitions; you can have any combination. A term may be used to match more than one definition.

Multiple Choice

A Multiple choice question lets the respondent pick one option from a series of options. There can only be one correct answer and a total of 26 options. Specify a single letter ‘a’ through ‘z’ or ‘pick one’. For example:

1. The sun is a:
   a. star
   b. planet
   c. gas giant
   A

Either Or

Version 11.8 introduced a new multiple choice feature that lets you specify more than one correct answer for a multiple choice question. For example:

1. Who wrote “Animal Farm?”
   a. Eric Blair
   b. George Orwell
   c. Mark Twain
   d. Samuel Clemens
   A|B reorder

The “correct” answers are both A and B (George Orwell is the penname of Eric Blair). The correct answer is then A|B (A vertical-bar B).

Multiple Response

Multiple response questions are similar to multiple choice, but allow more than one answer. Visually, a multiple choice question will have radio buttons whereas a multiple response question will have checkboxes. This visually reference clearly shows the students what type of question they are dealing with. You specify all of the correct answers by placing single characters separated by colons. You must have at least two characters with an intermediate
colon. For example: A:C. You can have a number of options that have to be marked for the question to be considered correct, for example: C:F:G:A:Q. For surveys you can use the key words “mark all that apply” or for convenience “mata.”

**Only one correct answer**

In some cases, you do not want to suggest via visual clues that a question is multiple choice or multiple response. You might want to ask a question where the student is to select all of the correct responses, when in reality there is only one correct response. If you use the format: 3. C, then inQsit will display that question as a multiple choice. However, you can use 3. C:C, which will have only one correct answer (C), but will appear as a multiple response question.

**Null**

The null question type is used when you want to display text at the end of a multipart question, but don’t want to ask a question. For example:

56a. Mary and Jon  
a. is  
b. are  
56b. going to the store.  
56a. B list  
56b. NULL

This will display a single line question, with a pull-down list in the middle of the question.
**Point and Click (Map)**

The clickable image can be used to create some very powerful questions. You need to keep in mind, as with all questions, your audience. The clickable image can be used to create some very powerful questions. You need to keep in mind, as with all questions, your audience. There is no way for a visually impaired individual to deal with this type of question. However, having said that, let’s move on to see how to use the question type.

Define a multiple choice question *with an image or image object* that has as its options (A, B, etc.) a series of coordinates. Those coordinates will be in one of these three forms:

<table>
<thead>
<tr>
<th>x,y,r</th>
<th>A circle centered at coordinate (x,y) with a radius of r</th>
</tr>
</thead>
<tbody>
<tr>
<td>x1,y1,x2,y2</td>
<td>A rectangle with the upper left corner at (x1,y1) and lower right corner at (x2,y2)</td>
</tr>
<tr>
<td>x1,y1,x2,y2,...,xn,yn</td>
<td>A closed polygon with corners at all the points specified.</td>
</tr>
</tbody>
</table>

For example, the question above was generated from the following:

32. Identify the memory slots in this picture. object:motherboard.gif
   a. 188,3,215,154
   b. 40,103,120,166
   c. 132,126,158,152
   a map

Notice the additional keyword “map” in the answer. When the student clicks on one of the “hot” areas, the “Answered” box will be checked and a small white square will appear on the picture. The respondent may change the answer by clicking on another region of the picture and the square will move accordingly.

**Color**

You can set the color by using the format “map=color value.” For example: a map=red. The color can be specified using any of the traditional html formats:

- By name: red, blue, black, white, grey, etc.
- By six (6) hex digit codes: #ff0000,#0000ff,#000000,#ffffff,#808080,etc.
- By rgb codes: rgb(255,0,0), rgb(0,0,255), rgb(128,128,128),etc.

*I use one of many graphics programs to determine the coordinates that are included in the multiple choice options. For example, photoshop will show you the x and y coordinates when you use the select tool to pick an area.*
Sequence

Sequence question asks respondents to click and drag options into a specific order. It can be used to test an event time-line, or to survey personal preferences.

inQsit will build a series of buttons that the respondent will click and drag into the specified order. In this case, the student is asked to order these words alphabetically. Other uses might be order preferences on a survey or place events in chronological order.

The answer key must contain all the answers in the correct order, such as:

- A:B:C sequence

**Note: Using a sequence question forces the Remind feature to “yes.”**

True/False

Specify either true, false, or true/false. The latter is used for un-graded surveys.

Yes/No

Specify either yes, no, or yes/no.
**Question Modifiers**

Answer modifiers can be used with various question types. An explanation and a list of question types each can modify are listed below.

**Country / email / phone / fax**

Use with the address question type to add the respective fields to the display.

**List**

The list option instructs inQsit to build a pull-down list with each question option as a single list entry. See the example in the Null question type.

Another use of the list option is with the Keyword List question type.

**Per Question Language Option**

You can create modules in any language by using the appropriate codes and fonts. However, for certain questions (true/false, yes/no, and keyword) inQsit places its own text on the page. For example you might ask a Spanish true/false question. You enter the text in Spanish, but inQsit inserts the “True” and “False” strings in English. This language option lets you select the appropriate language for these strings.

inQsit currently supports eight(8) languages in the respondent interface: Dutch, English, French, German, Italian, Norwegian, Portuguese, and Spanish. There are two language options that are defined in the Module Environment section. First, you can set the inQsit added text (yes/no, true/false, etc.) for the entire module. Second, you can set all of the inQsit generated text (including the Special Instructions, sequence question instructions, etc.).

The per question language option lets you set the language for a specific question. To specify the single question language, add language=<language name> at the end of your answer. Let’s say you have a test and you want to ask one question in German. If you enter

```
2. Erde ist der dritte Planet in unserem Sonnensystem.
2. True language=german
```

inQsit would display:

```
2. Erde ist der dritte Planet in unserem Sonnensystem.
O Wahr  O Falsch
```

**Reorder**

This reorders question options (a, b, c, etc.) for each test. This option works in conjunction with the list option.

**This option works with multiple choice, multiple response, and sequence question types.**
**Where clause**
The “where clause” is used to include parameter substitutions, primarily for mathematical equations. It lets you define value sets for each parameter. Each time inQsit creates test it randomly picks values from the parameter’s set for inclusion in the question. For example:

6. Solve for X in the equation \( X=A+B \).
   Answer: \( A+B \) where \( A=0..9 \) \( B=10,20,30,40 \)

Might display as:

20. Solve for X in the equation \( X=7+20 \)

**Title**
Specifies a title for likert table. See the example in the likert table question section.

**Vertical**
Changes true/false and yes/no questions to a vertical format instead of the normal horizontal format.
**Display Modifiers**

**Page Break**

Normally, inQsit displays all of the questions sequentially down the page. The page break command lets you break a module into visual sub-sections. When you include a page break (or pagebreak) command, inQsit will automatically display navigation buttons (First, Previous, Next, Last) on the screen. The respondent then sees a series of questions on each page and can move forward and backward through the module. Place the page break command immediately following the answer for the last question on the page.

**Bottom**

To place the navigation buttons at the bottom of the screen, use the keyword bottom on the page break command.

```
Page break bottom
```

Any use of the “bottom” modifier causes the all navigation buttons to appear at the bottom of the screen. Please note that when the buttons are at the top of the screen they will appear in the same physical location, however, when the bottom modifier is used, the buttons may move up or down depending on the page text.

**No Back**

The “no back” modifier removes the “First” and “Previous” buttons from the screen. This will stop the respondent from returning to previous questions to change (or to give) their answers. Please use extreme caution with this modifier. Respondents are use to reading through an entire module, or being able to return to previous questions at a later time, for review. This may cause respondent issues if not used carefully.

**Prerequisites**

Version 11.8 added the prerequisite feature that lets you specify preexisting conditions BEFORE the respondent is allowed to view a module. The general format is:

```
Prerequisite Module Condition Value
```

Where:

- **Module** is the module name (e.g. Test 1, History of the World, Parsnips and Carrots)
- **Condition** is one of the following: = <= >= <> > < (equal, less than or equal, greater than or equal, not equal, greater than, or less than).
- **Value** is the score the student received on that test.

For example:

```
Prerequisite Test 2 >= 70 or Test 3 >= 80
```

This test would only be available to this student if he/she had received either more than 70 points on Test 2 or 80 points on Test 3.

You can have multiple prerequisite lines in your answer key file. This lets you specify both OR conditions (within a line) and AND conditions (between lines).
**Prerequisite Tips**

To restrict a follow-up survey to those who filled out a previous survey, use this form:

Prereq Initial Impressions Survey >= 0

Let’s say you allow students to pick one of two tests to take, but they are not allowed to take both of them. In Test 1 put:

Prereq Test 2 < 0

And in Test 2 put:

Prereq Test 1 < 0

This works because the value of not having taken a test is a -1. So, to take test 1, you must not have taken (-1) Test 2 and vice versa.

**Pick n of next m**

Use this feature to tell inQsit to randomly pick “n” questions out of the next “m” listed in the file, and then randomly order those for display to the student. Let us assume that you have created a module with 20 true/false and 10 multiple choice questions, but you want to have inQsit display a module with 10 true/false and 5 multiple choice questions. The Pick n of next m feature allows you to specify the number of questions, out of the next set to be randomly picked and ordered with in the section. A second form is to set n and m to the same value. This will cause all the questions within the group to be displayed but in random order. For example:

Pick 10 of next 20
1. true
2. false
…
20. false

Pick 5 of next 10
1. A
2. B
…
5. C

For some reason, one inquisitor asked for the ability to pick 0 of next m as well. So, inQsit now has that capability.

See also the Section command.
Pick n of next m in multipart questions

Version 11 removed the restriction that you could not use pick n of next m with multipart questions. I would still caution you on using this construct, but it can be very useful. Below is an example using pick n of next m with a likert table (multipart) question. In this survey we want to randomly order the store names so we negate any positional bias.

<table>
<thead>
<tr>
<th>pick 6 of next 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1a. Target</td>
</tr>
<tr>
<td>1b. Meijier</td>
</tr>
<tr>
<td>1c. K-Mart</td>
</tr>
<tr>
<td>1d. Wal-Mart</td>
</tr>
<tr>
<td>1e. Penny's</td>
</tr>
<tr>
<td>1f. Sears</td>
</tr>
</tbody>
</table>

1a. likert table range=4 "Very bad" "Poor" "Good" "Excellent" title="Please rate your overall impression of each store."
1b. likert table range=4 "Very bad" "Poor" "Good" "Excellent" title="Please rate your overall impression of each store."
1c. likert table range=4 "Very bad" "Poor" "Good" "Excellent" title="Please rate your overall impression of each store."
1d. likert table range=4 "Very bad" "Poor" "Good" "Excellent" title="Please rate your overall impression of each store."
1e. likert table range=4 "Very bad" "Poor" "Good" "Excellent" title="Please rate your overall impression of each store."
1f. likert table range=4 "Very bad" "Poor" "Good" "Excellent" title="Please rate your overall impression of each store."

This would produce the following inQsit display. Please note the store names are in random order.

![Likert Table Example](image)

Note that when used with pick n of next m, likert table answers must include the entire command; it cannot be abbreviated as in other examples.

**Precision**

When displaying mathematically generated questions, numbers are shown with the maximum number of digits (around 15 places). There are times when you want to limit that.

Use the precision=value command to set the precision used in subsequent mathematical display. The value sets the number of decimal places. For example, precision=2 means to round to the nearest 100th, 0 means to round to the nearest integer, and -3 would mean to round to the nearest 1000 (1000, 2000, 3000, etc.). Place this command before the first question to use this precision.
For example the code on the left below would create the display on the right.

38. What is A/B?
\begin{itemize}
\item a. A/B-1
\item b. A+B
\item c. A/B
\end{itemize}
C where A=10 B=3
Precision=2
40. What is A/B?
\begin{itemize}
\item a. A/B-1
\item b. A+B
\item c. A/B
\end{itemize}
C where A=10 B=3

**Randomize Groups**

New in version 11, the section command lets you randomly order groups of questions. For example, let’s say you want to randomly order true/false and multiple guess questions, but always finish the test with the essay questions. Here is an example starting at the answer section of the module:

```
1. true
2. false
3. true
4. true
pick 4 of next 4
10. B map
11. A:B reorder
12. B:D:E sequence
13. C:C
Pick 2 of next 5
20. essay
21. essay
22. essay
23. essay
24. essay
Group truefalse tf
Group guess mc, mr
Group essays essay
Randomize groups truefalse, guess
Randomize groups essay
```

inQsit will randomly order the truefalse group and the guess group, keeping the questions within the group in order, then will display all the essay questions. For example the questions that would be displayed made be in the following order: 12, 11, 13, 10, 1, 2, 3, 4, 23, 20. Notice that the multiple guess group was selected first, those questions were randomly ordered by the pick 4 of next 4, then the four true/false questions were listed in order, then 2 of the 5 essay questions were picked and displayed.

**Right**

Assessment does not need to be the end of the learning process. The right and wrong features can be used to reinforce correct responses or to trigger more information for incorrect responses. By default the right and wrong strings are “Correct” and “Incorrect” respectively. Place this command BEFORE the question text in a combined or question answer in the separate file types. Example:
Right="That is correct. Keep up the good work."

**Trailer**

Occasionally you may want to include information at the end of the response page. The trailer function lets you define this string. See the example below for the format. Example:

Trailer="Once you have completed this module, you will want to continue with chapter four(4) in the workbook and finish the worksheets at the end of the chapter."

**Wrong**

The wrong string mirrors the functionality of the right string. Example:

Wrong="That is incorrect. Please review section 3 of chapter 4 for further details."

**Conditional Wrong Strings**

Sometimes a flat incorrect response is not good enough. Conditional feedback based on incorrect responses lets you specify what feedback is given for various incorrect answers. An example may help clarify. Consider the following question:

10. Ball State University is found in what city?
right="Correct"
wrong="(muncie?You forgot to capitalize the first letter.)(munsee?Although you might have heard the name before, you obviously have never seen it written. The correct answer is Muncie.)No, that is not correct."
answer:Muncie

The only "correct" answer is Muncie. All other responses will be marked incorrect by inQsit. However, you may want to provide different feedback based on what answer was given. Therefore, in this example:

<table>
<thead>
<tr>
<th>If the respondent answers with:</th>
<th>The feedback is:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Muncie</td>
<td>Correct</td>
</tr>
<tr>
<td>Muncie</td>
<td>You forgot to capitalize the first letter.</td>
</tr>
<tr>
<td>Munsee</td>
<td>Although you might have heard the name before, you obviously have never seen it written. The correct answer is Muncie.</td>
</tr>
<tr>
<td>LaPorte</td>
<td>No, that is not correct.</td>
</tr>
</tbody>
</table>

You can have as many conditional strings as you would like. Note: Make sure there is no space before or after the question mark (?) in the wrong string.
Question Groups

Question groups are highly versatile constructs used in question analysis, respondent analysis, randomization and if group conditional responses. For example you might want to analyze responses in three categories; lectures, textbook, outside readings. Or you might want to group questions by chapter, or subject. Maybe you’re doing a survey regarding three major political topics and you want to see how people respond within each category. The possibilities are virtually unlimited.

**Group Facts**

1. Group names may only have letters and numbers; no spaces or special characters.
2. Questions may belong to more than one group.
3. You can build as many group names as you like.
4. Group names must be unique.
5. If a question number is defined in a group, but via pick n of next m is not included in the actual module for a respondent, that question will be ignored in all analyses.

**Group definition**

Define a group by entering a line (in the answer key section) with the following format:

```
Group groupname group_definition
```

**Group Definition Format**

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>The single question 4, or the entire multipart question (e.g. 4a, 4b, 4c, 4d).</td>
</tr>
<tr>
<td>4c</td>
<td>The single question 4a.</td>
</tr>
<tr>
<td>20..23</td>
<td>Questions 20 through 23. E.g. 20, 21a, 21b, 23. There is no question 22 in the file.</td>
</tr>
<tr>
<td>20-23</td>
<td>Same as 20..23</td>
</tr>
<tr>
<td>TF</td>
<td>All true/false questions</td>
</tr>
<tr>
<td>YN</td>
<td>All yes/no questions</td>
</tr>
<tr>
<td>MC</td>
<td>All multiple choice, point and click (map), and matching questions</td>
</tr>
<tr>
<td>MR</td>
<td>All multiple response questions</td>
</tr>
<tr>
<td>Likert</td>
<td>All likert, likert slide, and likert table questions</td>
</tr>
<tr>
<td>Essay</td>
<td>All essay questions</td>
</tr>
<tr>
<td>File</td>
<td>All file upload questions</td>
</tr>
<tr>
<td>Keyword</td>
<td>All keyword / Fill-in-the-blank questions</td>
</tr>
<tr>
<td>All</td>
<td>All questions</td>
</tr>
<tr>
<td>-5</td>
<td>Exclude question 5. The minus at the beginning of the term removes that question from the group.</td>
</tr>
</tbody>
</table>
**Group Definition Examples**

Group lecture 1-4, 8, 10  
Group textbook 5-12,-8  
Group readings 13-20

So the lecture group would include: 1, 2, 3a, 3b, 3c, 4, 8, and 10; textbook group would include: 5, 6, 7, 9, 10, 11, and 12; and the readings group would include: 14, 15, 16, 17, 18, 19 and 20. Notice that question 10 is in both the lecture and textbook groups. Here are some more examples:

Group nonessays all,-essay  
Group multipleguess mc, mr  
Group tfyn: yn, tf

**Groups in Respondent Analysis**

When reviewing individual respondent results (see View Results) question groups are summarized at the end of the display as shown in this sample output. This lets you analyze not only the individual responses, but also by the groups you have defined.

**Groups in Question Analysis**

The same idea applies to the question analysis display (see Analysis on page 41). At the end of the question table, each group will be included with all of the appropriate statistics. This again gives you a significant analysis tool.

**If Group Command**

Now that you can create a group you should be able to give respondent feedback based on that group score. Indeed you can. The format is:

if group:name[\%] <condition> value [(and group:name[\%] <condition> value)…] “String”

A couple of examples may help clarify.

if group:classnotes%<60 “You need to take better classnotes because you failed those questions.”  
if group:booknotes>25 “You scored more than 25 points for questions pertaining to the required readings.”  
if group:classnotes%<60 and group:booknotes>90 “You might want to start staying awake in class, or at least get someone to take notes for you.”

**Link two modules together**

One of the special conditions implemented by the “If Group Command” is to automatically link the student from one module to another. That is, after the student completes a module, you can include the “connect:” command to present a link which automatically logs him/her into a second module. For example:

Group allquestions:all  
If group:allquestions% >0 “You may now proceed to the connect:Post+Test”

Since the score of all questions would always be zero (0) or more, this would always present a link to the “Post Test” module.

**Randomize Groups**

See the Randomize Groups on page 20.
Grading

Most question types are automatically graded with the exception of some essay and likert questions. Correct answers are specified in the module content definition which is compared to the given response; points are either awarded when those match. This section deals with those functions that alter the grading process.

Weight

By default all questions have the same weight of 1 point. This feature lets you set all subsequent (until changed again) question weights to the new value. Place this command before the question text in a combined or question answer in the separate file types. Examples:

weight=5
weight=2.3

Note that weight values need not be whole numbers.

Fix Grade

Fix Grade (available from analysis) is used to set questions point value for all respondents that took that question. It is used to negative the effects of a poorly defined question; one that might have multiple answers, or no correct answer. From the Analysis menu, pick Fix Grade and follow the on-screen instructions.

Re-grade

Re-grade is used after correcting the answer key. Update the module content with the corrected answers, then from Module Mgmt pick Re-Grade. Each respondent’s answer will then be regraded using the new key.

Manually graded essays will not be reset using the Re-Grade command.
**Alternate Grading Options**

inQsit provides the ability to customize individual question grading. That is, you can specify an alternative method by which a particular question is graded. This list has grown as inquisitors have requested special grading functions. Those currently included in inQsit are defined below. If you need a different grading method, please contact the program author.

In all cases, add alt_grade=<name> to the end of the answer key line. For example:

```
A alt_grade=bonus
```

**Bonus**

This option can be used with ANY question type to create a bonus question. If answered correctly, the score is added to the total points, but not the total possible, thus allowing for the possibility of an overall module score greater than 100%. If answered incorrectly, there is no penalty.

**Fritz**

Dr. Fritz, of Ball State University, has an interesting way of grading multiple response questions. Not only do you see if the student marked the correct answers, but you also insure that they did not mark the incorrect answers. Assume that we have a question with four options (a, b, c and d), with A:B being the correct answer and a question weight of 2. The table below shows how various responses would be graded with the normal method and then the fritz method.

<table>
<thead>
<tr>
<th>Response</th>
<th>Normal</th>
<th>Fritz</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>A:B</td>
<td>2</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>A:B:C</td>
<td>0</td>
<td>1.5</td>
<td>A and B were checked, D was not checked for ¾ of 2.</td>
</tr>
<tr>
<td>A:C</td>
<td>0</td>
<td>1</td>
<td>A was checked and D was not checked.</td>
</tr>
<tr>
<td>B</td>
<td>0</td>
<td>1.5</td>
<td>B was checked and C and D were not.</td>
</tr>
<tr>
<td>&lt;none&gt;</td>
<td>0</td>
<td>1</td>
<td>C and D were not checked.</td>
</tr>
</tbody>
</table>

**Thorington**

Dr. Thorington, also of BSU, suggested an update to “fix” the apparent “problem” with the last example in the Fritz method. Under alt_grade=thorington, no response is awarded zero points.

**Offset_Increase / Offset_Decrease**

These two options only apply to multiple choice questions. The returned “score” is based on relative position instead of correctness. For this example we’ll assume weight=2 and five options on the multiple choice question.

<table>
<thead>
<tr>
<th>Response</th>
<th>Offset_Increase</th>
<th>Offset_Decrease</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>0</td>
<td>8</td>
</tr>
<tr>
<td>B</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>C</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>D</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>E</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>&lt;none&gt;</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
**Offset_Increase_from_1 / Offset_Decrease_from_1**

This is similar except we count from 1 instead of 0.

<table>
<thead>
<tr>
<th>Response</th>
<th>Offset_Increase_from_1</th>
<th>Offset_Decrease_from_1</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>2 (1*weight=2)</td>
<td>10</td>
</tr>
<tr>
<td>B</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>C</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>D</td>
<td>8</td>
<td>4</td>
</tr>
<tr>
<td>E</td>
<td>10</td>
<td>2</td>
</tr>
<tr>
<td>&lt;none&gt;</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**low_to_high, high_to_low, offset_from_center**

These options are used in conjunction with Likert questions. The question is scored by inQsit with the series equal to the offset from first, last or center value. The weight value becomes a multiplier for the returned value. Assuming:

```
Weight=1
likert range=3 "Good" "Great" alt_grade=<string>
```

the table below will show the values recorded for each grading type.

<table>
<thead>
<tr>
<th>Response</th>
<th>Low_to_high</th>
<th>High_to_low</th>
<th>Offset_from_center</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td>0.33</td>
<td>1</td>
<td>-1</td>
</tr>
<tr>
<td>Second</td>
<td>0.67</td>
<td>0.67</td>
<td>0</td>
</tr>
<tr>
<td>Third</td>
<td>1</td>
<td>0.33</td>
<td>1</td>
</tr>
<tr>
<td>&lt;none&gt;</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**Round**

When grading mathematical questions, you may want to specify a rounding factor you want to use to grade the responses. This is similar to the precision option (see page 19). Use the `alt_grade=round:value` to specify the precision you want to use where value is defined as follows:

<table>
<thead>
<tr>
<th>Number</th>
<th>Round Value</th>
<th>Resulting number</th>
</tr>
</thead>
<tbody>
<tr>
<td>123.45</td>
<td>3</td>
<td>123.45</td>
</tr>
<tr>
<td>123.45</td>
<td>2</td>
<td>123.45</td>
</tr>
<tr>
<td>123.45</td>
<td>1</td>
<td>123.5</td>
</tr>
<tr>
<td>123.45</td>
<td>0</td>
<td>123</td>
</tr>
<tr>
<td>123.45</td>
<td>-1</td>
<td>120</td>
</tr>
</tbody>
</table>

**Evaluate**

This function instructs inQsit to mathematically evaluate the response and correct answer and then numerically compare them. Assume the correct answer you specify is .40 and the response was 0.4. Both would first be evaluated (.40 evaluates to .4 and 0.4 evaluates to .4), they are then compared. In this case they match and the weight value is recorded.
Indexed

The indexed grading option lets you define the number of points for each possible answer. This function works with true/false, yes/no and multiple choice question types. The format is:

Answer alt_grade=indexed:value1:value2... For example:

| True | alt_grade=indexed:4:-2 |

Answer true would be awarded 4 points, answer false would be awarded -2 points. The table below describes the relationship between selected answer and points awarded using: alt_grade=indexed:2:4:0:2

<table>
<thead>
<tr>
<th>Response</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>true, yes, or a</td>
<td>2</td>
</tr>
<tr>
<td>false, no, or b</td>
<td>4</td>
</tr>
<tr>
<td>C</td>
<td>0</td>
</tr>
<tr>
<td>D</td>
<td>2</td>
</tr>
</tbody>
</table>

Regular Expressions

There’s really no easy way to say this, so here goes: inQsit allows regular expressions for keyword grading. Sometimes authors sugar-coat difficult concepts; providing platitudes and false encouragement. I’d like to do that, but it really won’t work. Regular expressions can be difficult, but the rewards can be significant. This functionality means...

- a whole new avenue for grading options has been opened up
- in some cases, a lot of work and frustration
- some really nifty question possibilities
- less restrictive questions and answers, because the format doesn't quite match
- more questions you can have inQsit automatically grade

Regular Expressions (REs) are usually extremely cryptic until you get use to them, then they’re only moderately cryptic.

But this really is a very powerful tool for checking text and data strings and can be used to match myriad answers to a single question. Maybe an example would help. Let us assume the following question:

1. Give an example of an educational web page address.

Would you care to list of all of the possible correct answers. Of course not, but the RE for this question would be:

1. .*\.edu alt_grade=re

(I told you it was cryptic). This means and set of characters (.*), followed by a period (\.) followed by "edu". This question can now be automatically graded.

There are all sorts of possible character matching strings that you can enter. I've included a small table of them below, but there are whole books dedicated to RE's. You might want to see the O'Reilly site for a list. If you're willing, the possible answer formats, and thus, the types of questions you can ask have been greatly increased. Feel free to contact the inQsit author for more information if you are interested.
Modifiers

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>\</td>
<td>Match next character literally</td>
</tr>
<tr>
<td>+</td>
<td>Match previous at least once</td>
</tr>
<tr>
<td>?</td>
<td>Match previous zero or one time</td>
</tr>
<tr>
<td>*</td>
<td>Match previous 0 or more times</td>
</tr>
<tr>
<td>{n,m}</td>
<td>Match at least n but not more than m times</td>
</tr>
</tbody>
</table>

Pattern Characters

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>^</td>
<td>Beginning of the line</td>
</tr>
<tr>
<td>$</td>
<td>End of the line</td>
</tr>
<tr>
<td>. (Period)</td>
<td>Any character</td>
</tr>
<tr>
<td>\d</td>
<td>Any digit</td>
</tr>
<tr>
<td>\w</td>
<td>Any alphanumeric character</td>
</tr>
<tr>
<td>\s</td>
<td>White space (tab, space, new line)</td>
</tr>
<tr>
<td></td>
<td>Or function (this</td>
</tr>
</tbody>
</table>

I really do want to emphasize that REs can be very useful and if you want to try them, please contact the author for initial assistance.

IASMH

This grading option was created for the Indiana Academy of Science, Mathematics and Humanities that is housed on the Ball State University campus. This method scores the question weight for correct answers, zero for no answers and penalizes for incorrect answers. For example:

```
Weight=3
21. The sun is a star?
   True alt_grade=IASMH:1.5
```

The respondent would get 3 points for answering true, 0 points for no response, and -1.5 points for false. Yes, you could do the same type of grading with alt_grade=indexed, but IASMH came first and is left as a legacy option.

Requesting Additional Grading Options

Contact the inQsit author about specialized grading options. These requests are welcomed because it helps inQsit be more useful to more people. Requests will be handled on a case by case basis.
**Manually Grading Questions**

Some question types (essays and file uploads) cannot be graded by inQsit. You might also want to manually grade some questions for any number of reasons.

Click [View Results](#), then click the linked Sign In ID value. You will see the module questions just as the respondent saw them. The correct answers will be marked, as in the Preview display, and the responses will be shown just below each question. To the left of each question is the score button: click on the button and enter the new score.

Although you can use this method to grade any question type, essays and file uploads have a grading mechanism that allows for more interaction with the respondent.

<table>
<thead>
<tr>
<th>Question</th>
<th>Correct Answer</th>
<th>Your Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Does the Earth revolve around the Sun?</td>
<td>Yes</td>
<td>Your response was yes</td>
</tr>
<tr>
<td>2. The Earth is the fourth planet from the Sun</td>
<td>False</td>
<td>Your response was false</td>
</tr>
<tr>
<td>3. Mars is known as the</td>
<td>A. Blue planet</td>
<td>Your response was A</td>
</tr>
<tr>
<td>4. Which planet is the closest to the Sun?</td>
<td>Enter your response here:</td>
<td>Your response was</td>
</tr>
</tbody>
</table>
**Grade Essays and File Uploads**

The **grade essays** button (on the View Results page) takes you to an interface to grade all of the non-graded essays and file-upload questions.

Click on the Grade Essays button at the bottom of the “View Results” page. Note: if there are no non-graded essays or file upload questions, the “Grade Essay” button will not appear. To manually re-grade an essay you will need to click on the individual’s name then manually grade the question from that interface.

Any text or files you upload can be seen by the respondent after the “show grades after” environment parameter you set (See page B-6).
The administrative interface (control panel) is the module administrator’s (inquisitor) control window for creating, managing, grading, and analyzing the assessment modules.

From the main inQsit screen, pick your area name from the pull down list, then click on “Instructor & Surveyors.” The “Control Panel” will appear. At the top is the area name (which will change if you move to a sub-area), a place for your password, and a list of your current modules. Enter your password to begin.

Except for **Quick Start** and **Account Management**, you always pick the module name you want to work with then click the appropriate button.

**On-line Help**

Online help is available by clicking the question mark icon in the upper-right-hand corner of the display.

**Version 11 Menu Changes**

Among other things inQsit version 11 tried to group tasks together. This list indicates which functions moved and where.

<table>
<thead>
<tr>
<th>What</th>
<th>Moved To</th>
</tr>
</thead>
<tbody>
<tr>
<td>Module Mgmt=&gt;Display Order / Hide</td>
<td>Account Mgmt =&gt; Order / Weight/ Hide</td>
</tr>
<tr>
<td></td>
<td>Also added visibility parameter in environment parameters.</td>
</tr>
<tr>
<td>Module Mgmt=&gt; Delete Module =&gt; Delete</td>
<td>View Results =&gt; Delete Records =&gt; All</td>
</tr>
<tr>
<td>Responses Only</td>
<td></td>
</tr>
<tr>
<td>Module Mgmt =&gt; Fix Grade</td>
<td>Analysis =&gt; Fix Grade</td>
</tr>
<tr>
<td>Module Mgmt =&gt; Undo</td>
<td>Main Menu =&gt; Undo</td>
</tr>
<tr>
<td>Module Mgmt =&gt; Group Analysis</td>
<td>Module Mgmt =&gt; Define Analysis</td>
</tr>
<tr>
<td>Module Mgmt =&gt; Download</td>
<td>Module Mgmt =&gt; Save to Desktop</td>
</tr>
<tr>
<td>View Module</td>
<td>Preview. Also available in Module Mgmt =&gt; Preview</td>
</tr>
<tr>
<td>View Module =&gt; Create Paper Version</td>
<td>Module Mgmt =&gt; Paper Version</td>
</tr>
<tr>
<td>View Module =&gt; Respondent Sign In</td>
<td>Module Mgmt =&gt; Try Module</td>
</tr>
<tr>
<td>Gradesheet</td>
<td>Gradebook</td>
</tr>
</tbody>
</table>
Now we’ll step through each of the menus and sub-menus.

Quick Start

See the Quick Start discussion on page 1.

Account Management

Account Management lets you define account information, change your password, manage sub-account areas, define colors, and define default or global properties. You can set your display name and email address. These functions apply to all modules in your area.

Passwords

Set or change your inQsit password by entering a new value in the appropriate box. Remember your password unlocks access to your inQsit account. So guard it diligently and follow good password rules.

BSU users can tie their inQsit account to their BSU username and password. Just enter the appropriate information in the two boxes.

Collaborative Access Password

You may now set a secondary password that allows others to enter your inQsit account without having to give them your password. Normally this is used strictly in sub-areas, but it is your option.

Global Environment Properties

This area is used to define subsequent default environment parameters for new modules. See the actual environment parameters in Environment Parameters on page B-1.

It can also be used to force selected parameters (see the checkboxes) be propagated to all existing modules. For example, let’s say at the beginning of a new semester you want to change the end date of all your modules. Click the checkbox to the left of the end date, enter the new date, and click “Update Modules” at the bottom of the screen. All modules in your area will now have the new ending date.

Sub-Area Mgmt

Your inQsit area can be subdivided into various components. Many inquisitors separate their modules by class or subject, or keep historical data by year or semester. Click the button to open the sub-menu.

Jump To

Once sub-areas are made, this function lets you move easily between the sub-areas and your main area. Click Jump To, pick the area to move to, click Continue.

Add

When adding a new sub-area, you can instruct inQsit to copy files from another area (main or sub-area) to the new area, and optionally delete the responses during the copy. For example,
let’s say last semester among other classes I taught English 103 and I had and sub-area eng103_spring2007. I now want to build a new sub-area eng103_fall2007. I give the new area the name eng103_fall2007, tell it to copy the modules from eng103_spring2007, and to delete the responses while copying. I now have the entire area ready (except for changes start and end dates) in one easy step.

**Delete**
I can delete any sub-area (and sub-areas of that sub-area), but cannot delete my main area.

**Rename**
This lets you rename an area. Be careful to not confuse renaming and area and adding a new area for a new semester.

**Set Display**
This let’s you hide sub-areas from students. A list will be displayed of all sub-areas and their current visibility. You can modify all the sub-area display values at one time.

**Order/Weight/Hide**
This lets you set the order the modules will be displayed in the student interface and the control panel pull down list, the module weight (for use in Gradebook), and set the visibility option for each module.

After you click on the **Order / Weight / Hide** button, a new window will appear with the module names listed. Click the up or down arrows to move modules to a new order.

Module weights can be any number (1, 3.4, or 0). This value is a multiplicative factor when determining the weighted total value in the inQsit gradebook.

**Colors/Text Size**
This function lets you define the color scheme for your inQsit account. Each sub-area can have a different color scheme if you so desire. As you pick various options on this page, the sample area will update to show you the current color status.

You can set the page or button text and their respective backgrounds. Click on the appropriate button, then mouse over either the color wheel or gray bar to pick the color you want. The appropriate section of the display area will update as you scroll the mouse. Click the mouse when you have selected the color.

There are three font size settings: small, medium, and large. Select the size you want. When done, click OK.
Module Management

Module content and environment parameters are defined in module management. There is an extensive menu for other module level functions.

Module Definition

The first section on this page is for module definition.

Module Name

Module names are unique within a sub-area. Here are some module name tips:

- Use only alpha, numeric, and space characters.
- Keep names simple. “Test 1” may be easier to remember and better suited than “Test 1 covering chapters 4 and 5 about the last ice age and how global warming might lead to a new ice age.”
- Don’t use slashes “/” in names.

You may rename a module by highlighting the module name box and typing a new name. Make sure you don’t rename this module to an existing module; the results can be unfortunate.

Module Source

There are four possible source locations:

<table>
<thead>
<tr>
<th>Source Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>that I specified before.</td>
<td>Once you have created your questions, you may want to change environment options without having to re-specify the question and answers. This is the default setting.</td>
</tr>
<tr>
<td>that I edit with the Quick Editor.</td>
<td>The quick editor is used to either enter text or modify existing text in a standard text box. This is very good for small editing changes, or if you prefer for extensive generation. For example: you can create a test in Word©, then select all, copy, go to the quick editor and paste.</td>
</tr>
<tr>
<td>from file(s) on my personal computer.</td>
<td>You can specify files that currently reside on your personal computer. The files must be in text format. You can specify either a combined or separated question and answer key files.</td>
</tr>
<tr>
<td>From the question pool:</td>
<td>The question pool interface will be discussed in another manual at a later time. The question pool was originally built to accommodate question banks from book publishers or directly from book authors. This functionality is now primarily used for departmental-wide question banks. The question pool interface is limited to a subset of standard question types.</td>
</tr>
</tbody>
</table>
**Environment Options**

This defines the assessment environment: when, who, how often, how long, etc. There are two display formats: paragraph form and table form.

The paragraph form is designed for most inQsit users. Selecting various options redefines the paragraph text so that when you get through you have a self-defined prose describing the module environment.

The table form is used mainly by inQsit power users. Here only the field name and values are displayed. This form assumes you understand each parameter and its function.

The environment parameters in each field are defined in the same order, so you can compare one format to the other. You can toggle between the formats by clicking the *Toggle Format* button at the bottom of the page.

The actual environment parameters are defined in Environment Parameters on page B-1.

**URL Links**

Just above the Environment Options section on either the Account Mgmt or Module Mgmt screens, inQsit places the correct URL to that account or module. This is the link you should use in any web page to bring a user directly to your account listing, or the individual module.

**Dates and Times**

Specifying dates and times is not as simple as it seems. First there seems to be wide interpretation of what some terms mean; midnight for example. There’s also a wide variety of ways to describe time: 1:45 PM is the same as 13:45. Let’s take a moment and agree on some definitions, and then discuss inQsit date/time strings.

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Midnight</td>
<td>A day starts at midnight. Midnight is one minute before 12:01AM. It is <em>not</em> at the end of a day.</td>
</tr>
<tr>
<td>3/12</td>
<td>Is assumed to mean the 12th day of the third month of this year.</td>
</tr>
<tr>
<td>Start date without time</td>
<td>The time portion is set to 00:00:00am (midnight).</td>
</tr>
<tr>
<td>End date without time</td>
<td>The time portion is set to 23:59:59pm or 23:59:59pm.</td>
</tr>
<tr>
<td>3:45PM</td>
<td>Is the same as 15:45PM</td>
</tr>
<tr>
<td>5d</td>
<td>Means in five days.</td>
</tr>
<tr>
<td>2h</td>
<td>Means in two hours.</td>
</tr>
<tr>
<td>5d 2h 1m</td>
<td>Means in five days, 2 hours and 1 minute.</td>
</tr>
<tr>
<td>Now</td>
<td>Means no beginning time frame.</td>
</tr>
<tr>
<td>Forever</td>
<td>Means to ending time frame.</td>
</tr>
</tbody>
</table>

**Module Management Sub-Menu**

**Preview**

Preview the module to check for spelling, syntax, or answer key errors. Utilize this screen for module verification.
**Try Module**

Most inquisitors like to run through the actual module once to see exactly what the respondents will see. In the past, the inquisitor would have to go back to the main inQsit screen and step through the selection process just like the respondent would do. This button lets the inquisitor login directly to the module. When you click the **Try Module** button, a box will display reminding you to enter your inQsit password in each and every box on the subsequent screen. This includes the proctor password box (if applicable), the username and the password boxes (if the authentication you have specified uses it).

**Paper Version**

Although inQsit is generally used online, there are times when you may want printed copies of the module for use as make-up tests, man-on-the-street surveys, etc. The paper version function creates a printable copy of the module, including all the randomization, variable substitution, and selection criteria that are available in the online version. The format has been updated to work on new browsers (specifically IE and Netscape). Follow on screen directions to print the paper version.

**Re-grade**

See the Re-grade discussion on page 24. See also the Fix Grade function on page 24.

**Define Analysis**

Group analysis lets you define a list of identical modules, either in your area or other inquisitor's areas that you would like to combine to perform item analysis. For example, if all the professors in a single department give identical tests for a Astronomy 101 class, each professor can do an analysis of their class, but by defining a group analysis, then the entire group can be included in a single table. See the discussion Group Analysis in Appendix D.

**Export Data**

InQsit provides an easy to use export data feature to extract the specific data that you want.

Specify which fields and questions to include. See the Group definition discussion on page 22. Then specify the download type. There are two export data modes; one line per respondent per question and one question per line.

Both methods will download the information to a Comma Separated Value (CSV) file format. This format is compatible with many applications including Microsoft Excel© and Word©, and many other applications. You will want to save the file to your hard drive, using the normal save functionality of your browser. The file will then be available for use with the application program.

**Delete Module**

This deletes, after confirmation, the selected module including module definition and all responses. If you want to just delete the responses see All Records on page 40.

**Save to Desktop**

This saves both the module contents and environment parameters to a file on your desktop. This is the best way to insure you have a backup of the module environment you have defined. This can also be used to transfer your module from one user to another, or from one inQsit system to another.
Object Management

The objects directory and corresponding Object:URL feature makes the inclusion of web resources (pictures, movies, sound clips, and links to other pages) extremely easy.

Each account/sub-area has its own objects directory. You can place any type of object (html, txt, wav, etc.) into the directory by loading it through the Objects Management screen.

Each object will display an icon, indicating the type of file, the filename, size and date. When you want to delete an object, just click on the appropriate “X”.

The real purpose of this feature is to help you add these objects to your modules. In the past, to include a sound file, you would have included the following string in your question file: `<a href="/inqsit/play.gif"><img src="/inqsit/play.gif" alt="Sound File"></a>`

Granted, that was very cumbersome. The object:url feature let’s you include that same file by typing: object:jazzsax.wav. inQsit will take care of building the appropriate ICON and link into the module. For example:

1. Identify the style of this clip. object:jazzsax.wav
   a. Jazz
   b. Classical
   c. Hip-Hop

The other format for the Object:URL is to use the full URL to a link. Let’s say you wanted to link to the main inQsit screen, then you would use:

object:http://www.bsu.edu/inqsit/

Version 10.9 introduced two optional modifiers for the object function. These are only compatible with objects where an ICON is displayed that the respondent clicks on to proceed. I.e. this does not work with graphics (.jpg, .png, .gif, etc.). The modifiers are repeat-count and display timer. For example the following code would show a link ICON that the respondent would click to see the shortstory.txt page.

<table>
<thead>
<tr>
<th>Modifier</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0:0:shortstory.txt</td>
<td>Same as the one above.</td>
</tr>
<tr>
<td>2:shortstory.txt</td>
<td>Can be clicked twice, but no time limit</td>
</tr>
<tr>
<td>1:300:shortstory.txt</td>
<td>Can be clicked only once and will display for 5 minutes (5*60 = 300 seconds).</td>
</tr>
</tbody>
</table>
View Results

Once a module has been administered, you will want to review the specific responses as well as group scores. The view results function allows you to see the status of each assessment module, how each individual responded, and how the group did as a whole. The view results screen is shown below. Let’s analyze this screen.

Statistics Table
There have been 12 respondents. The lowest score was 5.19% and the highest was 100%. The “Mean” or average score is 26.41%, and the “Median” score which is the one closest to the center of all the scores is 7.79%. The standard deviation is 32.84. This should go down as we get more respondents.

inQsit records each time a module is handed out. When the responses are returned, inQsit records the answers and determines the score. The bottom table shows one line for each time the module was handed out. You can see that the last inQuisitor checkout has not yet been returned.

Respondent Table
The lower table shows one entry for each time a module is delivered to a respondent. That is, when a module is sent to the respondent, it is recorded and can be seen here. When the respondent submits the answers this table is updated.

You can order this table by clicking the buttons at the top of each field. A second consecutive click will reverse the sort. By default the table is sorted in reverse Started order. The following table outlines each of the fields in the lower section.

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sign in ID</strong></td>
<td>The contents here are determined by the authentication method. In this case (using basic authentication), this field contains whatever the respondent typed in the “sign in” field. You can click on the sign in to see the specific module and responses for this individual. You can also manually grade the questions on the resulting page.</td>
</tr>
<tr>
<td><strong>Started</strong></td>
<td>Date and time the module was sent to the respondent. This field is omitted for Blind Studies.</td>
</tr>
<tr>
<td><strong>Duration</strong></td>
<td>Time duration in hours:minutes:seconds between the “Started” time and the time the responses were recorded. NR (Never Returned) indicates that responses have not been</td>
</tr>
</tbody>
</table>
Duration information can be very helpful in response analysis. It can be used to exclude responses that take either too much time or too little time. Duration can also be used as an indicator of test difficulty. Regardless, duration is additional data that can be used to expand the response analysis.

One of the tricks that students use to cheat is to open a module, look at it for a while then close the browser BEFORE answering the questions. They then tell the instructor that the browser just "closed on its own" and ask for another chance to take the test.

The High Security feature was introduced several versions ago that, when enabled, pops up a warning message telling the students that if they continue their answers will not be recorded and they may be prevented from taking the test in the future.

This update lets you see when they last tried to close the test before submitting their responses. So, there are three possible types of information in the duration field:

1. A duration in the form of hh:mm:ss
2. 'NR' indicating the student has not yet submitted his/her responses and did not attempt to close the browser window
3. NR, but close attempt at 11/21/07 11:51:40AM

The only way that the student can leave the test display without generating the third option above is to turn off the computer.

While we're on this subject, a word about how inQsit records student attempts. When a student asks for a test, inQsit verifies authentication and authorization, and then BEFORE presenting the test to the student, records the appropriate data. There is NO WAY a student can see a test without it being recorded. That record will be shown in the "View Results" list, unless you delete that record.

The student simply cannot claim that they took a test and for some reason you don't have a record in "View Results."

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Count</td>
<td>Specifies the instance number of this respondent getting this module.</td>
</tr>
<tr>
<td>Score</td>
<td>Shows the percentage score for this respondent. Values will change if you manually grade a question. See the “Manually Grading Questions” section of this manual. This field omitted for surveys.</td>
</tr>
<tr>
<td>Rank</td>
<td>This is the ordered score value with the highest score being the lowest ranked value. Duplicate scores received the same rank. This field omitted for surveys.</td>
</tr>
<tr>
<td>Proctor or IP Address</td>
<td>This displays either the proctor password that was used to unlock the test or the cyberproctor testing lab station name in the case of a proctored test. For a non-proctored test, the remote IP address of the user taking the test is listed. This field will be blank if the authentication type is “Blind Study” or Students is “anonymous.”</td>
</tr>
<tr>
<td>Delete Record</td>
<td>Select those records you want to manually delete, then use the delete function.</td>
</tr>
</tbody>
</table>

**View Results Sub-Menu**

**Download**

This downloads the respondent table to your desktop or directly into Excel®.

**Grade Essays**

See the “Grade Essays and File Uploads” section on page 30.
Clicking **Delete Records** brings up the delete sub-menu.

<table>
<thead>
<tr>
<th><strong>NR' Records</strong></th>
<th>Deletes all Never Returned records. Be careful deleting NR records until the module’s end date.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>All Records</strong></td>
<td>Deletes all records.</td>
</tr>
</tbody>
</table>

The next three options only apply if there is more than one score for a respondent.

<table>
<thead>
<tr>
<th><strong>All but best</strong></th>
<th>Keeps the highest scored response set per individual.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>All but last</strong></td>
<td>Keeps the last set of responses per individual.</td>
</tr>
<tr>
<td><strong>All but first</strong></td>
<td>Keeps the first set of responses per individual.</td>
</tr>
<tr>
<td><strong>Marked Records</strong></td>
<td>Deletes those records you have manually selected under “Delete Record.”</td>
</tr>
</tbody>
</table>
The question analysis function provides question level statistical information based on all questions. The View Results statistical information is repeated at the top of the page.

The following table outlines each of the lower table’s fields.

<table>
<thead>
<tr>
<th>Field</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>The question number as specified in the module content. Click on the question number to view the actual question text and correct answer. If question groups were defined, they will appear at the bottom of the table.</td>
</tr>
<tr>
<td>Type</td>
<td>The question type (T/F, Y/N, MC, MR, Likert, File, Keyword, or Essay) or “Group” to signify a question group.</td>
</tr>
<tr>
<td>Total</td>
<td>The number of times this question was asked. This may vary from question to question depending on which randomization options were used.</td>
</tr>
<tr>
<td>Right</td>
<td>For auto-graded questions this shows the number of times this question was answered correctly.</td>
</tr>
<tr>
<td>Diff</td>
<td>The percentage of correct responses.</td>
</tr>
<tr>
<td>Discr</td>
<td>The calculated discrimination based on a 50% split. Higher the discriminate values, as compared to others, indicates a possible “bad” question needing review.</td>
</tr>
<tr>
<td>Mean</td>
<td>For essay questions: the mean value for the grades assigned. For likert questions: the mean value for the responses given.</td>
</tr>
<tr>
<td>STD</td>
<td>For essay questions: the standard deviation of the assigned grades. For likert questions: the standard deviation of the marked values.</td>
</tr>
<tr>
<td>Frequencies</td>
<td>One column for each possible response for T/F, Y/N, MC and MR questions. The number of responses for each choice is listed. For likert questions: The first choice is counted in column “A”, the second in column “B”, etc. Essay and keyword questions do not have any response frequency values.</td>
</tr>
<tr>
<td>nr</td>
<td>Number of times this question was not answered. A no response is always considered incorrect; i.e. not right.</td>
</tr>
</tbody>
</table>
Analysis Sub-Menu

Fix Grade
See the discussion on page 24.

Download
Downloads the currently viewed table to a csv file or directly into Excel®.

Toggle %
Toggles table values to percentages.

Group Analysis
If group analysis was defined (see page D-1), the include responses for all linked modules as well.
inQsit contains a rudimentary grade book. There are two modes. The first, pictured to the right shows the scores for a single module.

The second mode, shown below, shows the scores for each module and for each respondent. For this mode select “.New or All Module(s).” in the module pull-down list, then click **Grade Book**. A table with scores for each respondent and module will be displayed. The final column is the weighted total which is based on the individual’s score and the module weight as defined in Order/Weight/Hide on page 33.

Version 11 introduced the option to select the last, best, first, or average score for display. These only apply modules that can be taken more than once.

**Grade Book Sub-Menu**

- **Download**
  Downloads the currently displayed table to your PC.

- **Show Points**
  Toggles the display to show points over possible (xx/xx) or percentages.

  **Remember it is possible that the number of points may vary between respondents based on the randomization and weight values you assign.**

- **Refresh**
  Refreshes the display after you change the pull-down list value.
Prior to changes that affect module content or responses, inQsit stores information to undo the change. The Undo function lets restore the module definition and/or deleted records back to a former state.

Click the Undo button. A list will appear showing the date/time and event for the last 10 events that changed this module. Click on the appropriate button to return the state back to that point in time.

For additional safety, inQsit always saves the module state prior to the first change of the current day.
Appendix A Cheating

Cheating is a attack on academic integrity. As new cheating techniques are used, new anti-cheating techniques are developed to counteract them. This spirals back to new techniques being developed. This section outlines various ways to mitigate and detect cheaters.

Let us not forget that the cheaters are the ones in the wrong. Just because we don’t have a way to stop a particular method of cheating does not excuse the cheat.

**Time Limits**

Test design is the most effective way to counteract cheating. This is true for all testing instruments. This includes question types, number of questions, and setting an appropriate time limit. In general it takes less time for inQsit tests than paper / pencil, but the only way to determine the appropriate time is to take the test oneself and use some factor to create the time limit.

**Randomization**

Giving different tests to each student is a good way to minimize cheating – they can’t just compare answers. Ultimately, giving each student his/her own personalized test is the best way to prevent “copying.” That is not always practical. However, inQsit does provide several randomization options, including the following.

**Randomize Groups**

Use this feature to randomize question groups.

**Pick n of next m**

Not only can this be used to randomize a set of questions (pick 10 of next 10), but can also be used with a bank of questions to randomly pick a sub-set for display (pick 2 of next 50). The lower the ratio of used questions to all questions on a particular subject, the more randomization you get.

**Reorder**

Reordering options for multiple choice and multiple response questions helps eliminate the conversation:

Mary: “What was the answer to question 2?”

Tom: “B”

**High Security Option**

The high security option should always be used on any graded assessment. It restricts copy and print functions and the use of the right mouse button on Windows© machines.

Any system that displays questions on a screen, be it inQsit, Blackboard, WEBCT, etc. cannot prevent the questions from being copied. If nothing else, I can always take a picture of the screen, or if I have the time, just copy them down by hand. By using the randomization techniques outlined above, this becomes moot.
Proctoring

If you would proctor a paper / pencil test, then you should proctor it when using inQsit. The two proctoring functions are outlined in the main body of this paper. Either define proctor passwords which you covertly give to the proctors, or use the cyberproctor function that locks the inQsit module to the testing lab.

BSU Testing Labs

There has been lots of talk about cheating and the testing labs. Although I don’t speak directly for the testing labs, I can assure you that increased detection is key. Here are a few of the changes you will see in the Fall of 2007:

- Surveillance cameras
- Lockers for storage of personal items while students are in the testing area
- Two (2) proctors on duty at all times
- Consistent faculty notification

Default Proctor Message

There is now a site specific default proctor message that is invoked whenever proctoring is selected for a module. The inquisitor can override the message, but there can no longer be a missing message.

BSU Default Proctor Message

The University Senate approved the following default proctor message:

```
No books, notes, calculators, cell phones, iPODs, PDAs or other items may be used except any listed below.
No talking. Work independently.
```

Detection

Prevention and detection go hand-in-hand. There are several things to look for when trying to detect cheaters:

- Abnormally high test scores
- Abnormally quick responses
- Sequential responses from the same IP

As an example, we had a situation where four students were taking a non-proctored, non-randomized, quiz in a general purpose lab. Apparently they all sat down and had one student take the test, and right down the answers. Then each student in turn sat down and took their own test in under 3 minutes. Each got the same score, with the same wrong answers.
False Claims

False claims are another form of cheating. We've had students claim that inQsit just shut down, or it gave me my score but you don't see any responses. The student then talks the instructor into giving them another chance to take the test.

The fact is that inQsit is been extremely reliable.

Before inQsit close a test (unless the computer is turned off or the student forces a logoff), it displays this window. The student must respond before the window will close.

Also, before sending any information back to the student after submitting responses, inQsit stores that information on the server. Thus, the student can't get a grade without the responses being recorded.
Appendix B Environment Parameters

The following is a list of each environment parameter and a brief explanation or discussion.

**Module Type**
Test or Survey. Test adds checkbox to the left of the question so respondents can click to remind themselves to return to a particular question before submitting their responses.

**Visible**
In Account Mgmt this field determines if the area (sub-area) is visible via the student interface. In Module Mgmt this field determines if the module is visible via the student interface.

**Count**
Number of times a module may be seen by any one respondent.

**Start Date**
First date/time the module may be seen by a respondent.

**End Date**
The ending date/time the module may be seen by a respondent. Respondents still has the time specified in timelimit to submit their responses.

**Students**
Specifies who can see this module.

**Anyone**
Requires a login, but does not restrict access to any specific login.

**Using these signons**
Requires a login to match one of the comma separated values you specify in the next box.

**Using signons from**
Requires the login match one of the lines from the uploaded “Student File”. After loading a file he word “file” is clickable so you can see the file contents.

**Anonymously**
Bypass the sign-on page. In “View Results” all respondents will have “Anonymous” as their sign in ID.

**Signons**
List of valid comma separated signons.

**BSU users:**
In the past there has been some confusion regarding the relationship between the Authenticate Method and Respondent fields. There have also been requests to be able to mix student ids and class lists together into a single list of valid respondents. Version 10.10 solves those issues.
The respondent’s field (or file) can now contain any mixture of possible respondents. You can mix Usernames, IDs, Full Names, and Class Specifications. For example you might specify:

ENG 103 1, ENG 103 5, ENG 105, alincoln, 987654321

This would permit anyone in English 103 sections 1 and 5, all students in any section of English 105, the user alincoln and the person with BSU-ID 987654321.

**Student File**
A file containing one signon per line of valid signons. Remember that all uploaded files must be in text format.

**Authentication Type**
There are two parts to sign-on security; authorization defines who may sign in and authentication which determines you are who you say you are.

**Basic**
Requires a single authentication string. For example your student id number or your email address.

**None – use with respondents = anonymous**
This is used strictly with anonymous modules.

**BSU Authentication Types**
These authentication types are only available at the BSU site. Each requires the student authenticate with their BSU Username / Password pair. The various sub-options define what information will be returned as the Sign-in ID. The BSU Blind Study asks the students for their login information, but does pass that information along to the inquisitor. The other options are specific to special applications: further information is available by contacting the author.

**Prompt**
Lets you specify a prompt asking for the appropriate information as required by the authentication and students fields. For BSU Authentication types this field is always ignored and a standard message is displayed on the sign-in page.

**Proctor**
The proctor functions determine if a proctor or cyberproctor password is required.

**Proctor Password(s)**
A list of password you will manually give to your proctors. The password will appear on the View Results page so you can correlate respondents to proctors if necessary.

**Proctor Message**
These instructions are displayed at the top of the sign in screen for the proctor to read prior to entering the proctor password. With cyberproctor in a lab environment, this message is still displayed at the top of the sign-on page.
When using CyberProctor (testing labs) you are given two choices for the proctor message as outlined in the screenshot above. See the following for providing additional information:

- [ ] Object Management on page 37
- [ ] Information URL on page B-5
- [ ] Important Info Text on page B-4

**Include Consent Form**

This allows the inquisitor to include an Informed Consent page before showing any of the questions. If the respondent “Declines” the informed consent, that will be documented to the inquisitor (in view results) and inQsit will automatically move to the grader page. If the respondent “Consents”, then the rest of the module will be displayed as normal.

The time limit counter does not start until after consent is obtained.

**Consent Object**

You must first upload consent form text to your objects directory. Then specify that object name in this field.

**Consent Affirmative Response**

Prompt string for an affirmative response.

**Consent Negative Response**

Prompt string for a negative response.
**Embedded HTML**
Normally you will specify “does not” for this parameter. If you include lines, graphics, movies, sound, etc. or you specify direct HTML code, change this parameter to “does.”

**Randomize**
Specifies which (if any) question randomization features to use. *Please note this option is deprecated.* Use the Pick n of next m feature instead. The use of the pagebreak command forces this option to “No”.

**Extra Security**
Using this function enables a series of conditions.

1. Blocks right mouse button
2. For student displays (test/survey, responses from the grader and Grade sheet pages) are blanked if printed.
3. Blocks the use of the back-button on the student display pages.
4. Forces the submission of responses (does not work on Safari due to a bug in that browser). If the respondent tries to move to another page or close the browser, the answers will be submitted.

**Language Options**
inQsit supports multiple languages in the respondent interface. The first option lets you set the display language for all text that inQsit generates within the text; like: yes, no, true, false, etc. The second option specifies which language all other inQsit generated text is displayed.

**Show Question Weights**
This determines if question weights are displayed to the respondent.

**Important Info Text**
This field lets you specify additional information that will be displayed in the “Important Information” box at the top of the displayed module.

**Show calculator Icon**
One of the testing lab security issues is the use of calculators. Some professors allow calculator use, but are concerned that students may store notes in/on the units. Some professors do not allow calculators for that very reason. That is why I created the inQsit calculator. Through module management you can select whether this calculator is available to the students during the test. If so, a Calculator Icon will appear in the upper right-hand corner of the screen which, when clicked, show a full function scientific calculator.

At the moment we only have a scientific calculator available, but if you need another calculator type, and can give me an example of its functions, I will see what I can do about getting other calculator types available.

An additional icon has been added to the main inQsit screen where students can access the calculator to familiarize themselves with the calculator functions before taking a test.

**Include information window**
The information window is a new feature in version 10.9. It lets you specify an area of the screen where you can place static information for the respondent. You must select “Do”
include this object to invoke this function. Some uses include mathematical formulae, the periodic chart, or live web page the respondent is to reference.

Usually the information window in only used when there is too much information or the information is used throughout the entire test.

**Information URL**
The object name or URL (see objects) of the item you want to include.

**Info window location**
Select to put the object on “top”, “bottom”, “left”, or “right” of the main inQsit screen.

**Info window size**
The relative percentage of the screen you want to devote to the object.

**Submit Button Text**
This specifies the text to display on the “submit” button at the bottom of the assessment module. If you are using language options in your module, you may want to specify this text in the same language.

**Text to show prior to button**
Any text provided here will be displayed immediately prior to the Submit button at the bottom of the module.

**Remind**
Remind respondents if some questions are not answered. A pop-up box will appear when the respondent clicks the submit button if any question is not answered. Most inquisitors use this feature on tests, but not on surveys.

**Time Limit Hours / Minutes**
These two fields let you specify the time limit between module checkout and when the module needs to be returned. This time is used in an automatic return timer and is also used to determine and score penalty you might define.

Both values can include decimal values, e.g. 10.5, 3, or 3.0.

**BSU Student’s with Disabilities**
Students with disabilities register with the Disabled Student Development office. That office determines a multiplicative time limit factor for inQsit tests. All you need to do when setting up the test is specify a BSU authentication method. The system will automatically apply the time limit factor and give those students extra time to complete the exam.

**Autoreturn**
Determines if inQsit will tell the browser to automatically submit the responses at the end of the time limit. This is equivalent to the “pencil’s down” instructions used in the classroom.

**% Penalty per minute**
This value is the percentage grade value that will be assessed each minute the responses are submitted after the time limit has expired. This would be the same as a late penalty on an assignment.

**Return Grade**
Determines if inQsit displays the calculated test grade when the answers are recorded.
**Return Comments**
Determines if inQsit displays the Right and Wrong strings when the answers are recorded.

**Feedback Trailer**
Specify a string to be displayed at the end of the results page.

**Show grades**
Specifies if respondents can view their graded modules after a certain date/time.

**Show grades after**
Time after which respondents may view their graded modules.
Appendix C Where Clause / Parameter Substitutions

The equation allows the inquisitor construct a question with variables. For example:

1. Solve for $X$ in the equation $X=A+B$.

When inQsit builds an individual respondent’s display, values that were determined by the inquisitor are inserted into the equation for $A$ and $B$.

<table>
<thead>
<tr>
<th>Question text and answer</th>
<th>Resulting Question</th>
</tr>
</thead>
</table>
| 1. Solve for $X$ in the equation $X=A+B$  
  a. $X+Y$  
  b. $X*Y$  
  c. $X-Y$  
  1. answer: $A+B$ where $A=1,3,5$  
  $B=2,4,6$ | 1. Solve for $X$ in the equation $X=3+6$  
  a. 9  
  b. 18  
  c. -3 |

The mathematical equations are invoked through the use of the “where” clause on the answer line. As you can see by the examples above, the where clause defines the variables ($A$ and $B$ or $X$ and $Y$) and the respective values. InQsit will randomly pick a value from the list you provide and insert it into the question file. There are some limitations regarding the use of mathematical equations.

1. You may only include one mathematical equation in the question text, or each option (A, B, C, etc.), answer key, correct response string, or the incorrect response string. For example, you cannot do the following:
2. Solve for $X$ and $Y$: $X=A+B$ and $Y=C+D$
3. Spaces are not allowed inside the equation.
4. Each occurrence of the characters listed as variables (after “where”) is replaced in the text. Be sure to use unique character values for variables. Note: variables are not limited to single letters.

Operators

This table shows the mathematical operators. InQsit follows the mathematical rules of order of precedence. That is for example, multiplication is more important than addition. So in the equation $1+2*3$, the answer is 7 not 9, because you multiple $2*3$ then add 1, and you get 7.

To paraphrase a line from *The West Wing*, “Harold, if you don’t understand this, you really need to go back to your high school and demand your money back.” The point is that mathematics is a science and there are rules that govern its use. We don’t make up the rules, but we do have to understand and follow them to make everything work out in the end.

<table>
<thead>
<tr>
<th>Operator</th>
<th>Operation</th>
<th>Example</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>( and )</td>
<td>Parentheses</td>
<td>$(3+4)*2$</td>
<td>14</td>
</tr>
<tr>
<td>+</td>
<td>Addition</td>
<td>1+2</td>
<td>3</td>
</tr>
<tr>
<td>-</td>
<td>Subtraction</td>
<td>5-4</td>
<td>1</td>
</tr>
<tr>
<td>-</td>
<td>Negation</td>
<td>-3</td>
<td>-3</td>
</tr>
<tr>
<td>*</td>
<td>Multiplication</td>
<td>5*3</td>
<td>15</td>
</tr>
<tr>
<td>/</td>
<td>Division</td>
<td>6/12</td>
<td>0.5</td>
</tr>
<tr>
<td>^</td>
<td>Exponentiation</td>
<td>$3^2$</td>
<td>9</td>
</tr>
<tr>
<td>**</td>
<td>Exponentiation</td>
<td>$3**2$</td>
<td>9</td>
</tr>
<tr>
<td>%</td>
<td>Modulus</td>
<td>7%3</td>
<td>1</td>
</tr>
</tbody>
</table>
Functions

The functions inQsit supports are listed in the table to the right.

<table>
<thead>
<tr>
<th>Function</th>
<th>Operation</th>
<th>Example</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>abs()</td>
<td>Absolute Value</td>
<td>abs(5-7)</td>
<td>2</td>
</tr>
<tr>
<td>int()</td>
<td>Integer</td>
<td>int(12/5)</td>
<td>2</td>
</tr>
<tr>
<td>sqrt()</td>
<td>Square Root</td>
<td>sqrt(9)</td>
<td>3</td>
</tr>
<tr>
<td>cos()</td>
<td>Cosine of radian</td>
<td>cos(1)</td>
<td>0.5403023058681</td>
</tr>
<tr>
<td>sin()</td>
<td>Sine of radian</td>
<td>sin(1)</td>
<td>0.8414709848079</td>
</tr>
<tr>
<td>tan()</td>
<td>Tangent of radian</td>
<td>tan(1)</td>
<td>1.557407724655</td>
</tr>
<tr>
<td>cosine()</td>
<td>Cosine of degree</td>
<td>cos(30)</td>
<td>0.8660254</td>
</tr>
<tr>
<td>sine()</td>
<td>Sine of degree</td>
<td>sin(30)</td>
<td>0.5</td>
</tr>
<tr>
<td>tangent()</td>
<td>Tangent of degree</td>
<td>tan(30)</td>
<td>0.5773502</td>
</tr>
<tr>
<td>exp()</td>
<td>E raised to x</td>
<td>exp(1)</td>
<td>2.718281828459</td>
</tr>
<tr>
<td>log()</td>
<td>Natural logarithm</td>
<td>log(2)</td>
<td>0.6931471805599</td>
</tr>
<tr>
<td>factorial()</td>
<td>Factorial</td>
<td>factorial(3)</td>
<td>6</td>
</tr>
<tr>
<td>rand()</td>
<td>Random Number * n</td>
<td>rand(3)</td>
<td>2.341182837182</td>
</tr>
<tr>
<td>pi()</td>
<td>Value of Pi</td>
<td>pi()</td>
<td>3.1415926535897</td>
</tr>
</tbody>
</table>

How to specify values

The “where” clause may contain an unlimited number of variables. Each will be in the form variablename=values. The following table explains how to specify the values.

<table>
<thead>
<tr>
<th>Contents</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,3,5</td>
<td>The values 1, 3 and 5</td>
</tr>
<tr>
<td>4..6</td>
<td>All values between 4 and 6 inclusively, i.e. 4,5, and 6</td>
</tr>
<tr>
<td>10,15,22..34,45</td>
<td>The values 10, 15, 22 through 34, and 45.</td>
</tr>
</tbody>
</table>

Examples

<table>
<thead>
<tr>
<th>Question File</th>
<th>Resulting Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. If Amy bought AMYx apples and Jon bought JONy oranges, how many fruits were bought?</td>
<td>1. If Amy bought 3 apples and Jon bought 2 oranges, how many fruits were bought?</td>
</tr>
<tr>
<td>a. AMYx fruits</td>
<td>a. 3 fruits</td>
</tr>
<tr>
<td>b. JONy fruits</td>
<td>b. 2 fruits</td>
</tr>
<tr>
<td>c. AMYx+JONy fruits</td>
<td>c. 5 fruits</td>
</tr>
<tr>
<td>C where AMYx=1,3,5 JONy=2,4,6</td>
<td></td>
</tr>
<tr>
<td>2. Solve X+Y*Z</td>
<td>2. Solve X=2+4*5</td>
</tr>
<tr>
<td>a. (X+Y)*Z</td>
<td>a. 30</td>
</tr>
<tr>
<td>b. X+(Y*Z)</td>
<td>b. 22</td>
</tr>
<tr>
<td>c. X+Y+Z</td>
<td>c. 11</td>
</tr>
<tr>
<td>B where X=1..3 Y=2..5 Z=3,5,7</td>
<td></td>
</tr>
<tr>
<td>3. What is X+Y?</td>
<td>3. What is 4+6?</td>
</tr>
<tr>
<td>a. X+Y-1</td>
<td>a. 10</td>
</tr>
<tr>
<td>b. X+Y</td>
<td>b. 11</td>
</tr>
<tr>
<td>c. X+Y+1</td>
<td>c. 9</td>
</tr>
<tr>
<td>B reorder where X=1..10 Y=1..10</td>
<td>(Notice the options have been reordered)</td>
</tr>
</tbody>
</table>
Appendix D Group Analysis

The group analysis function lets you combine results from several modules into a single analysis. You may also want to look at the “group” and “if group” commands in the online help.

Why use Group Analysis?

There are myriad reasons to use group analysis, and to go into all of the scenarios would be very time-consuming. Instead let’s take an in-depth look at two case studies and see how group analysis was helpful to the authors. In the section “Defining a group for analysis” we will see how to define and perform group analysis.

First Case Study – Education Performance Survey

The Department of Education commissioned an Educational Research institution to survey selected school systems across the state to determine education performance attitudes of teachers, administrators, parents and children. Different surveys were created for each respondent class, and for organizational purposes, these surveys were grouped by school system. Many questions were common between the various categories, but each survey was structured to the specific group.

The first step was to build a master list of all questions. Questions for each of the group specific surveys were then pulled from that list. Remember that inQsit renumbers the questions when it displays the module to the respondents. For example, the following table outlines a partial list of question numbers and which survey they were included in:

<table>
<thead>
<tr>
<th>Question Number</th>
<th>Administrator</th>
<th>Teacher</th>
<th>Parent</th>
<th>Student</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>2</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>5</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The survey was completed by individuals from each of four school districts which we will identify by “District A”, “District B”, “District C”, and “District D”. By looking at the analysis for each of the 16 modules (District A – Administrator, District A – Teacher, etc.) you get the perceptions of each group. However, we want to use Group Analysis to combine various groups to see trends across several surveys.

First, we want to do a group analysis by school district. That is, we want to build a group to analyze all the responses from District A, then District B, etc. This will show us the overall perceptions of each district.

Second, we want to do group analyses by respondent type (Administrator, Teacher, etc.) across multiple districts. That is, District 1 Administrator, would be linked with District 2 Administrator, District 3 Administrator and District 4 Administrator. Similarly you would create groups for Teacher, Parent and Student. These will give the statewide views by respondent class. Last, we want to create a total respondent analysis to get an overall view from all respondents, giving an executive summary of all the questions asked.
Second Case Study – Student Progress Report

In this example, a professor uses inQsit to give five (5) tests throughout the semester, and then picks questions from the previous test to be included in a comprehensive final. By arranging the question numbers by sections (100-199 for the first test, 200-299 for the second, etc.), he can then pull questions from the previous tests to create the final and be able to do straight item analysis on each question.

By combining the first five (5) tests into one group analysis and comparing that with the analysis of the final, he can easily determine if the class got more right, or wrong, on the final for a given question number than on the individual tests.

As stated before, these are only two samples of how individuals have used “Group Analysis” to help define their goals and outcomes. Now let’s see how to setup a group and perform the group analysis.

Defining a Group for Analysis

To build an analysis group you need to 1) assign a security code to all the modules that you want to include in the group, 2) list those modules to be included in the primary module.

Set the Security Codes

First, let’s define the security code of doe881. In our case, all of the modules are in the same inQsit area, but this is not a requirement. You may for example want to combine responses from your colleagues into a departmental analysis. Share the security code that you decide on, and have each area administrator enter the code for their modules. In the Module Mgmt area for each module you want to include, select “Define Analysis.” You will be asked to enter the Security Code. Enter doe881 here.

inQsit will then ask to if you want to associate other modules with this one. Click the Cancel button for now.
**Associate Modules**

Once you have assigned the security code to all of the modules, you are then ready to create the categorical analysis links. Create a new module named “District 1 Totals” using the entire question list you used to make the Master List. Now pick “Group Analysis,” enter the security code (doe881) click OK, then click OK when asked if you want to associate other modules. inQsit will open a new window with a pull-down list of all modules at your site that have the matching security code. Pick the modules you want to include in this group.

Note: Use combination of click, shift-click and CTRL-click to pick the modules you want to include.

You will notice that the module you are currently in does not appear in the drop-down list. When you are done, click the Update button.

**Analysis**

Click the Analysis button for the module you just updated. At the right of the table, you will see a new button titled “Group Analysis.” Click this button and inQsit will read all the responses from the modules you associated and display the group results.

**Conclusion**

There are many ways you can use the group analysis function. Just remember that each module you want to include MUST have the same security code, and you need to associate all the modules to either an existing module or a new module per your choice.
Appendix E Problems and Solutions

This section answers the most frequently asked questions about inQsit.

How do I change a question on a test?
Use the quick editor to update your module. Remember to download the save module for backup.

What does "Cannot read initialization file" mean?
This message can be caused by one of two things. 1) You incorrectly specified the URL in the OPEN box or 2) The system administrator made an error in setting up your account.

How do I include a link on my web page to go directly to my folder?
You can add a link to go to the group of tests that you have prepared. The link might be:

`<a href="http://inqsit.bsu.edu/inqsit/inqsit.cgi/mynname">Test Folder</a>`

How do I include a link on my web page to go directly to a specific test?
To link directly to a specific test include the test name in URI format. (See your inQsit administrator for more information) An example:

`<a href="http://inqsit.bsu.edu/inqsit/inqsit.cgi/mynname?Demo">Simple Demo Test</a>`

What do I do if I lose my password?
Contact your system administrator. He/she can reset your password.

How can I handle a make-up test?
There are times when make tests are required. There are several ways to handle this.

- If the student attempted to take a test and there was some failure, he/she may be restricted from viewing the module again because of the “Count” limit you specified. Under the “view results” function, you can delete a specific entry, thus resetting the ability for the student to view the module.
- If the allowed time has expired, you can either change the “End date” option.
- Generate a paper test for the student. This may be the easiest option of all.
Appendix F Browser Specific Notes

Supported Browsers

Although inQsit will work with many different browsers, there are limitations as to the testing that our staff can do. Therefore, we do limit the browsers that we support for use with inQsit. The current list of browsers is:

- Internet Explorer (IE) 6.0 for Windows based systems
- Netscape Versions 7.2, 8.0
- Safari 1.3 (v312) for Macintosh based systems

inQsit and Pop-Ups

inQsit uses the same functionality of Pop-Ups to provide some of the security features. Therefore you need to allow pop-ups from the inQsit site. In Netscape 8.0, the correct settings are shown to the right. Specifically:

- Allow unrequested pop-up windows
- Turn off the “open requested pop-ups in new tab”
- Allow Cookies
- Allow JavaScript
**Appendix G Glossary**

<table>
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<tr>
<th>Term</th>
<th>Definition</th>
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<tr>
<td>Inquisitor $n.$</td>
<td>An instructor or survey administrator who creates and administers an inQsit assessment module.</td>
</tr>
<tr>
<td>Environment $n.$</td>
<td>The collection of inQsit options for a particular module. The environment contains information about who can view a module, when (date, time, and duration), under what conditions (how many times, whether a proctor is required), and how responses are handled (graded or not). Each module has an environment definition.</td>
</tr>
<tr>
<td>Module $n.$</td>
<td>A group of specific questions, gathered into a single entity. A module is a single test (or quiz) or survey.</td>
</tr>
<tr>
<td>Question $n.$</td>
<td>A specific question; e.g. What is the color of your hair? A term meaning the question, correct answer, and optional correct and incorrect response strings for a single interrogative.</td>
</tr>
<tr>
<td>Question Pool $n.$</td>
<td>A set of questions and answers, with optional correct and incorrect response strings, that pertain to a general topic.</td>
</tr>
<tr>
<td>Question Pool Category $n.$</td>
<td>A subset of a question pool that pertains to a specific topic, unit, or categorization. For example, a question pool may pertain to an entire course, and a category would contain questions pertaining to a single chapter, or unit. <strong>A module may contain questions from several question pool categories.</strong></td>
</tr>
</tbody>
</table>
Appendix H HTML Symbols

HTML symbols are highly useful in adding special characters to module content. Some constructs are quite easy while others are more complex. But careful application of these symbols can reap significant rewards.

The diagram to the left shows some of the constructs you can build with HTML symbols.

Below is the sample code for each sample shown in this diagram.

The first line uses Greek letters alpha and beta and the ½ fraction symbol:

\[ \sin \alpha + \sin \beta = 2 \sin \frac{1}{2}(\alpha + \beta) \cos \frac{1}{2}(\alpha - \beta) \]

In the card game of the same name the J♦ and the Q♠ is known as a pinochle.

The second line uses the html font color command and symbols ♦ (diamonds) and ♠.

In the card game of the same name the \(<font color='red'>J&diams;</font>\) and the \(<font color='black'>Q&spades;</font>\) is known as a pinochle.

The third line includes the superscripted 2 (²), the radical sign (√) and an inline css style construct to put the line over the top of the A² + B².

<b>Pythagorean theorem</b>

A² + B² = C² or C = √A² + B²

The last example is actually built using a table and several symbol characters. The table is used to construct the fraction in the vertical notation form. Yes, it does look somewhat intimidating, but broken down in to parts, it isn’t really that difficult.

\[
\begin{align*}
\int_0^\infty x^n e^{-ax} \cos(bx) \, dx &= \frac{n! \left[ (a - ib)^{n + 1} + (a + ib)^{n + 1} \right]}{2(a^2 + b^2)^{n + 1}}. \\
& \quad (i^2 = -1, \ a > 0)
\end{align*}
\]
An extensive list is available at http://<yoursite>/inqsit/symbols.cgi. It shows the name, decimal code, symbol and description for many of the available HTML symbols. The list is categorized into the following groups:

- Arrows and lines
- Cards (Club, Diamond, Heart, and Spade)
- Currency (Dollar, Pound, Yen)
- Greek Letters
- Latin Letters
- Mathematical symbols (Angle, division, \( \frac{1}{4} \), \( \frac{3}{4} \), therefore, etc.)
- Sets (Intersection, empty set, subset, etc.)
- Text (Paragraph, dashes, inverted exclamation points, copyright, trademark, etc.)
- Miscellaneous symbols.
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